

# Poster Abstracts

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Digital Object Identifier: 10.1188/18.ONF.E34

## Poster Abstracts Indexed by First Author and Page Number

Abbas, K. .... 7	Benedeck, J. .... 14	Callaghan, M. .... 104	Clemons, J. .... 112
Abramowski, M. .... 85	Benson, L. .... 229	Callahan, P. .... 231	Coffin, A. .... 21
Abshire, D. .... 8	Berger, A. .... 245	Cameron, T. .... 104	Cole, S. .... 113
Adjetej Appiah, A. .... 8	Bibart, M. .... 14	Campbell, K. .... 105	Colella, F. .... 22
Ailes, S. .... 86	Biedrzycki, B. .... 4	Campos, V. .... 105	Colella, S. .... 114
Aitken, L. .... 9	Biggins, B. .... 95	Campuzano, T. .... 18	Colvin, C. .... 115
Alaloul, F. .... 242	Blecher, C. .... 96	Cappucci, P. .... 18	Concert, C. .... 115
Alencar, M. .... 9	Blinky, L. .... 96	Caprio, M. .... 106	Conley, S. .... 116
Allen, L. .... 10	Blöse, I. .... 246	Carbone, S. .... 19	Connolly, T.J. .... 22
Allen-Bard, S. .... 86	Bolander, G. .... 97	Carrow, M. .... 107	Coumar, A. .... 23
Alley, B. .... 87	Borsellino, M. .... 230	Carter, C. .... 20	Coward, C. .... 23
Alton, P. .... 228	Borski, D. .... 97	Carter, P. .... 248	Cox, J. .... 116
Amodeo, C. .... 11	Boseski, B. .... 16	Catania, G. .... 107	Crable, S. .... 117
Amweg, L. .... 243	Bossert, K. .... 98	Caton, A. .... 20	Creamer, A. .... 24
Anderson, M. .... 88	Boswell, A. .... 98	Ceponis, S. .... 248	Culmone, K. .... 117
Appelt, V. .... 89	Bowers, A. .... 99	Cerar, J. .... 108	Custodio, A. .... 118
Arthur, E. .... 244	Bowman, P. .... 16	Chan, R. .... 249	Dagne, Y. .... 118
Asakura, Y. .... 89	Boyle, D. .... 99	Chan, R. .... 290	Dailey, E. .... 24
Ashley, A. .... 12	Braccia, D. .... 100	Chan, Y.-N. .... 249	Dainauski, A. .... 252
Assalone, D. .... 90	Brady, A. .... 17	Chan, Y.-T. .... 109	D'Ambrosio, D. .... 254
Atkinson, K. .... 90	Brecklin, C. .... 100	Chan, Y.-T. .... 142	Dauphin, E. .... 119
Attallah, D. .... 244	Bressler, T. .... 17	Chao-Ju, C. .... 109	Davis, A. .... 25
Ayers, M. .... 91	Brigham, D. .... 18	Chapates, A. .... 110	DeAngelis, C. .... 119
Baird, E. .... 91	Brigida, L. .... 101	Chase, S. .... 250	DeBaun, K. .... 120
Ballance, P. .... 12	Britto, M. .... 230	Cheng, L. .... 250	DeCant, B. .... 252
Barniak, S. .... 92	Brown, H. .... 212	Cheng, P.L.S. .... 110	DeGrange, F. .... 25
Baron, R. .... 13	Brown, T. .... 101	Cherian, S. .... 111	Dehorney, I. .... 26
Barrow, C. .... 92	Brutcher, E. .... 231	Cherian, S. .... 212	Delanoix, C. .... 120
Beach, P. .... 13	Bumb, M. .... 102	Chernecky, C. .... 20	Delengowski, A. .... 121
Beaver, C. .... 93	Burton, T. .... 247	Cherwin, C. .... 251	DelGrippo, T. .... 121
Becker, K. .... 93	Bush, N.J. .... 102	Childress, S. .... 21	Dell, D. .... 122
Belcher, S. .... 245	Bushart, H. .... 103	Chisholm, V. .... 111	Della Vecchia, M. .... 26
Bell-Moore, L. .... 94	Cabral, R. .... 103	Clark, J. .... 112	Demaio, C. .... 123
Belmore, C. .... 95	Calderon, C. .... 247	Clark-Snow, R. .... 232	Derr, M. .... 32

Devgan, P. ....	123	Gubler, M. ....	37	Johnson-McLean, S. ..	147	Mack, L. ....	160
deVries, K. ....	27	Gurschick, L. ....	135	Jones, S. ....	44	Madden, W. ....	51
DiPatri, R. ....	27	Hall, E. ....	38	Jue, M.Y. ....	262	Madden, W. ....	137
Dobrea, L. ....	28	Hande, K. ....	39	Jung, A. ....	262	Maguire, C. ....	161
Dolan, S. ....	124	Hannon, H. ....	135	Kalan, A. ....	147	Maignan, K. ....	233
Dowling, K. ....	124	Hansen, A. ....	256	Keener, K. ....	148	Malick, L. ....	15
Draganski, E. ....	125	Harkness, J. ....	136	Kelly, A. ....	148	Malick, L. ....	162
Driskill, K. ....	125	Harper, S. ....	257	Kelly, D. ....	263	Maliski, S. ....	268
Dunlap, C. ....	28	Hatch, C. ....	136	Kemp, J. ....	149	Malloy, M. ....	162
Easterly, T. ....	126	Heisel, Z. ....	137	Kennard, K. ....	263	Maloney-Lutz, K. ....	163
Edelman, E. ....	29	Hendrickson, K. ....	257	Kennell, J. ....	45	Marsh, K. ....	163
Edmondson-Martin, K.	126	Heneghan, E. ....	138	Kim, E. ....	264	Marsolini, T. ....	164
Eisenberg, S. ....	127	Henning, J. ....	235	Kim, J.A. ....	265	Mascarenhas, D. ....	164
Ekert, B. ....	127	Hermis, K. ....	39	Kim, S. ....	265	Mason, S. ....	165
Engel, L. ....	233	Heron, V. ....	138	Kinsman, K. ....	149	Masters, C. ....	165
Everhart, C. ....	29	Hettler, D. ....	40	Kirk, C. ....	238	Mazeika, T. ....	166
Fall-Dickson, J. ....	30	Hicks, L. ....	139	Klempner, L. ....	46	Mazor, M. ....	269
Fedoronko, K. ....	30	Hill, J. ....	139	Koch, S. ....	151	McAllister, K. ....	167
Feild, A. ....	31	Hirschey, R. ....	40	Kormanik, P. ....	47	McDermott, K. ....	239
Feild, A. ....	108	Hjelm, R. ....	258	Krivoy, M. ....	151	McKiernan, P. ....	167
Fellows, K. ....	128	Hoepfer, K. ....	258	Kuhn, M. ....	152	McLaughlin, P. ....	269
Festa, M. ....	32	Hoi, E. ....	140	Kullberg, A. ....	266	McMullen, L. ....	167
Fetter, K. ....	128	Holland, J. ....	140	Kuo, H-J. ....	266	McNally, G. ....	168
Fioravanti, S. ....	129	Hollis, J. ....	41	Kurpiel, M. ....	152	Meade, K. ....	169
FitzPatrick, K. ....	33	Hong, A. ....	236	Kurz, R. ....	47	Mead-Smith, S. ....	169
Flanigan, M. ....	253	Hosking, A. ....	41	Lacouture, M. ....	153	Mendez, C. ....	52
Fleming, D. ....	129	Houlihan, N. ....	42	Lacovara, J. ....	5	Merkel-Bryant, J. ....	52
Fleming, D. ....	214	Hronek, J. ....	141	Lally, R. ....	267	Merkle, S. ....	170
Flynn, R. ....	33	Hsiao, W.-L. ....	259	Lambson, K. ....	48	Mikan, S.Q. ....	5
Fonseca, T. ....	130	Hsu, W.-C. ....	142	Langley, M. ....	153	Miller, A. ....	170
Foreman, L. ....	130	Huang, N. ....	142	Lawler, J. ....	154	Miller, J. ....	53
Foss, H. ....	131	Huenerberg, K. ....	143	Lawry, D. ....	154	Milli, L. ....	270
Frazier-Warmack, V.	132	Hughes, V. ....	143	Lawson, M. ....	155	Molloy, M.P. ....	6
Fryar, J. ....	132	Hull, C. ....	42	Lawton, A. ....	155	Monk, P. ....	54
Fu, L. ....	253	Hung, S.-H. ....	144	LeBoeuf, J. ....	48	Montuori, R. ....	171
Gallups, S. ....	254	Hurd, S. ....	144	Lee, J. ....	268	Moreno, K. ....	171
Galway, A. ....	234	Igo, M. ....	145	Lee, S. ....	49	Munday, N. ....	54
Geary Alexander, S. ...	34	I-Tien, L. ....	4	Lehto, R.H. ....	156	Murphy, K. ....	172
George, D. ....	34	Ito, K. ....	43	Leos, D. ....	49	Murtagh, P. ....	172
Gerber, G. ....	35	Jaganathan, H. ....	236	Leptich, K. ....	50	Neeb, J. ....	240
Giannini, M. ....	132	Jameson, G. ....	237	Leung, A. ....	156	Nellis, R. ....	55
Gibbons, P. ....	255	Janicik, A. ....	145	Leung, J. ....	157	Nelson, K. ....	173
Gilbert, N. ....	255	Jansen, C. ....	146	Liao, Y.C. ....	158	Neuhauser, D. ....	55
Gilbertson-White, S.	256	Januska, V.T. ....	211	Liberatore-Burch, K. ..	158	Newman, V. ....	173
Gonzales, L. ....	133	Jarrett, J. ....	146	Lin, C. ....	158	Nickens, A. ....	174
Gordon, J. ....	35	Jeffery, T. ....	260	Logan, L. ....	159	Nilsen, M. ....	174
Gordon, R. ....	36	Jenkins, T. ....	113	Logue, M. ....	238	Nodzson, L.A. ....	175
Grabowski, M. ....	36	Jenkinson, A. ....	260	Lopez, R. ....	50	Novello, A. ....	176
Greenberg, E.M. ....	234	Jeon, M. ....	261	Lucas, W. ....	51	OConnor, L. ....	56
Grieshop, C. ....	134	Jerome-D'Emilia, B.	261	Lundquist, D. ....	268	O'Hara, A. ....	176
Groff, P. ....	134	Johanson, P. ....	43	Lynch, M.P. ....	160	O'Leary, C. ....	77
Grue, M. ....	37	Johnson, A. ....	44	Lynch, S. ....	159	O'Leary, C. ....	177

Olsen, J. ....	177	Repetto, P. ....	63	Somerstein, G. ....	71	Vo, C. ....	216
Oltmanns, J. ....	178	Reynolds, J. ....	191	Sparks, M. ....	202	Waite, T. ....	285
Onweagba, I. ....	178	Reynolds, M.A.H. ....	275	Spear, C. ....	202	Walden, K. ....	217
Orekoya, G. ....	179	Ribeiro, M. ....	271	Speece, N. ....	281	Wallace, D. ....	217
Ortman, S. ....	271	Riehl, M. ....	191	Spellman-Foley, P. ....	72	Walsh, A. ....	218
O'Shea, D. ....	56	Riveiro, S. ....	64	Spiguel, E. ....	203	Wang, L. ....	286
Overcash, J. ....	6	Rizzuto, D. ....	192	Srikumar, C. ....	203	Wang, S.-F. ....	7
Overman, K. ....	57	Robinson, K. ....	275	St Germain, B. ....	204	Weatherby, L. ....	80
Page, N. ....	179	Robinson-Coker, R. ....	64	St. John, S. ....	205	Webb, H. ....	219
Painter, J. ....	180	Rodgers, G. ....	192	Stack, L. ....	72	Weis, A. ....	219
Palmiter, C. ....	57	Rodningen, L. ....	193	Staha, J. ....	73	Welch, C. ....	220
Park, E. ....	272	Roesser, K. ....	65	Stanifer, S. ....	73	Wells, M. ....	220
Park, J.Y. ....	45	Rone, C. ....	193	Stasi, K. ....	205	Wen, C.F. ....	221
Park, J.Y. ....	180	Roselli, T. ....	194	Steinberg, A. ....	74	Wen, C.F. ....	228
Park, S.-H. ....	272	Rosenzweig, M. ....	276	Stevens, D. ....	206	Wensel, E. ....	221
Parks, L. ....	181	Ross, N. ....	194	Stewart, N. ....	74	West, A. ....	222
Pasqua, D. ....	58	Rosselet, R. ....	276	Stirling, S. ....	282	Wheatley, T. ....	81
Passos, P. ....	181	Roth, E. ....	195	Stohr, E. ....	75	Whisenant, M. ....	286
Passwater, C. ....	182	Roth, S. ....	195	Storms, S. ....	206	Wieworka, J. ....	222
Patel, A. ....	183	Rowe, T. ....	196	Stull, E. ....	150	Wilkins, A. ....	223
Patel, J. ....	182	Rowland, C. ....	196	Stull, E. ....	207	Willenberg, K. ....	81
Paternoster, B. ....	59	Ruggiero, J. ....	65	Survis, K. ....	207	Williams, D. ....	81
Patterson, P. ....	183	Russell, K. ....	66	Svrcek, O. ....	75	Williams, L.A. ....	287
Pawl, J. ....	59	Saeidzadeh, S. ....	277	Swanger, K. ....	208	Williams, P. ....	223
Peccia, K. ....	184	Santos, M. ....	277	Sweeney-Moore, A. ....	208	Wilson, C. ....	82
Pederson, J. ....	273	Sarratt, J. ....	66	Talamantes, C. ....	209	Wilt, W. ....	224
Perrone, M. ....	185	Scales, K. ....	197	Tantalo, C. ....	209	Wolfe, J. ....	224
Petersen, C. ....	185	Scaramuzzo, L. ....	198	Tapsall, D. ....	210	Wood, G. ....	225
Peterson, K. ....	60	Schade-Villanueva, C. ....	67	Tark, A. ....	282	Wood, S.Y. ....	242
Pierce, D. ....	185	Schaefer, C. ....	68	Tata, L.A. ....	76	Wood, T. ....	242
Pitt, C. ....	186	Schaffer, J. ....	278	Thall, L. ....	76	Worth, C. ....	82
Porter, J.M. ....	241	Schilbe, J. ....	199	Thomas, J. ....	210	Wright, K. ....	225
Posthumus, S. ....	186	Schmidt, K. ....	87	Thorpe, L. ....	211	Wyatt, G. ....	288
Pratt, K. ....	187	Schultz, N. ....	69	Tinney, K. ....	213	Yackzan, S. ....	288
Pryor, K. ....	188	Schwen, S. ....	69	Tracy, S. ....	213	Yahiro, Y. ....	289
Pugh, G. ....	188	Schwind, R. ....	278	Tucci, R. ....	78	Yang, H.-T. ....	289
Purvis, H. ....	60	Selzer, J. ....	279	Tucci, R. ....	214	Yoon, H. ....	226
Pyke-Grimm, K.A. ....	274	Shaffer, C. ....	199	Tugg, K. ....	78	Yoon, S. ....	290
Raddatz, P. ....	61	Sheikholeslami, D. ....	279	Turkoglu, N. ....	283	Youssefi, F. ....	227
Rafikh, S. ....	189	Shelton, B. ....	10	Ulysse, F. ....	4	Yu, L. ....	291
Ramos, P. ....	241	Shelton, G. ....	200	Underhill, M. ....	283	Yuan, C. ....	291
Ramos, R.S. ....	67	Shen, W. ....	280	Unto, I. ....	79	Yuange, D. ....	227
Ramsey-Haynes, S. ....	189	Shenoy, A. ....	70	Uranga, C. ....	79	Yuange, D. ....	292
Randolph, K. ....	190	Shin, H. ....	280	Uranga, C. ....	197	Yung, T. ....	292
Ranous, J. ....	190	Shuey, K. ....	70	Valentine, K. ....	80	Zavatti, C. ....	293
Razdan, C. ....	61	Shun, S.-C. ....	281	Van Cleave, J. ....	284	Zawacki, E. ....	227
Reifenstein, K. ....	62	Singh, R.J. ....	200	Varughese, S. ....	285	Zechar, E. ....	83
Reimer, N. ....	62	Smith, L. ....	201	Vasta, L. ....	215	Zielinski, T. ....	83
Reiser, V. ....	63	Smolensky, S. ....	201	Vazquez, A. ....	215	Zinck, L. ....	84
Repele-Bailey, R. ....	274	Solden, R. ....	71	Vincitorio, N.A. ....	216	Zmolik, C. ....	85

**1**  
**DEATH CERTIFICATES: FINAL DOCUMENTATION****Barbara Biedrzycki, PhD, CRNP, AOCNP®, Abingdon, MD**

Data supporting physicians' training on and accuracy of cancer death certificates is known although dated; however, data is lacking regarding oncology nurse practitioners. Before we can consider these factors we need recognize that the writing of death certificate is not within every oncology nurse practitioners' scope of practice. In 2016 (most recent data), the American Association of Nurse Practitioners determined only 28 states authorize nurse practitioners to "sign" death certificates. The purposes of this project are to interpret the data on nurse practitioners and death certificates from several sources; and, to identify gaps, if any. The rationale supports that there is little known about nurse practitioners "signing" or authoring a death certificate and differences explained within State laws. The purpose will be accomplished through the intervention of data compilation regarding nurse practitioners' authority, knowledge, training, experiences, and accuracy in death certificate reporting from multiple sources including: a systematic review of the literature; review of the State Nursing Acts and the websites of State Boards of Nursing of the 28 states in which nurse practitioners are authorized to sign death certificates; and internet searches for informal data that will be noted as such. While completing death certificates has traditionally been done only by physicians more and more nurse practitioners are now completing death certificates. While it cannot be a specific nursing-sensitive patient outcome, it can be a nursing sensitive outcome for society. Outcomes of accurate death certificates impact human lives as the written cause of death may lead family stress and unnecessary pre-cancer testing, as well as impacting society as misclassifications of the cause of death leads to under- or over-reporting of a specific cancer that may impact the focus of human, financial, and research resources. Outcomes of this project serve to provide baseline data to support oncology nurse practitioner research on awareness of our important role in death certificates, and then subsequently into strengthening our impact nationwide. Oncology nurse practitioners conceivably are the optimal authors of this final patient documentation, and can take the lead in educating their colleagues whether or not their practice is within the oncology specialty.

**2**  
**COMPASSIONATE CARE: THE ART OF NURSING****Fabienne Ulysse, DNP, AOCNP®, ANP, NYU Langone Health Perlmutter Cancer Center Bayridge, Brooklyn, NY; Janice Campbell-Brewster, RN, BSN, NYU Langone Perlmutter Cancer, Brooklyn, NY**

Philosophers, religious and spiritual leaders are unanimous in recognizing that compassion is the hallmark of quality patient care. Compassion has been defined as "suffering with" or a deep awareness of another coupled with a wish to relieve it." Compassion is the essence and foundation of nursing. The oncology nurse's ability to provide compassionate care is essential to delivering optimal patient centered care. Nursing requires creative approaches to delivering compassionate care. Nurses should base their practice on evidence using knowledge and experience with a calming, caring, compassionate, nonjudgmental and culturally sensitive persona. Compassion has been and will continue to be a key concept when discussing how nursing is to be understood. Sensitive emotional support is one of the most important actions that nurses can provide to their patients. Compassionate care takes the whole patient into account, and it has proven to have therapeutic benefits. Communication skills that "address patients' needs and fears" are important in delivering compassionate care. Health care institutions must foster an environment that embraces evidence based practices facilitating compassionate care. Nurses with empathetic bedside manners are more effective at addressing patient's symptoms and concerns. Evidence-based practice reveals that providers who form a relationship with their patients are able to detect negative health changes and are able to intervene resulting in positive health outcome. Compassionate care is not only what we choose to do for the patient but what we do together with them. Nurses should be encouraged to be aware of the significance of compassion and challenge themselves to become effective compassionate carers. The ability to deliver compassionate care requires self-awareness and being a proactive participant in the process. Compassionate caring is a combination of listening, feeding, clothing, visiting, sheltering, educating, comforting, and forgiving, among other actions. When nurses accept compassion as more than a principle or ingredient of care or as part of the core, it defines successful professional care.

**3**  
**SELECTION AND IMPLEMENTATION OF CARE NEEDS INSTRUMENTS IN CANCER PATIENTS****Lee I-Tien, BSN, Taipei Veterans General Hospital**

**Nursing Department, Taipei; Ya-Jung Wang, PhD,  
School of Nursing, National Yang-Ming University,  
Taipei**

Cancer is a life threatening disease. It is the top mortality in Taiwan with a relative five year survival of 54.3%. Being through the cancer trajectory, patients experience different physical, psychosocial, and spiritual sufferings. Therefore, various care needs are needed to be assessed and satisfied in the fighting for cancer. The purposes of this case series study were to review the current literature, to select an appropriate instrument, and to implement the care needs instrument in patients with cancer. A scoping review with keywords searching of cancer and care needs was conducted utilizing databases of pubmed and CINAHL. Hospitalized patients diagnosed with various cancer were recruited. Sixteen instruments were found and Supportive Care Needs Survey Short Form 34 (SCNS-SF34) was implemented in three Taiwanese cancer patients. The priority of care needs for this sample was healthcare system and information, physical and daily life, psychosocial, care and support, and sex, respectively. The SCNS-SF34 was a psychometric property sound instrument to measure care needs in patients with cancer. The more the symptom burden the higher the care needs in these participants measured by the SCNS-SF34. The sex care needs was the lowest that may due to Taiwanese conservative point of view regarding sex. Nurses are the key to assess and to help care needs of cancer patients. By implementing the SCNS-SF34, the unique patient's care needs will be identified. Therefore, the individualized care will be resultant to each patient with cancer.

#### **4 GENETIC TESTING IN HEALTH CARE**

**Jane Lacovara, MSN, CNS-BC, CMSRN, Banner University of Arizona, Tucson, AZ**

Public and scientific interest in genetics can be traced back to Gregor Mendel (around 1854) who discovered the laws of inheritance. Mendel discovered that genes come in pairs and are inherited as distinct units one from each parent. His experiments in pea plants led to the discovery of variations in dominant and recessive traits. The purpose of the lecture is for the participants to evaluate the need for patient referral for genetic testing and counseling. The participants will also state the importance of genetic testing in cancer treatment protocols. Federal and State laws that pertain to genetic testing will be explored. Indications for genetic testing includes an individual who has a personal or family history features of genetic

susceptibility. The testing can be adequately interpreted. The results of the testing will aid in diagnosis or influence the medical or surgical management of the disease. Genetic mutations may be somatic or germ line. Mutations may be drivers or riders. The mechanism of carcinogenesis is variable and the mutational load increases as the tumor continues to mutate. Founder populations such as: Icelanders; French Canadians; Amish and Mennonite; Ashkenazi Jewish; Brazilian; and Columbian populations will be discussed. Founder mutations will also be discussed. Prophylactic surgeries, risk reduction medications, and targeted therapies are covered. PARP inhibitors and Immune Checkpoint Inhibitors as well as nursing implications for the Immuno-oncology agents is an important aspect to this lecture.

#### **5 APP REPORTED USE OF EVIDENCE-BASED PATIENT EDUCATION MATERIALS DURING SURVIVORSHIP VISITS**

**Sabrina Q. Mikan, PhD, RN, ACNS-BC, Texas Oncology, Austin, TX; Patricia Carter, PhD, RN, CNS, University of Texas at Austin, Austin, TX; Kathryn Hudson, MD, Texas Oncology, Austin, TX**

Survivorship is a critical point in the cancer journey. One of the most successful ways to provide survivorship care is through APP-led visits. The goal of these visits is to improve future wellness through health promotion education targeted to survivorship needs, including late and long term side effects, nutrition, wellness behaviors and psychosocial health. However, the creation and gathering of health promotion materials prior to visits is time-consuming and inefficient. The purpose was to evaluate the impact of standardized survivorship education packets on APP productivity and efficiency. The standardized survivorship packet was distributed to 4 APPs in a community based oncology practice in Austin, Texas. The APPs were asked to incorporate the packet into their usual survivorship visit. During monthly APP meetings (September–December 2017) the APPs are surveyed and asked to answer 5 brief questions about materials, visits, documentation, overall usefulness, and impact on efficiency and productivity. Based on their feedback, the packet's content can be edited in real time. Qualitative questions were answered by the APPs. Preliminary results are that the APPs streamlined their workflow and universally incorporated the packet into their survivorship visits. The packets were changed on an ongoing basis according to APP feedback. The APPs find the packet to be useful and

improve efficiency and productivity. Through ongoing process improvement feedback, this quality improvement project will determine if our evidence-based survivorship education packet improves APP productivity and efficiency while improving patient education delivery.

## **6 ORTHOPEDIC ONCOLOGY TEAM AT CANCER TREATMENT CENTERS OF AMERICA® AT MIDWESTERN REGIONAL MEDICAL CENTER (MIDWESTERN)**

Mary Pat Molloy, RN, MSN, OCN®, Cancer Treatment Centers of America® Midwestern Regional Medical Center, Zion, IL; Nancy Haber, RN, BSN, Cancer Treatment Centers of America® Midwestern Regional Medical Center, Zion, IL; Nancy Haber, RN, BSN, Dr. Richard Schmidt office, Bala Cynwyd, PA

Patients are living longer with cancer. Patients with lung, prostate, breast, thyroid, kidney cancer and multiple myeloma account for 80 percent of all skeletal metastasis. Nurses play an important role to identify cancer patients with bone metastasis. They should bring it to the attention of physician provider who can order the appropriate testing. The most consistent result of operative intervention for a complete or impending pathologic fracture is alleviation of pain, which occurs in the majority of patients. Most patients report an ability to walk or good excellent function in greater than 50 percent of patients. Before the program patients with orthopedic issues were referred to local orthopedic physicians. Local orthopedic surgeons are often reluctant to perform surgery on a cancer patient due to multiple co-morbidities. They often would not offer any surgical intervention. Oncologists would delay referrals to orthopedic surgeons because they did not want to stop cancer treatment. Orthopedic oncologists are specially trained to manage comorbid conditions and can help the oncologist to determine the best option for patient. In January 2013, an orthopedic surgery program was started at Midwestern. Richard G. Schmidt, MD, and Nancy Haber, RN, practice in Pennsylvania and travel to Midwestern monthly. The orthopedic surgical team consists of Mary Pat Molloy, RN, care management, and rotating clinic nurses, physical therapy, surgical extenders and pain management. Dr. Schmidt and his team hold a monthly teleconference to discuss orthopedic surgical patients, Dr. Schmidt collaborates with oncologist, radiation oncologist, and other health care providers to coordinate care so surgical intervention is least disruptive to cancer treatment plan. Review

of orthopedic program is ongoing. The team is always strategizing to make the program better. Nurses play a pivotal role in our orthopedic team. Nurses are often the first line of identifying the cancer patient with an orthopedic problem. Nurses are the ones who work directly with patients. The goal of orthopedic surgical intervention is to alleviate patient pain and get them mobile so they can continue receiving life-saving treatment. Nurses are vital throughout the surgical process to identify, prepare for surgery, and help patients to recover and get on with cancer treatment.

## **7 GERIATRIC ONCOLOGY AMBULATORY CARE CLINICS**

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Cancer is largely a disease of aging with most individuals diagnosed at the age of 66 years. People over 70 years of age make up a large part of the United States population. The older individual requires unique healthcare management to account for comorbid conditions, social support, functional impairment and other geriatric syndromes that can impact cancer diagnosis and management. Seniors often do not receive adequate cancer management, especially adjuvant chemotherapy options for those who may be high risk for recurrence and are otherwise reasonable treatment candidates. A Geriatric Oncology Ambulatory Care Clinic (GOACC) centrally addresses the needs of the older person and their family by understanding reasonable cancer treatment options, communicating with providers, conducting necessary research and advocating for the health of older patients. The purpose of this presentation is to define GOACC, address benefits and challenges, describe the multidisciplinary team (MDT) and offer pearls of program implementation. GOACCs are a foundation for student teaching and an exemplar of best geriatric nursing practice. Developing a GOACC requires administrative support, team training, a clinic scheduling plan, integration of a MDT, identifying referral options and construction of a comprehensive

geriatric assessment. Some GOACCs provide pre-operative consultation and screening to determine the extent to which someone is a surgical candidate. The MDT is a vital component of the GOACC and is made up of a medical oncologist, surgeons, nurses, nurse practitioners, social workers, physical therapists and others who can provide valuable input in the care of the older patient. Oncology nurses have a prime role in the GOACC in patient care, research, dissemination and team operation. The GOACC is an important aspect of survivorship care for the older individual with cancer.

## 8

### EXPANSION AND CREATIVITY IN ONCOLOGY NURSING—THE ONCOLOGY NAVIGATOR MODEL USED AT THE TAIPEI MEDICAL UNIVERSITY HOSPITAL

Shin-Fang Wang, Taipei Cancer Center, Taipei; Hsiu-Ju Chang, PhD, Taipei Medical University, Taipei

Taiwan has excellent physicians and good healthcare system. However, patient waiting time for the clinic is lengthy and complex cancer information physicians take the key to inform, patient and family make-decision within a short time, According to the research projects that explore the care quality of cancer patients. Important indicators that are lacking include “patient-centered” and “patient needs” integrated care. To address this, our hospital has implemented an oncology nursing navigator model. It is performed three years have had accomplishment many positive effects to improve cancer patient care outcome. The oncology nursing navigator model provides integrated, interdisciplinary care as well as leads innovative active access chart a course through the health care system and overcome barriers to patient-center quality care. This study used a non-randomized controlled quasi-experiment method. Patients in our center were divided into 2 groups. The experimental group included 499 patients who received an attending physician and oncology nursing navigator services and the control group included 822 patients who received the same attending physician without the navigator. Then compare the positive and negative (complete treatment rate, prolongs survival, DNR rate, ADR rate, Insurance pay) outcomes of the two groups. The positive effects, Experimental and control group proportion are: Complete treatment rate: 95% : 80–90%, Overall mortality rate : 4.1% : 14.11%, Health insurance payment: ↓2,277.39 NT : ↓0 NT, Patient & family satisfaction: 96.36% : 81.4%. Oncology nursing navigator model used patient-centered

care active practice thoroughly in patients’ physical, mind, and spirit needs care. The results indicated that the oncology nursing navigator model improves clinical care quality, prolongs patient survival, and reduces the insurance payment. These results may inform clinical cancer health provider, and address legislative and regulatory issues that affect cancer care and research, and medical insurance public policy in our country.

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## LEADERSHIP/MANAGEMENT/EDUCATION POSTER SESSIONS—THURSDAY

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## 284

### EVOLUTION OF AN ONCOLOGY ORIENTATION PROGRAM

Karen Abbas, MS, RN, AOCN®, University of Rochester Medical Center, Rochester, NY

Orientation programs are an integral part of most nurses’ introduction to a new institution, whether they are a new graduate nurse or an experienced nurse starting a new position. Orientation programs help the new nurse develop competencies and assimilate into the institution’s culture. However, many institutions do not offer specialty orientation programs relying on the individual units and preceptors to prepare new nurses to safely care for their particular patient population. Prior to 2012, the Wilmot Cancer Center (WCC) new hires attended Hospital Orientation, Nursing Practice Orientation, and Adult Services Orientation. The only oncology orientation was up to the individual units. Based on input from the nurse manager, the unit educators, and staff who had been hired within the past year it was clear that an oncology focused orientation was needed. Over the last 5 years the WCC orientation program has grown to a robust program which continues to be evaluated regularly for improvement. The purpose of the orientation program is to close practice gaps that new hires to oncology possess—primarily knowledge gaps and performance gaps. Initially a skills day and a classroom day were added during the initial 12 week orientation period. The class had a focus on introductory topics to oncology with an emphasis on chemotherapy safety. Following the formal 12 week orientation, new hires attend a class which focuses on specific diseases and oncologic emergencies. A quarterly course including specific oncology topics is offered and an introductory chemotherapy/biotherapy course has been added that is taken prior to the

ONS online course. Class evaluations as well as informal feedback from orientees, preceptors, and nursing leadership has validated the necessity of these courses and the value. The new hires have expressed that they feel prepared to care for the oncology patients. The managers and unit educators have seen that nurses can assimilate faster to the oncology population. Next steps are to plan and implement an Oncology Nursing Residency Program. The author will be working with masters of nursing education (MNE) students to plan, implement, and evaluate the program over the next couple of years. This will also allow these MNE students to be part of planning a comprehensive program, gaining valuable experiences to bring to their current and future careers.

## **285 UTILIZING PICTORIAL ILLUSTRATIONS FOR BREAST CANCER PATIENTS INITIATING RADIATION THERAPY**

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Women initiating radiation treatments are often inundated with abundant patient education material leading to confusion, poor retention, and anxiety. Even though verbal and written education are provided, the combination of emotional stress, volume of data, and unfamiliarity can cause difficulty understanding or remembering valuable information. This study seeks to assess the impact of adding pictorial illustrations in addition to verbal and written education materials for breast cancer patients initiating radiation treatments. The radiation oncology nurse obtained consented photographs from a convenience sample of breast cancer patients at radiation treatment initiation, various intervals during treatment, and four-to-six weeks post treatment in order to show progression of possible skin changes. The patient/skin reaction pictures as well as pictures of the Computed Tomography (CT) machine, the breast board, and the treatment machine were introduced to participants while the oncology nurse provided verbal and written information. The intent was to decrease anxiety for those unfamiliar with the treatment equipment and potential side effects. In order to measure the impact of the illustrations, patients used preference ratings of Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree. While the result of this study is still

pending with a goal to accrue 30 participants and final data expected by the end of April, 2018, to date, nine women have participated in the pictorial education intervention. Eight out of the nine Agreed or Strongly Agreed that the verbal/written information provided clarity, assisted in retention of information, and was generally helpful. One patient reported that she was Neutral. Out of the same convenience sample, eight also reported Agreed or Strongly Agreed that the illustrations provided additional clarity, confidence, and help in retention. One reported Neutral. 75.4% reported a decrease in anxiety after verbal communication was given while 55.6% reported a decrease in anxiety after seeing the illustrations. Utilization of pictorial illustrations as an education intervention among breast cancer patients receiving radiation treatment continues through April 2018. The current data of the convenience sample indicates the pictorial illustrations are not as effective an intervention as originally thought; however, these results may change as the study continues. Patient education is a key component of oncology nursing care, and nurses should be aware of tools to maximize patients' understanding of cancer treatment.

## **286 COMMUNITY HOSPITAL APPROACH: SUCCESSFULLY TRANSITIONING MED/SURG NURSE FROM NOVICE, BEGINNER TO COM- PETENT RNS IN AMBULATORY ONCOLOGY SETTING**

**Angela Adjetey Appiah, MSN, MPH, MA, RN, FAACM, Phelps Hospital Northwell Health Cancer Institute at Phelps, NY, NY; Betty Silchenstedt, BSN, RN, OCN<sup>®</sup>, Mercy College, Greenburg, NY**

The gold standards of aiming for patient satisfaction, reduce cost, and enhance patient care, impact nurses in the oncology ambulatory setting. Clinical nurses must have skills to analyze complicated patient situations, engaged in patient centered plans of care, and communicate effectively with the interdisciplinary team. The opening of a new cancer institute and patient mix of infusion center, presented an opportunity to create an approach to transition nurses from novice infusion/oncology nurses to experts. Phelps Hospital Northwell Health opens a new cancer institute in a community hospital setting. Part of the cancer institute is infusion therapy. Majority of the nurse are new to not only oncology, but the ambulatory setting. To adhere to the highest clinical practice standards the nurses and ancillary staff needed to be supported by education and leadership from being novice, beginners



to competent infusion/oncology nurses. The purpose was to successfully transition the nurses and support from novice, beginner to competent RNs in ambulatory oncology setting. Interventions: Pre-assessment survey, formulate a plan, align competency with ONS, filed experience, education & resource, interviews, observing care process/simulation, simulation, and return demonstration. Evaluation: post-intervention survey and advancement. Innovation: Journal club, One-on-one interviews, observation, field experience, scenario base teaching, simulation/hand on practice, ONS online modules, utilizing educator/leader on the unit twice a week. Rounding and used a practicum student studying nursing administration with a focus in oncology. Teach me Fridays, Pharmacy education in collaboration with nursing. Expert nurses developed successful strategies that can be incorporated on any unit to facilitate learning for all nurses. The “Teach Me Friday and psychosocial support group” structure was created to enhance patient safety and information sharing. Education Fridays, was developed to help novice nurses. Distinct courses of treatment for patients on the unit were selected for case studies by using the ONS chemo scenarios book.

## 287

### **RACHEL, LIN, ALYSIA, AND TANYA: A PATIENT-BASED EDUCATION IN BREAST CANCER CARE FOR STUDENT NURSE PRACTITIONERS**

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Breast cancer (BC) has a persistent racial and economic disparity in detection, acute treatment, and survivorship care creating an increasing public health challenge. There is a shortage of providers, particularly nurse practitioners (NP) able to provide high quality BC care, particularly in the community. In order for non-oncology nurse practitioners (NPs) to provide safe and high-quality care to patients with cancer, additional cancer education beyond the content traditionally presented in NP education is necessary. In a national survey of 58 NP programs, n=58 (100%) reported that they had BC information in their curriculum but n= 57 (98.3%) said they would be interested in including more specific patient based content. “Rachel, Lin, Alysia, and Tanya” is a proposed patient-based educational curriculum that will

provide vital BC information to NP students. “Rachel, Lin, Alysia, and Tanya: Patient Based Education in BC Care for Student NPs” includes four modules (three hours) of content and problem-based learning incorporated in gaming educational strategies. This program can electronically augment any NP curriculum. The modules teach content through simulated patients using advanced technology called the Sim Patient Platform. Each module represents a unique woman at a different stage of her BC care, each of different race and economic means. The first module is Rachel, a 40-year-old white Ashkenazi Jewish woman from a middle-high income community having a high-risk breast mass evaluated. The second module, Lin, is a 70-year-old mixed-race woman of Hispanic ethnicity living in a middle-high income community receiving a normal risk BC screening. Module three involves Alysia, a 55-year-old African American woman from a low-income urban community and a BC survivor. The fourth module, Tanya, is a 42-year-old white woman from a low-income rural environment living with advanced BC. This program fulfills specific needs in NP BC care education. These scenarios provide student experiences they may not encounter in clinical practice while focusing on mitigating race- and income-based survival disparities in BC care. Students will take a pre- and post-curriculum self-assessment of confidence and knowledge, evaluated at program end. Improved BC education through programs like “Rachel, Lin, Alysia, and Tanya: Patient Based Education in BC Care for Student NPs” will fill an educational gap and help to provide equitable BC care across the disease continuum.

## 288

### **ROADMAP TO ESTABLISHING AN ONCOLOGY NURSE PRACTITIONER FELLOWSHIP PROGRAM**

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Nurse practitioner (NP) graduate programs focus mainly on primary care issues and lack training for NPs looking to practice in a specialty area, such as hematology and oncology. It is crucial that new NPs

entering the field be prepared to manage the complexity of patient care encountered. In a survey conducted by Rosenzweig et al. (2012), many NPs felt unprepared to provide oncology care such as; procedures, chemotherapy/biotherapy, billing and reimbursement, and addressing oncologic emergencies. The primary source of oncology education comes from the collaborating or supervising physician. The purpose was to describe the roadmap of one cancer center's journey in establishing an oncology nurse practitioner fellowship program. Initial steps included a proposal to hospital administrators and developing a process to hiring the first NP fellow. The selection process required candidates to complete first a phone, then a panel interview with the use of a scorecard to assist with determining the strongest applicant. Concurrently, the NP fellowship curriculum and competencies were developed, based on national guidelines. Evaluations for preceptors and the fellow were developed for continuous assessments along with encounter logs to monitor patient cases during each rotation. One on one preceptor training was conducted before each clinical rotation. The fellowship program included didactic, research and clinical rotations that encompassed a wide array of experiences. Tools developed will be vital to gaining insight on evaluating success of the oncology NPs who are mentored through the fellowship. It will allow for better understanding on benefits and validate allocation of resources to expand further such a program to more new NPs. Review of the fellows experience will guide changes to tailor the program in optimizing future activities, potentially expanding into other specialty tracks. The role of the oncology NP continues to evolve. It will be vital that educational programs support the complexity of the cancer care required to manage the growing population of cancer patients from diagnosis to survivorship. The fellowship program will enhance skills of the new NP while also providing quality care to cancer patients. Providing initial support to the new NP will lead to decreased turnover and develop nursing experts in the field of oncology.

## 289

### **SUCCESSFUL ONBOARDING OF NEW GRADUATE NURSES IN AMBULATORY ONCOLOGY**

Lori Allen, MSN, RN, OCN®, University of Colorado Cancer Center, Aurora, CO; Jennifer Zaccone, MS, RN, OCN®, University of Colorado Cancer Center, Aurora, CO  
Traditionally new graduate nurses have not started their careers in the ambulatory setting. As a result, ambulatory clinics stand to suffer a greater impact of

the projected nursing shortage. UCHealth's Ambulatory Services Nursing and Professional Standards collaborated with The University of Colorado Cancer Center (UCCC) to implement a new graduate nurse (GN) residency program as a strategy to meet increasing staffing needs in ambulatory oncology. The UCCC chose to partner with the existing nationally accredited post-baccalaureate nurse residency program at The University of Colorado Hospital (UCH). The purpose of this project was to successfully integrate GNs into various oncology clinics within the UCCC. Interventions Strategic placement of the GNs into clinics with receptive leadership, staff, and preceptors was critical. Once clinics were identified, the UCCC clinical nurse educators met with charge nurses to determine department specific needs. The educators created individual GN orientation plans encompassing department specific requirements, competencies, and expectations. Weekly meetings were scheduled with the GNS and educators to ensure progression to meet the needs of the department. Relevant outside experiences (operating room, pharmacy, infusion) were also scheduled depending on the clinic routine. The first cohort of GNs began orientation in the UCCC in February of 2016. These two nurses successfully completed orientation, and are currently thriving in their clinic of hire. Post orientation feedback was obtained, and orientation content was modified for the second cohort of GNs who began in July of 2017. This orientation is anticipated to be completed in October 2017. Overwhelmingly staff and leadership feedback has been positive regarding the integration of these four GNs into ambulatory oncology clinics. The addition of GNs into the UCCC has been a successful way to meet workforce needs while allowing experienced nurses to engage in teaching "new" nurses the art of oncology nursing. It also allows GNs to start their career in their area of interest and passion, with the intent of increasing job satisfaction and retention. Effective teamwork among educators, charge nurses, staff nurses, preceptors, and leadership has been essential to making GN onboarding a success in ambulatory oncology. The project of integrating GNs into ambulatory oncology continues to be an innovative way to meet both institution and personal nursing needs.

## 290

### **USING CLINICAL DATA TO DESIGN NURSE EDUCATION FOR EXPANSION OF ONCOLOGY SERVICES**

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Johns Hopkins, Baltimore, MD; Melanie Cohen, BSN, RN, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD; Kelly Allen, BSN, RN, CCRN, University of Maryland Graduate School of Nursing, Baltimore, MD

This Health System and its' Comprehensive Cancer Center (CCC) made a business decision to expand services for patients with leukemia at an affiliate community hospital, allowing patients to receive treatment by CCC physicians closer to their homes. One aspect of inpatient care that required planning and education was the physiologic monitoring needs of these patients. No evidence-based literature was available to guide education planning. Indications for monitoring and reasons for decline in patients' conditions informed the nursing education curriculum for the community hospital. This model can be used by clinical leaders and educators for similar expansions of oncology patient services. Nurse supervisor reports were analyzed for clinical characteristics of leukemia patients receiving physiologic monitoring or critical care within a six-month period in this 83-bed CCC. Number of patients requiring advanced level of care, average days per monitored patient, and reasons for monitoring were summarized. One hundred and twenty-nine progressive or critical care patients were described. Monitor episodes averaged 2.87 days; one-third of patients required multiple monitoring episodes; and, 11.5% of the patients required monitoring or critical care. The most common reasons for physiologic monitoring were dysrhythmias of uncertain significance, hypoxemia with high-level oxygen support, deteriorating mental status with frequent neurologic evaluations, high risk for tumor lysis or leukostasis, high fevers or hypotension related to sepsis or drug reaction, and the presence of bacteremia. The most common reasons for critical care were severe sepsis/shock, respiratory failure, hemorrhage, tumor lysis syndrome, and leukostasis. Data collection challenges included missing data, inconsistent documentation, and lack of patient identifiers to validate information. Identified clinical problems informed the design of the staff education. Two class days included traditional dysrhythmia interpretation and progressive care-related oncologic case studies with emphasis on their unique management. This presentation describes the data collected and its use to develop educational interventions. Literature does not provide indications for advanced patient monitoring in this population. The data used in this project may serve as a basis for more rigorous evaluation and development of oncology-specific monitoring policies.

Evaluation of this process's accuracy in predicting nursing management of acute illness in patients with leukemia would assist in this secondary aim.

## **291** **HOSPITAL TO HOME: A TRANSITION OF CARE MODEL. IMPROVING PATIENT CARE, REDUCING HOSPITAL READMISSIONS**

**Carol Amodeo, MS, RN, Stony Brook Medicine Cancer Center, Stony Brook, NY; Regina DiBlasi, BSN, RN, OCN®, Stony Brook Medicine, Stony Brook, NY**

Cancer patients constitute one of the most complex, diverse, and growing patient populations. Given the complexity of cancer care and treatment for both inpatients and outpatients, ensuring seamless transition between care settings is essential to achieve the primary goal of improving the oncology patient's quality of life (QOL). Inadequate transition of care (TOC) is associated with suboptimal health outcomes, increased avoidable 30-day hospital readmission rates, and increased healthcare costs. While survivorship for cancer patients has increased due to advances in treatment and various supportive measures, we need to adopt and implement TOC processes that coordinate care for both complex cancer treatment and patient-associated comorbidities to ensure optimal care for this high-risk population. Essential components of TOC includes patient education, improved communication between providers, assuring accuracy of documentation, and medication reconciliation. Issues related to medications taken concurrently to manage comorbidities during cancer treatment creates a scenario fraught with potential errors. Avoiding preventable hospital readmissions presents as an opportunity to benefit patients, families, providers, purchasers and payers. To support the hypothesis that improving TOC can improve overall patient health outcomes, improve patient satisfaction, and decrease unnecessary readmissions; a smooth coordinated system is needed from hospital discharge throughout transition to outpatient care and treatment, to home. Researchers involved in the expanding field of TOC are studying the effects of the various models of the discharge process; the results to date are ongoing. This project is intended to close the gap that exists from inpatient hospital stay to outpatient care, utilizing currently available resources to improve oncology patients' care and QOL while decreasing avoidable 30-day readmission rates. This project developed and implemented a TOC model where review and reassessment of the hospital discharge plan occurs at the first and subsequent outpatient postoperative/

discharged visits, where the patients' and caregivers' level of understanding is assessed, current needs are reassessed and interventions for change are implemented utilizing resources currently available. The goal of this project is to demonstrate that intervention specific to the needs of the patient, depending on cancer stage and treatment, early upon discharge, and ongoing at subsequent visits, provides better outcomes for patients.

## 292

### **IMPLEMENTATION OF INTERDISCIPLINARY ROUNDS ON AN ACUTE CARE ONCOLOGY SERVICE TO INCREASE CAPACITY, REDUCE LENGTH OF STAY, AND IMPROVE PATIENT SATISFACTION**

**Autumn Ashley, MS, BSN, RN, OCN<sup>®</sup>, New York Presbyterian Weill Cornell Medical Center, New York, NY; German Rodriguez, MSN, RN, New York Presbyterian Weill Cornell Medical Center, New York, NY; Katie Barrie, MPA, MSN, RN, New York Presbyterian Weill Cornell Medical Center, New York, NY; Jeffrey Ball, MD, Weill Cornell Medicine, New York, NY**

Patient capacity and throughput is one of the top of priorities for acute care hospitals across the nation. Oncology care services are in high demand making efficient care delivery imperative. An academic medical center in an urban area experienced rapid growth in oncology inpatient admissions. Four distinct hematology oncology units became a closed unit to non-oncology admissions, creating awareness among clinicians for patient admission prioritization and encouraging proactive management of patient throughput. A need was identified to create a formalized process to facilitate patient discharges through interdisciplinary collaboration and communication. The goal of the project was to prepare a model for interdisciplinary rounds (IDRs) that was sustainable, inclusive, collaborative, and resulted in positive impacts on length of stay (LOS) and patient satisfaction. An interdisciplinary team of clinicians, support services, and leadership was created. Stakeholders were vetted and barrier reduction methods were identified. A structured daily patient rounding process was formalized. As directed by nurses, patient discharge plans and anticipated barriers were to be discussed with the interdisciplinary care teams. Education was performed over a two week period prior to implementation and ongoing as new members joined the interdisciplinary team. This model of IDRs was implemented in January 2017. As a result, a structured escalation process for delays was created and a

dashboard communicating patients' estimated date of discharge was implemented. Length of stay variance, excess days, and patient satisfaction data were used to measure the effectiveness of IDRs. Prior to implementation, average LOS variance was 2.01 with 2,228.7 excess days over 7 months. Average LOS variance post implementation was 1.66 with 2000 excess days over a 7 month period. Patient satisfaction scores as it relates to communication with doctors, nurses, and about medications improved by 5-7% from 2016 to 2017. Interdisciplinary rounds serve as an effective model to aide in LOS reduction and positively impact patient satisfaction. Identifying a sustainable model with key stakeholder support is crucial to successful implementation. Nurse engagement specifically as it relates to RN to MD collaboration and nurse autonomy are additional measures that could have secondary impact from implementation of IDRs. Oncology nurses impact individualized plans of care through advocating and actively participating in decision making. This model could be implemented in academic institutions across the nation.

## 293

### **HOW TAKING LEADERSHIP CAN MAKE A DIFFERENCE FOR PATIENTS**

**Peggy Ballance, RN, Wayne Memorial Hospital, Goldsboro, NC; Chaitenya Razdan, MBA, Care+Wear, New York, NY**

With the long lead time for approval of new products, a key frustration for oncology nurses is that while many current products distributed to patients are functional, they are not sightly or long-lasting. Furthermore, patients in different areas have different needs and sometimes wearable items are not designed to accommodate all patients across the country. When leading healthwear provider Care+Wear introduced their ultra-soft, antimicrobial PICC Line Cover as a replacement to the traditional tube sock for cancer patients receiving treatment through a PICC Line, the University of North Carolina Wayne Memorial launched a pilot program to test the covers. The machine washable covers are unique in that they feature a mesh window allowing for functionality and visibility of the line and dressing, while also providing patients with a discreet look. While the covers were well received by patients and clinicians alike, it was the nurse team that realized improvements could be made. Cancer patients at University of North Carolina Wayne Memorial were using PICC Lines with long double lumens, too long to comfortably fit under the short PICC Line cover. With the feedback from

the nursing team who provided measurements from patients, the University of North Carolina Wayne Memorial was able to directly work with Care+Wear to swiftly design and launch a long version of Care+Wear's PICC Line Cover. With the updated measurements, additional hospitals who placed their PICC Lines differently from other hospitals were also able to use these long covers. This project, and the ongoing demand and availability of long Care+Wear PICC Line covers, demonstrates the importance of nurse feedback and how taking ownership of patient needs can result in the implementation of the most effective products for patients. Feedback from the project showed overall improved patient experiences with products specifically designed to accommodate patient needs at the hospital. The project demonstrates the ability of each and every nurse to make a difference throughout the treatment process.

## **294** **IMPLEMENTING A NOVEL ELECTRONIC PERIOPERATIVE PATIENT ENGAGEMENT TOOL: THE COLLABORATIVE ROLE OF THE CLINICAL NURSE SPECIALIST (CNS) AND NURSE MANAGER**

**Roberta Baron, MSN, RN, CNS, AOCN<sup>®</sup>, Memorial Sloan Kettering Cancer Center, New York, NY; Curt Haase, MPA, MSN, RN, OCN<sup>®</sup>, Memorial Sloan Kettering Cancer Center, New York, NY; Jericho Garcia, MSN, RN-BC, Memorial Sloan Kettering Cancer Center, New York, NY; Rori Salvaggio, MS, RN, NEA-BC, Memorial Sloan Kettering Cancer Center, New York, NY; Keri Martin, BS, Memorial Sloan Kettering Cancer Center, New York, NY; Allison Reichel, BS, Memorial Sloan Kettering Cancer Center, New York, NY**

Nurses in outpatient settings are challenged to provide comprehensive preoperative patient education due to workload, competing responsibilities, and increasingly complex instructions regarding preoperative preparation and postoperative care. Short hospital stays and same day discharge leave little time to reinforce teachings before discharge. Additionally, studies have shown patients immediately forget 40–80% of medical information provided. We piloted a novel, patient-centric engagement tool focused on perioperative education and communication. The CNS and manager had central roles in the content design and implementation of the electronic patient engagement tool. The tool reinforced written information provided by the nurse during the preoperative teaching session. For two-weeks prior and a week following surgery, patients received daily focused

information through reminders, checklists, tasks, and links to more detailed educational resources. These messages were sent at clinically significant intervals to help focus the patient on time-sensitive information based on their surgery date. Patients could also correspond with their nurse via integrated secure text communication. The system was piloted in two surgical practices for patients undergoing outpatient breast surgery. The CNS reviewed existing educational resources and selected pertinent items for reinforcement and timed delivery. Training materials for staff were developed in partnership with other members of the nursing department and the CNS led the training sessions. The manager introduced the initiative to the nurses and coordinated operational logistics. Both the CNS and manager acted as “super-users” to ensure that staff were supported, problems rectified, and patient issues addressed quickly. Regular team check-ins occurred throughout the pilot period. Nurse feedback from the pilot was generally positive and included: “It was a quick and easy way for nurses to answer simple patient questions. More complex questions, however, still required a phone call.” “Patients seemed to feel more connected. It lowered distress levels and grounded anxious patients.” Recommendations to improve the tool were made based on the pilot. This tool can not only reinforce the information provided by the nurse but can provide a mechanism for the patients to feel connected and supported by their healthcare team throughout their surgical experience.” This presentation will provide attendees with samples of the tool content and feedback obtained from patient surveys.

## **295** **CAPS, CAPES AND CARING: THE LEGACY OF DIPLOMA NURSING EDUCATION IN TOLEDO, OH**

**Patricia Beach, MSN, RN, AOCN<sup>®</sup>, ACHPN, Mercy Health, Toledo, OH; Susan Eisel, RN, BSN, MSED, Sylvania, OH; Maria Nowicki, PhD, RN, Sylvania, OH; Judy Szor, MSN, MEd, RN, Toledo, OH; Beth White, MSN, RN, CNS, Sylvania, OH**

The impact of diploma nursing education on contemporary nursing cannot be underestimated. Most diploma schools across the country have closed but their legacy continues both through nurses still in practice who graduated with a diploma in nursing and the influence the schools have had on today's nursing education. The purpose of this presentation is to share and preserve the significance of diploma school education on professional nursing practice. According to

the American Nurses Association, “Nursing is the protection, promotion, and optimization of health and abilities, prevention of illness and injury, facilitation of healing, alleviation of suffering through the diagnosis and treatment of human response, and advocacy in the care of individuals, families, groups, communities, and populations.” This is no truer than in the specialty of oncology nursing. Parallels will be obvious between the holistic care given to patients during the diploma education era and today’s practice of oncology nursing including but not limited to symptom management, critical thinking, and palliative care. This poster uses the story and history of the seven hospital-based diploma nursing schools in Toledo, OH as exemplars for diploma schools. Photographs, first person accounts, and historical documents will chronicle the academic, clinical, and personal life of a diploma nursing student between 1893 and 1999. The authors of this poster conducted archival research and interviewed graduates of diploma schools to construct a fact-based narrative book with pictures to be published by University of Toledo Press, fall 2017. Particular to this poster presentation will be the blending of enculturation, study, and clinical practice that formed the basis of diploma school education. Both the life of a student and the education of a profession will be intertwined through pictures and narrative. Although not exclusive to oncology nursing, this presentation will enable nurses to realize their roots and appreciate the caring legacy that is part of the profession’s history. It is important that current and future generations of nurses understand diploma nursing education as it provided the foundation for current nursing education and thus practice. It is also hoped that this presentation will inspire other nurses to record our history. This history is both unique and shared as demonstrated in this poster.

## 296

### **RECRUITMENT, TRAINING, AND MAINTAINING INPATIENT CHEMOTHERAPY NURSES: A LESSON IN SPECIALTY SKILL MANAGEMENT**

Jill Benedeck, MS, APN, RN, AGCNS-BC, OCN®, Centegra Sage Cancer Center, McHenry, IL; Jessica Giangiorgi, BSN, RN, Centegra Health System, McHenry, IL

In 2015–2016, our healthcare system lost 18 inpatient chemotherapy nurses due to attrition, unit location changes, and disinterest. Surveys of those who dropped their active chemotherapy nurse status included lack of confidence due to low opportunity (our community hospital system has a low number

of inpatient chemotherapy admissions), lack of monetary incentive (training and competency difficult but not rewarded for the effort), and lack of staffing support. Oncology nursing leadership recognized this staffing crisis, and developed a plan to effectively recruit, train, and maintain well trained, highly skilled inpatient chemotherapy nurses. Although national staffing guidelines for inpatient chemotherapy administration do not exist, the ONS/ASCO Chemotherapy Standards set expectations for staffing including a well defined education plan, and continued verification of competency. Nurses who maintain competency become better skilled with experience which translates to a safer environment for our patients. In addition to the training already set in place, and for continued competency evaluation and support, we developed a Mock Chemo Lab held quarterly and mandatory for nurses who had not had an opportunity to administer chemotherapy in the past 3 months. A pay incentive was created to encourage floating within our 3 hospital system when a chemotherapy nurse was needed. An Outlook email group was formed that consisted of oncology managers for both the inpatient units and outpatient cancer center, admitting nurses, and Oncology pharmacy. All incoming inpatient chemotherapy orders are sent by the admitting nurse to this Outlook email group for review by the Oncology CNS and Oncology Pharmacist. The protocol and order are then sent to the admitting unit along with a staffing guideline for the inpatient manager to follow that is customized to the protocol. Post survey of current active chemotherapy nurses shows a significant increase in self confidence of competency and a higher likelihood of remaining an active chemotherapy nurse in our system. Oncology Nursing Leadership is confident that with these supportive changes, we will be able to maintain a highly trained and skilled chemotherapy nurse team, as well as attract new chemotherapy nurses. The relationship between our outpatient and inpatient chemotherapy nurses has grown as they collaborate both in training and in review of new chemotherapy orders.

## 297

### **DEVELOPING CLINICAL ONCOLOGY NURSES THROUGH PROFESSIONAL ORGANIZATION MEMBERSHIP**

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Most pediatric oncology patients are treated on clinical trials through the Children's Oncology Group (COG). Nursing care of patients on clinical trials continues to grow in complexity. Medication errors and protocol deviations have potentially negative outcomes. In our institution, nurses identified accessing protocol specific information as a barrier to care for patients on clinical trials. In the previous 18 months, our institution had 5 significant protocol related medication administration errors, per the organization's MERP based scoring scale. Our oncology department currently has 101 nurses with specialized training in chemotherapy administration. Of those, only 3% have access to electronic treatment protocols through COG membership. When surveyed, only 2% of our clinical oncology nurses felt "well prepared" to care for patients on clinical oncology trials. Access to information about the trials was cited as a key opportunity for improvement. The aims of this project are to (1) Increase the percentage of nurses with COG membership, enabling them direct access to protocol information; (2) Decrease protocol related medication administration errors by 25%; and (3) Increase nurse perceptions of: access to protocols, professional development opportunities, and importance of participation in professional organizations. Clinical nurses will be invited to a membership event designed to eliminate barriers related to COG membership. The institutional PI for COG and nurse leaders will be on-sight coaching nurses through the application process. Oncology nurse scientist will educate nurse enrollees on importance of participation in clinical research for pediatric oncology patients. A needs assessment (T<sub>1</sub>) was administered to the clinical nursing staff via anonymous electronic survey. Access to information was deemed an area of opportunity for improvement. Clinical nursing staff will be surveyed again (T<sub>2</sub>) with focused questions related access to clinical protocol information, perceptions about professional development opportunities, and the importance of nurse participation in professional organizations prior to the event. Clinical nursing staff will be resurveyed 90 days post intervention (T<sub>3</sub>) to evaluate effectiveness. Medication errors and nurse membership will also be measured at T<sub>3</sub>. The number of COG member nurses will increase post intervention. This will result in a direct decrease in medication errors, as well as a shift in nurse perceptions of professional development and participation in professional organizations. Overall patient safety and nurse satisfaction will improve.

298

## STRATEGIES TO ENHANCE PATIENT EDUCATION FOR HOSPITAL-BASED AMBULATORY CANCER CENTER PATIENTS

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New patients receiving education before chemotherapy report enhanced comprehension, retention and quality of life. Orientation and education about treatment side-effects and their management reduces patient anxiety in an infusion center. At our academic institution's outpatient clinic, nurses initiated individualized patient education once the nurse became aware of a patient's treatment regimen. The education covered side-effects of the prescribed therapy, but there was no set curriculum. Our cancer center has also offered an optional, one day a week, standardized orientation class for new outpatients and their family members to introduce them to available cancer related services and resources. The class lacked information on treatment-related side-effects and side-effect management, as well as self-management skills. Referrals to the class averaged less than two patients per month. The purpose of this project was to develop strategies to enhance and improve access to education for outpatient oncology patients. To increase referrals to the orientation class, we expanded the number of class instructors and times offered, and created a new class scheduling process. We encouraged referral to the class prior to the patient's first infusion appointment during nursing huddles and incorporated standardized treatment-related side-effect and side-effect management content into the curriculum along with handouts. The effectiveness of the in-person orientation class was evaluated through post-class surveys. We also offered Cancer Thriving and Surviving Workshops (CTSW), a 6-week course developed by Stanford Health Care, to help cancer survivors improve health and quality of life through self-management skills. The number of patients/caregivers attending orientation class doubled after implementation (from 58 to 121 attendees per year). Post-class surveys showed 95% of participants (85% response rate) agreed they now had the information and tools they needed to get through cancer treatment. Ninety-eight percent agreed the patient guidebook containing information on

resources, side-effects and side-effect management was useful. To date, three CTSW have been offered, with 18 total attendees; participants anecdotally reported satisfaction with the workshop. A nurse-led, standardized curriculum including cancer resources, side-effects and side-effect management prepares patients for cancer treatment. Multiple class times with an established scheduling process promotes class attendance, but additional actions are needed to reach more patients. Future evaluation should include a pre and post comparison of patient perceptions, as well as an assessment of self-management of side-effects and retention.

## 299

### MEASURING PROTOCOL ACUITY TO IMPROVE WORKLOAD ALLOCATION AND CLINICAL RESEARCH STAFF SATISFACTION IN THE PHASE I SETTING

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Clinical research nursing is a complex role comprised of numerous responsibilities from adherence to regulatory regulations, human subject protection, data collection, analysis, and interpretation. Fluctuation of these duties varies and responsibilities of a clinical research nurse coordinator remains vague differing by institution, as well as, whether there are clinical care responsibilities. In the phase I division at a large, comprehensive cancer center there are over 20 enrolling protocols, management of 50+ patients receiving active treatment and staff consisting of five full time clinical research nurse coordinators. During a 2016 environmental survey the staff identified workload allocation as the third highest frustration. These findings were consistent with the 2011 ASCO Community Research Forum needs assessment survey that identified workload to be a high priority amongst clinical research nurse coordinators. The Department of Clinical Cancer Research identified that phase I clinical trials are more complex and labor intensive requiring significant coordinator effort. An interdisciplinary team wanted to evaluate the current workload allocation amongst the research nurse coordinators within the phase I division in order to provide justification for hiring additional staff and balance work appropriately amongst the division. A literature review of published protocol acuity metrics was conducted to assess which metric system best addressed the needs of the phase I division. After review of the

current literature the decision was made to utilize the Ontario Protocol Assessment Level (OPAL). All active clinical trials were evaluated utilizing this metric system to assess protocol workload. In an effort to assess research nurse workload a preliminary survey compiling the various responsibilities of the clinical research nurse coordinator and the time spent performing these tasks was distributed amongst the staff. A time and motion study will be conducted to identify the exact amount of time spent on specific tasks. Total workload acuity scores will be performed by multiplying the protocol acuity score by the number of patients enrolled with the addition of the caseload score divided by the total work time. The results of this data will be presented at the 43rd Annual Oncology Nursing Congress. Data-driven decisions about staffing should facilitate appropriate allocation of individual research staff workload, while potentially impacting job satisfaction, staff retention, improve accrual and protocol compliance.

## 300

### SUPPORTING HEALTHY WORK ENVIRONMENT INITIATIVES FOSTERING RESILIENCE AND SAFE CULTURE

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Inpatient oncology nurses administer treatments with the intent to cure or extend the lives of cancer patients. In one shift, an oncology nurse may care for higher acuity patients, while easing the transition of others to palliative and hospice care. As >30% nursing staff on this adult solid tumor oncology unit have less than 2 years' experience, developing a culture of safety and resilience was necessary. Describe healthy work environment initiatives to foster resilience and promote safety. It was hypothesized that staff resiliency and workplace safety could benefit from promoting opportunities to provide specific interdisciplinary collaborative initiatives impacting issues that result in burnout. (1) Monthly "Ethics Lunch and Learns," led by the hospital ethics committee chair permit staff discussions of patient cases that caused ethical dilemmas in a safe and confidential environment. (2) "A Shot in the Arm" involves a palliative care social worker meeting with staff monthly for resilience training. These discussions give staff an opportunity to debrief after traumatic situations in patient



care, as well as tools to assist staff with the day-to-day work of self-care. (3) Working with employee health, staff enjoyed 15-minute massages during work shifts. (4) Staff-led interventions through our unit-based Healthy Work Environment Committee have resulted in celebrations of staff birthdays, thematic lunches, and “Going the Extra Mile” bulletin board for staff compliments. (5) A nurse residency project was formalized into staff taking a moment of silence after patients die. This program honors the life of the patient in the moments after death, and gives staff an opportunity to have a quiet moment before returning to the other tasks of the shift. (6) Lastly, quietness initiatives initially intended for patients, helped nurses reduce background noise distractions, facilitating focus and quiet time to complete tasks. Staff participation in the collaborative ethics and resilience programs has grown consistently. Staff look forward to the opportunity to discuss timely issues and struggles with experts who offer perspective and support. Sharing ideas for initiatives improved collaboration amongst staff. The ONS and ANA partnership for the Healthy Nurse, Healthy Nation campaign focuses on initiatives to improve the health of oncology nurses. Supporting initiatives such as those described focus attention on the well-being of oncology nurses.

### 301 THE GOLDILOCKS RULE—GETTING PATIENT EDUCATION “JUST RIGHT.” HOW TO USE STORYTELLING, ANALOGY AND TAILORED EDUCATION TO ENHANCE UNDERSTANDING FOR PATIENTS AND FAMILIES

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Patients and families have much to learn throughout cancer diagnosis, treatment, and survivorship, and this information is often presented by nurses. Yet, patients frequently say “I don’t understand” even after they have received what many nurses would consider “good” patient education. Nurses may say “I told them about that three times already” but as Cohen, Jenkins, Holston and Carlson describe, it was not provided “in a way that led to understanding” (2013, p. 512) Studies conducted by nurses and educators illustrate storytelling and analogy bridge the gap between knowing information and understanding it within the context of disease. While storytelling and analogy are not themselves innovative communication techniques, use of them in cancer patient education is. The presentation

will teach nurses techniques to successfully educate patients through the use of storytelling and analogy. Storytelling and analogy have been used by different cultures to pass on knowledge and understanding from generation to generation. Storytelling conveys information and emotion and may be more memorable than facts alone. Analogies use commonly understood concepts to draw connections to newer or more complex concepts. Much like nursing professors tell stories to instill knowledge, these strategies are also effective in patient education. For example, when explaining to a patient how to catch up to pain, we describe seeing a friend walking ahead of us. To catch up to them requires bigger, faster steps. This is a combination story/analogy that helps patients understand that catching up to pain requires bigger (larger) and faster (more frequent) doses. The presentation will use case examples to demonstrate storytelling and analogies for use in clinical practice. Cultural and generational considerations will also be discussed. Evaluation measures may include comprehension, adherence and satisfaction. Use of teach-back technique routinely to measure comprehension at an individual level. On a systems level, the oncology unit should monitor adherence. Satisfaction may also be measured through the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores, specifically: During this hospital stay how often did nurses explain things in a way you could understand. Oncology nurses play a pivotal role in patient education. Incorporating storytelling and analogies enhances nurse’s ability to translate medical information to patients.

### 302 ETHICAL CHALLENGES WHEN CARING FOR AN ORTHODOX JEWISH PATIENT AT THE END OF LIFE

Toby Bressler, PhD, RN, OCN®, Mount Sinai, New York, NY; Beth Popp, MD, FAAHPM, Mount Sinai, New York, NY Dying is a deeply personal process. The personal values, goals and experiences of a lifetime, come to the forefront during the end of life and may be shaped to some degree by the religious and cultural identity of the patient and family. When patients are part of a faith-based, religious or cultural minority group, it can be particularly challenging for the clinical care team to gain the understanding and insights needed to reconcile disparities between majority and minority values. This paper uses a case study to illustrate and review ethical issues which frequently occur and can be anticipated in the end of life care of patients who identify themselves as Orthodox Jews.

While the specifics are unique to this faith-based minority group, the process of identifying, educating and developing a means to incorporate faith-based and cultural minority beliefs and values in the provision of care can be applied to other such minority groups the clinical team may encounter in their work. The most recent Institute of Medicine Report on End of Life Care, *Dying in America: Improving Quality and Honoring Individual Preferences Near the End of Life*, emphasized in its title the critical importance and highly individual nature of this time. Those working in hospice and palliative care recognized this long ago, and continue to acknowledge it in their daily work. It is part of the rationale behind the interprofessional team essential to high quality end of life care, whether in hospital- or community-based palliative care or hospice programs. The personal values, goals and experiences of a lifetime, which come to the forefront during the end of life, may be shaped to some degree by the religious and cultural identity of the patient and family. The provision of high quality end of life care necessitates that the care is truly patient and family centered. When the patients are part of a faith-based, religious or cultural minority group, it can be particularly challenging for clinical team members to gain the understanding and insights needed to achieve this goal and to reconcile disparities between majority and minority values. This paper uses a case study to illustrate and review ethical issues which can be anticipated in the end of life care of patients who identify themselves as Orthodox Jews.

**303**

### **A ROADMAP TO EVIDENCE-BASED PRACTICE**

**Denise Brigham, RN, MPH, OCN®, East Carolina University, Greenville, NC**

Nurses must continually strive to deliver the highest quality care to our patients. It is incumbent for the growth of our profession to generate new science in order to keep abreast of our patients' increasingly complex health needs. Once new knowledge is disseminated, it must be transitioned to the daily decision-making of the health care team. Nurses delivering direct patient care must operationalize this barrage of information to answer basic clinical questions through evidence-based practice. Understanding the differences between nursing research and evidence-based practice is an important starting point. There are well-defined steps for engagement in the continuum of evidence-based practice. By using a roadmap, all nurses can be empowered to move our practice forward utilizing the best possible evidence.

**304**

### **PROPOSAL OF FORMAL EDUCATION OF BRAZILIAN NURSES ON THE FOLLOW-UP OF PATIENTS SUBMITTED TO CHECKPOINT INHIBITORS' THERAPY**

**Thabata Campuzano, BP Mirante, Sao Paulo; Veronica Moura, BP Mirante, Sao Paulo**

The cancer treatment has undergone many changes in recent years. With the advent of immunotherapy, new drugs and indications were incorporated, in an accelerated manner, in clinical practice of Brazilian oncology nurses. Thus, nurses who provide care for patients on checkpoint inhibitors need to know the mechanisms of action of the drugs, the main signs and symptoms involving immune-related adverse events. The aspects on how nurses should monitor therapy and the patients during, and even after, termination of therapy is one of the aims of the new knowledge necessities of nurse practice in Brazil. Nursing follow-up of these patients is essential for recognition, identification and intervention of those new adverse events. As immunotherapy is a new modality of treatment in Brazil, a need to formal education for oncology nurses that work directly to checkpoint inhibitors, their adverse events, and monitorization is built. The development of this formal education for Brazilian nurses will be through a vast literature review of the main approved checkpoint inhibitors and its implications in clinical practice. The educational structure will be given through lectures that will be divided into the following subjects: basic immunology, immunology and cancer, mechanism of action and care of administration of the main checkpoint inhibitors and immune-related adverse events: diagnosis, management and monitoring. These measures are necessary since the nurse practicing has the responsibility of detecting and reporting to the medical team possible immune-related events, allowing the promotion of a fast intervention ensuring greater clinical benefit for the patient and avoiding the suspension/interruption of treatment. Better outcomes, in terms of effectiveness, could be reached with those adjustments in nursing practice.

**305**

### **GREENBELT INFUSION SCHEDULING PROJECT**

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Inaccurate outpatient infusion schedules can lead to prolonged patient wait times. Additionally, multiple staff members altering the outpatient infusion schedule of a large academic cancer center creates errors and rework. Preliminary data analysis and a manual chart review reveal that 77% of infusion appointments require rework such as cancellation and rescheduling, and 41% of infusion appointments contain errors. The purpose of this project is to decrease errors and rework in the infusion schedule with the goals of decreasing patient wait times and providing improved patient access to care. A multidisciplinary team was formed and led by a Six Sigma Greenbelt-trained infusion nurse in order to identify the sources of errors and rework in the scheduling process. The project team created a decoupled appointment scheduling policy where safe, yet flexible, treatment windows are provided for patients, in an effort to balance the daily volume of infusion visits. The chair minute templates used to schedule infusion appointments were also updated to account not only for the drug's infusion time, but also to be inclusive of the time needed to obtain intravenous access, administer pre-medications, and provide additional monitoring as needed. The project team created a mandatory training module for the revised scheduling process that included appropriate patient scripting and practice scenarios. The team also established an accountability process for all staff members with infusion scheduling access. After a four-month pilot of the revised scheduling process, results were evaluated using a 2-sample percent defective test. The error rate pre-pilot was 41%. The error rate post-pilot was 21%. The average total patient wait time pre-pilot was 54 minutes. The average total patient wait time post-pilot was 44 minutes. Clinic and infusion staff has experienced a smoother and more balanced workflow. Infusion patients have been incredibly receptive to the new infusion scheduling process. Major themes of patient feedback received have been "improved setting of expectations" and a "shorter wait time." An accurate infusion schedule results in shorter patient wait times, an increased capacity for patient care, and a better utilization of resources. Oncology nurses can play a critical role in partnering with scheduling staff to foster interdisciplinary collaboration that results in a more clinically accurate and efficient infusion schedule, leading to enhanced patient and staff satisfaction.

### 306

#### **GROWING A PRACTICE: NYU WINTHROP CYBERKNIFE EXPANDS TO MANHATTAN**

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In 2005, NYU Winthrop Hospital was the first medical institution in the New York Metropolitan region to offer Cyberknife radiosurgery in Mineola, NY. Cyberknife is a high tech, computer controlled robotics technology that delivers highly targeted beams of radiation to tumors while sparing healthy tissue. Since our debut of Cyberknife Robotic Radiosurgery in 2005 we have treated over 4280 patients. The increased patient demand for Cyberknife treatment led to the growth of our Radiation Oncology Department. On October, 2014 NYU Winthrop Hospital was the first Institution and the only department within NYU Winthrop Hospital to expand its services creating a state of the art Cyberknife facility in Manhattan. A project manager was appointed and a planning committee was established to bring the idea of creating a Cyberknife Radiation center in Manhattan to fruition. Members of the committee included Engineering, Security, Nursing, Physics, Radiation Oncology Physician, Security, Environmental, Registration, Design Team and Pharmacy. There were monthly pre-occupancy meetings scheduled with specific agenda's. The primary objectives were to prepare for the Department of Health Inspection and to ensure that the space was ready to receive patients by the target date. During the development of NYU Winthrop Cyberknife Center in Manhattan the nursing department worked with pharmacy, the design team, nurse education and recruitment. Nursing was vital in the design of the patient exam rooms; ensuring proper functionality and equipment specifications were met. Nursing created Policy and Procedures which were approved by the Regulatory Committee and implemented upon launch date. Evaluation (a) Achieved the American College of Radiology Accreditation within the first year of operation, (b) Treated 450 patients with Lung Cancer, Breast Cancer, Pancreatic Cancer, Brain Cancer, Prostate Cancer, Benign Brain and Spine Lesions and Bone metastasis. (c) Implemented the electronic medical record by January 2015. The Radiation Oncology Nurse was a vital member of the planning committee and provided input in the expansion of Cyberknife into Manhattan. They

worked within a multidisciplinary team to develop expansion of services into NYC to optimize growth of NYU Winthrop.

**307**

### **TEACHING NEW STRATEGIES THROUGH OLD MODELS**

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Ensuring the competency of a nurse's psychomotor skills is one of the many challenges an oncology nurse educator faces. The nursing profession is rapidly evolving and the educator must implement various teaching strategies to improve and maintain the competency of their nurses. Dr. Benner's Novice to Expert Model provides a foundation for the nurse educator on how to effectively teach nurses of various competency levels. The oncology nurse educator educates nurses with and without oncology experience on oncology procedures. The acuity of oncology procedures is low on non-oncology units, but the nurses still perform high risk oncology procedures. The nurse educator, using Dr. Benner's Model, will be able to teach both oncology and non-oncology nurses and improve their psychomotor skills while improving patient care. The purpose was to incorporate Dr. Benner's model into various teaching strategies to adapt to different learner populations when developing clinical competency psychomotor skills of unit nurses. According to Dr. Benner's model the non-oncology unit nurses comprise of advanced beginners and competent nurses. By accessing implanted ports, these nurses are performing a high risk activity, with a low volume of patients. The oncology unit nurses comprise of proficient to expert nurses who are performing a high risk activity with a high volume of patients. The nurse educator can use case studies to teach all nurses regardless of their competency skills by altering the case studies to appeal to the various levels of expertise. The case study for non-oncology nurses will be focused on intense step-by-step skills training and theoretical knowledge of accessing implanted ports. The case study for the oncology nurses will focus on theoretic knowledge and implications for accessing implanted ports, with less focus on the psychomotor skills. Over a six month period, the competency rates increased among oncology and non-oncology nurses. Case studies are used to foster autonomy, critical thinking, and self-directed learning. A case study should close the gap between the classroom and clinical practice, and it should

combine theoretical knowledge with practical skills. Program evaluations from the nurses proved that the use of case studies improved the knowledge of both oncology and non-oncology nurses.

**308**

### **GROWING ETHICALLY COMPETENT NURSES**

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Aging populations, advancing technology, limited human and physical resources, and disparities in access to care are factors that have greatly increased the frequency of ethical issues experienced by nurses at the bedside. There is a need to educate, empower, and engage nurses to identify potential or real ethical dilemmas in an effort to foster the development of ethical competence. Utilizing data and needs identified from organizational learning needs assessments and ethics education survey and a search of current literature, a model of ethical competency was developed. Based on the model and the ANA Code of Ethics, six modules were designed with the goals to help nurses acquire basic ethics knowledge and to create the opportunity for safe and practical ethical experiences. Participants for the program were selected by members of the organizational ethics committee through a competitive process. Based on preliminary results, participants report overall decreases in moral distress, increased abilities to facilitate ethical discussions with peers, and increased practical knowledge of clinical ethics. Based on participant evaluation and feedback, the tools, methods, and contents of the modules will be assessed to improve the delivery of the information for the next cohort of nurses. Ultimately, the long-term goal is to develop a sustainable, participatory, and inclusive clinical ethics education program to help support and grow ethically competent nurses.

**309**

### **CLINICAL TEACHING EFFECTIVELY AND EFFICIENTLY USING AN EDUCATIONAL PEDAGOGY**

**Cynthia Chernecky, PhD, AOCN®, FAAN, Augusta University, Augusta, GA**

The innovative ABCDE clinical teaching pedagogy has been used for over 8 years and translates knowledge and critical thinking into practice at graduate and undergraduate levels irrespective of novice or expert status. First students chose a topic (eg: nursing or medical diagnosis, medication, ethics, disparity) then orally present; A= Anatomy, physiology, and/or principles associated with topic like ethics and

disparities, B= Best care, prioritized, C= Complications, prioritized, D= Drugs, E = Evidence based practice article(s). Examples of oncology topics students have orated include occlusion signal on IV pump, administration of arsenic trioxide (Trisenox), CINV, Hairy cell leukemia, and SVCS. This approach is extremely easy to implement, practical, effective, efficient and well-liked by professors, students, staff nurses and preceptors (range 97%-88% rated excellent). ABCDE enhances individualized patient care and clinical reasoning as part of critical thinking and adapts to learning styles and meets ONS education standards. Advantages for oncology care include updates from research, knowledge and evaluation of treatment complications and associated ethical decisions. Advantages for professors include immediate evaluation and feedback of students' breadth and depth of knowledge and synthesis in an era of faculty shortages and student clinical rotations for only a few weeks. The primary disadvantage is the need that faculty be cognizant that the student can only pick each topic once so you need to keep a list of students and their topics. In summary, the ABCDE pedagogy is a systematic, easy, flexible, intra-and interdisciplinary approach that provides immediate feedback to students during clinical where exponential information and complex care is demanding, especially in the oncology setting. This pedagogy evaluates students quickly, prepares the student for oral speaking, enhances communication and also increases student learning as the entire clinical group listens to each other's presentations.

### **310** **A COMPASSIONATE WORKPLACE BEGINS WITH YOU**

**Susan Childress, MN, RN, OCN<sup>®</sup>, Huntsman Cancer Hospital, Salt Lake City, UT; Melissa Banner, MS, RN, OCN<sup>®</sup>, Huntsman Cancer Hospital, Salt Lake City, UT**

During a three year period this cancer hospital set a goal to create a compassionate workplace that supported oncology nurses and the hard work they do every day. An extensive literature review identified moral distress, workload, patient safety, and communication issues as the primary reasons nurses at this cancer hospital were not satisfied with their jobs. Cancer center administration and nursing leadership recognized the need to retain seasoned nurses and recruit new nurses to maintain a safe and viable work environment. As an organization, the cancer center addressed workload and moral distress, but communication issues were not an easy "fix." The purpose of

this initiative was to improve communication across this complex work environment. Using the ProQOL V survey, this cancer hospital identified the need to improve communication among peers, providers, and patients. The ProQOL V survey measures compassion satisfaction, burnout, and secondary trauma, but the comments from this survey were instrumental in guiding efforts to address the needs identified by front line staff. After careful examination of the survey results and comments, it was decided to focus on manager training and support during the first year. The second year goals were identified as giving front line staff the tools and training they needed to communicate appropriately with peers, providers, and patients. This project brought together Human Resources, Nurse Managers, and Front Line staff to improve the work environment for all nurses and other front line staff, along with improving patient safety related to communication between staff and providers. This project was innovative due to the focus on communication techniques and the need to address incivility, or bullying, in a very direct and prescribed manner. Nursing staff ultimately felt the support from their managers and had a mechanism for reporting communication issues that ultimately could impact patient care or in the long term, impact nurse retention. Creating a "Compassionate Workplace" has impacted this organization on three measures: patient satisfaction, quality, and finance.

### **311** **ENSURING STANDARD PRACTICE ACROSS REGIONAL OFFICES IN A CANCER INSTITUTE**

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The University of Rochester Medical Center's (URMC) Wilmot Cancer Institute (WCI) began affiliating with community oncology practices in 2010 in an effort to bring high quality cancer care to patients closer to home. WCI now has 12 office locations across four counties in Rochester/Finger Lakes region, the furthest 120 miles away. The purpose was to ensure every patient treated at WCI receives the same high quality, standardized oncology nursing care regardless of office location. A regional leadership team including a Regional Medical Director, Associate Director (AD) of Clinical Operations, Clinical Nurse Specialist (CNS),

and Human Resources Business Partner was created to oversee operations at the WCI regional offices. One goal of this team was to create continuity in the region by ensuring URMC/WCI quality and safety standards at all locations. With each new community office affiliation, we partnered closely with existing nursing and administrative management at the office to mentor and help with policy compliance, office operations, and providing nursing education and expertise through mentoring. Ongoing, the regional team works with regional offices' nursing leadership through site visits, weekly videoconferences, and facilitating oncology orientation, education, and standard nursing practice. Results from the Press Ganey Employee Engagement Survey are compared every 2 years, with 2017 results becoming available next month. In 2015, 2 locations combined to be Tier 1 with 4.58 engagement indicator and another 5 combined for Tier 1 with 4.14 engagement indicator. With a large distance to travel between sites, video and teleconferencing has helped to connect the nurse managers with one another as well as with the regional leadership team. Managers and staff nurses are able to remotely attend meetings and educational conferences at the main campus. Anecdotally, RNs have expressed higher levels of satisfaction with the standardization of practice, being able to provide expert care in more rural settings, and are more willing to float to other oncology offices within the regional setting if needed. Confidence is established within the community that the oncology care they receive close to home is the same as the care delivered at the academic medical center. Working with the community to educate them on our practice and our commitment to deliver the best care close to home is beneficial to all.

### 312

#### DEVELOPMENT OF A SCHEDULING MODEL TO INCREASE CHAIR UTILIZATION IN AN AMBULATORY INFUSION CENTER

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In the ambulatory infusion setting, we fail time and time again to produce an efficient and effective scheduling tool. A common issue with treatment scheduling is a peak in appointments between 10:00AM–2:00PM.

This spike in appointments leaves the early morning and late afternoon chairs underutilized causing a struggle with patient management. Our goal was to increase chair time utilization by 10% in our outpatient infusion setting by distributing patient appointments throughout the course of the day. A secondary goal was maintain the RN: Patient ratio and to reduce the number of patients a nurse is responsible for at one time. Data analysts developed an Excel based simulation environment that captures all of our treatment types and trends based on a select time frames. Using 1 year of historical appointment data, a simulation schedule was created to predict where their various treatment types should be scheduled. This schedule does not allow chairs or nurses to be double booked with appointments. We transferred our simulation into the EPIC scheduling templates and trained our charge nurses and schedulers to schedule based on this new model. Evaluation of chair utilization was conducted, nurse to patient ratio, nursing overtime cost. The utilization improved 7% within the first six months, nurse to patient ratio was stable at 1:7, and overtime cost increased by 0.3% per pay period. Due to improved level loading of the afternoon appointments, we noted that the end of clinic time did result in a slight increase in overtime. We believe we are on to something, elevating our chair utilization time while not increasing the nurse to patient ratio has improved our nurse's workload expectations. Level-loading our schedule will continue to be this institution's philosophy on a financially sound, clinically safe, ambulatory model of care. Our Excel simulation environment and dashboard created by our Senior CI Analyst has exceeded our expectations to produce a working test environment that will create the type of scheduling system that can meet the changing landscape in our ambulatory infusion center.

### 313

#### THE LONG HAUL—COLLABORATING WITH INDUSTRY PARTNERS AND PHYSICIANS ON HEALTHWEAR TO HELP PATIENTS

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Nurses are at the forefront of patient care, often guiding patients before, during and after both major and minor procedures. By collaborating with doctors, patients, designers and leading healthwear providers, nurses can inform the designs that can dramatically alter a patient's experience during and after cancer. Innovative healthwear company Care+Wear created

designs for cancer patients in consultation with clinicians, patients, and designers to make sure the needs of all parties are met. Care+Wear's founding product, an ultra-soft, antimicrobial, breathable and machine washable PICC Line Cover, is a perfect example of the power of these kinds of partnerships. The key, patent-pending feature of the Cover, a mesh window allowing for breathability and visibility of the PICC Line site for both patients and clinicians, was included as a direct result of feedback from clinicians at Johns Hopkins and the University of Virginia. The machine washable feature of the product was also an outcome of conversations with nurses who understood the burdens of traditional tubesock PICC covers for caretakers who do not have enough time to handwash covers. Even with the success of this product, nurses were essential in providing ongoing feedback for the cover to accommodate the needs of different patient populations across the country. At the University of North Carolina Wayne Memorial Hospital, nurses realized that patients required longer covers to protect the longer lumens of patients. With this advice, Care+Wear was able to swiftly create and pilot a long PICC Line Cover successfully at the hospital. Care+Wear's Chest Access Shirts, created with strategically placed zippers for patients receiving through a port-a-cath, were also designed following the suggestions of clinicians who needed options for cancer patients receiving longer-term chemotherapy and antibiotics. Clinicians provided advice on the length of the zippers to allow for accessibility to the port-a-cath, while preventing patients from being exposed. The ongoing demand for these products to improve patient experiences demonstrates the importance of the involvement of nurses in the innovation process of healthwear companies.

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## LEADERSHIP/MANAGEMENT/EDUCATION POSTER SESSIONS—FRIDAY

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**314**

### ONCOLOGY NURSING COLLABORATION WITH UGANDA CANCER INSTITUTE AND SEATTLE CANCER CARE ALLIANCE

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The Uganda Cancer Institute (UCI) and the Fred Hutchinson Cancer Research Center/Seattle Cancer Care Alliance (SCCA) worked to open a facility in 2015 for research, training and patient care in Kampala. The

training program for physicians has included monthly conferences between Seattle and Kampala personnel with web-based streaming. Nurses at SCCA desire to learn about the care at UCI to build relationships with UCI to collaborate on oncology nursing professional practice. The purpose of this study was to initiate a sustainable program for supporting the professional growth of oncology nursing between UCI and SCCA nurses. UCI nurses requested that the Kampala/Seattle monthly conferences be utilized for nursing education exchanges. The initial request was for a class on central line management. The UCI nurses presented a patient case study and the SCCA nurses presented a CEU course on central line care. An educational streaming conference was held March 9, 2017. Staff at both sites rated the opportunity as successful. It is important to note that UCI and SCCA staff acknowledge that one of the major foci of learning is in the exploration of differences in practice as well as commonalities. World Health Organization (WHO) data from 2007 shows Africa has about 11 nurses per 10,000 people whereas Americas have 49. The WHO and ONS call for reciprocal practice relationships to build capacity for oncology nurses in countries with fewer resources. Seattle and Kampala are mutually building a community for oncology nursing collaboration and research. Learning to listen with cultural humility and examining ways to build structural competencies are key components of our project. An SCCA delegation of nurses will visit Kampala in 2018. We will use assessment tools to guide our discussion with the UCI nurses in order to highlight areas for enhancing care. A spirit of inquiry will lead to higher standards of excellence in both locations. Efforts to design the structure and strengthen the collaboration so more nurses can become involved remotely will provide opportunities for transformative learning. The web-based sessions will create inclusiveness and will also improve the likelihood of sustainability for improving cancer patient outcomes.

**315**

### OUTPATIENT COMMUNITY PRACTICE PRECEPTOR PROGRAM

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The Tennessee Oncology Preceptor Program was created to provide all clinic new hires supplemental training to better understand the functionality of

systems and clinic processes and protocols. An opportunity was identified to develop structured methods and standardized materials for how and what new hires were taught across the organization's 30 locations. Participating departments included Front Office, Nursing and Laboratory. The objective was to identify and support essential learning needs of new hires while setting goals, addressing concerns, and assuring accurate comprehension of processes by the new hire in collaboration with an assigned preceptor, managers, core training team, and sponsor. The core training team communicates with assigned preceptors, managers, sponsors, and new hires regularly throughout the 90 day training orientation period. The core training team provides the following resources: (a) Orientation training plan, (b) Training agendas, (c) Manager and Tasks checklists, (d) Preceptor evaluation rubrics, (e) New Hire competency assessment forms, (f) New hire satisfaction survey. The preceptor communicates with the new hire, managers, and core training team throughout the 90 day training orientation period. The preceptor provides: (a) New hire hands on training, (b) Weekly meetings with new hire and manager, (c) Evaluations of new hire performance. The core training team coordinates meetings with preceptors, managers, and sponsors to ensure proper completion of all requirements for the orientation training period. Preceptors have evolved into an important part of the new hire process. By using a more structured program areas of improved accountability related to training expectations include: (a) Compliance with policies and procedures, (b) Support of organization mission, vision, and values, (c) Identification of individual learning needs of the new hire, (d) Safe, effective and appropriate use of resources, (e) Demonstration of leadership skills in problem solving, priority setting, and accountability, (f) Facilitation of new hire professional socialization, (g) Provision of timely feedback to the new hire on his/her progress. Tennessee Oncology continues to hire preceptors across the organization. Since implementation of the Preceptor Program in November 2016, there has been a decrease in voluntary and involuntary turnover. In recent Day 45 surveys, new hires consistently report that the preceptors are having a positive impact on their onboarding experience.

### 316

#### **CHEMOTHERAPY TEACHING: STANDARDIZING A PATIENT EDUCATION TOOL ACROSS OUTPATIENT INFUSION SITES**

Ashlee Creamer, RN, BSN, OCN®, University of Rochester/Wilmont Cancer Institute/Pluta Cancer Center,

Rochester, NY; Jen Galdys, MSN, RN, OCN®, CHPN, Wilmont Cancer Institute, University of Rochester Medical Center, Rochester, NY

Following a cancer diagnosis patients are given an overwhelming amount of information. Medication specific information, potential side effects, treatment schedule, and available resources are just a few topics that are reviewed. As Wilmont Cancer Institute (WCI) continues to grow, merging with satellite infusion centers across western New York and Finger Lakes Region to provide cancer treatment to more rural communities, each site has their own patient education and reference tools. To prevent conflicting information being dispersed to patients, and to ensure the use of up-to-date information, the teaching tool "Caring For Yourself After Chemotherapy" was developed for all WCI oncology outpatient centers. The purpose was to describe how a group of oncology nurses and pharmacists identified and addressed a need to standardize patient education across all satellite WCI oncology centers. A committee of nurses from each outpatient WCI site and pharmacists met to create the standardized patient education tool. The goal of the group was to develop a teaching tool that could be used across all sites, which would provide general information and guidance for symptom management of the most commonly seen side effects. The committee reviewed each site's existing patient education tool, extracted mutually agreed upon educational points, and verified reflection of national and institutional recommendations. The information was compiled into one cohesive document and is currently undergoing final approval by WCI physicians and Public Relations. After three months of use, a survey will be sent to staff at the outpatient sites to ask them to grade the tool and seek informal feedback the staff has received from the patients. The evaluations will be reviewed by the committee and adjustments made to the patient education document as necessary. The patient education will be available to staff on WCI's intranet site and electronic medical system to add to the patient's After Visit Summary and MyChart. Offices will be able to personalize the document to some degree, adding address, phone number, and site specific services available, such as massage therapy. Annually, document will be updated as necessary to reflect new and updated guidelines and policies.

### 317

#### **TO THINE OWN SELF BE TRUE**

Elizabeth Dailey, BSN, RN, OCN®, HN-BC, Cancer



### **Treatment Centers of America, Eastern Regional Medical Center, Philadelphia, PA**

In order to effectively care for others, nurses must first care for themselves. However, nurses are often unsure what self-care means and how to practice it. Giving nurses permission to practice self-care is a start. Giving nurses an outlet to do so is even better. The Holistic Nursing Council organized a series of three self-care wellness fairs at our oncology hospital. The “Be Good to Yourself Fair” exposed nurses to multiple modalities which promote health, reduce stress and encourage self-care. Ten individual rooms/stations were set up at each five-hour event. Each station highlighted a modality promoting self-care. Practitioners were present facilitate. Nurses participated in Dance Therapy, Guided Imagery, Yoga, Bio Feedback, Aromatherapy, Healthy Eating, Art Therapy, Music Therapy, Massage and Spiritual Exploration. Nurses who participated left their phones in a basket while participating in order to provide an uninterrupted self-care experience. Each RN participant completed a written survey before and after each fair. The purpose of the survey was to determine whether reduction in stress levels was achieved, and whether participants planned to engage in any of the practices in the future. The survey revealed that 88% of the respondents reported stress reduction after attending the fair. 98% of nurses planned on trying to spend more time on self-care. Additionally, 100% of those surveyed stated that they planned to utilize some of the new modalities in the future. The “Be Good to Yourself Fair” brought to light the need for an outlet for nurses to practice self-care. These fairs have given nurses permission to take time for themselves. The feedback has been overwhelmingly positive and verified that nurses are hungry for and willing to participate in previously unexplored wellness modalities. The plan is to continue to provide wellness events to promote self-care and healthy living. The holistic nurses have facilitated roaming holistic education, not just for nurses but for all members of the healthcare team.

### **318**

#### **YOU LEAD LIKE A GIRL! USING EMOTIONAL INTELLIGENCE TO OVERCOME SOCIAL ROLE LIMITATIONS BASED ON GENDER**

**Aurora Davis, BSN, RN, OCN®, University of Colorado Hospital, UCHHealth, Aurora, CO**

Over 90% of nurses are women, and yet women make up only 43% of healthcare leadership. Female nurses are also paid 15% less than male nurses for the same job roles; women’s salaries and level of promotion

increase more slowly over time. The purpose of this presentation is to view these disparities through the lens of the Social Role Theory of Gender and provide tools to equalize the behavior expectations placed upon men and women. Interventions offered include the utilization of Transformational Leadership to leverage these perceived gender roles in a positive way, and the explication of specific methods to increase Emotional Intelligence. High levels of Emotional Intelligence have been correlated with increased life quality, academic and occupational success, stress resiliency, overall health, and the quality of social relationships, including marriage; transformational leadership styles are associated with increased employee satisfaction. Utilizing these methods can benefit professionals of both sexes by allowing them to transcend traditionally defined leadership characteristics, thus becoming better nurses and better leaders.

### **319**

#### **INTEGRATIVE ONCOLOGY WELLNESS FAIR**

**Fallon DeGrange, RN, BSN, OCN®, UPMC, Pittsburgh, PA; Lanie Francis, MD, UPMC, Pittsburgh, PA; Danielle Scott, Med, UPMC, Pittsburgh, PA**

The ongoing management of cancer involves multiple layers of stress for patients and caregivers. People touched by cancer commonly complain of difficulty finding appropriate guidance, information, and a sense of what comes next as they navigate the physical, emotional and existential challenges of cancer. An estimated 30–50% of cancer patients use complementary or alternative medicine. At UPMC CancerCenter, Integrative Oncology is defined as managing the mind, body and spirit of cancer patients in the context of conventional cancer care using the modalities of movement, touch, nutrition, and mindfulness to address symptoms and quality of life. Historically, when patients and caregivers asked for integrative modality resources, a list of websites/known providers was provided. A gap in knowledge and awareness of integrative therapies was identified. In October 2013, the integrative oncology team organized the first Integrative Oncology Wellness Fair to expose the cancer community to local providers of integrative services such as yoga, massage, acupuncture, lifestyle nutrition, music therapy, and aromatherapy. The event, made possible initially by funding from the Shadyside Hospital Foundation, attracted more than 150 patients and 25 providers. During the initial fair, planners investigated perceptions and potential obstacles to integrate modalities. Before the event,

attendees (patients, caregivers, and staff) were polled on what might prevent them from exploring integrative services. Suggested barriers included money, time, and a concern that cancer physicians would not approve. After the fair, attendees were polled again. The obstacles of money, time, or concern that their cancer physician would not approve were mitigated by 50%. For these patients, interfacing with Wellness Providers changed perceived obstacles and re-framed priorities. The Integrative Oncology Wellness Fair has become an annual event, and gives attendees a chance to interact with Wellness Providers to answer questions and provide demonstrations. It has grown substantially last year bringing 350 attendees (patients, caregivers, and staff) and 50 Wellness Providers. Each year our fair consistently brings more awareness, knowledge and understanding to our patients, staff and caregivers. The Integrative Oncology Wellness fair has had a dramatic impact on our organization as well, as The Wellness Fair was the start of The Wellness and Integrative Oncology Program at UPMC.

### **320** **IMPACT OF SERVANT LEADERSHIP ON THE ONCOLOGY UNIT**

**Ivana Dehorney, DNP, RN, NEA-BC, RN-BC, Baylor Scott & White, Dallas, TX; Allison Steen, BSN, RN, OCN®, Baylor Scott and White, Dallas, TX**

Servant Leadership is a way to lead compassionate oncology nurses with purpose. It manifests itself when a unit manager puts the needs of the team first. If a leader manages with purpose and compassion, the bedside team translates that into the way they provide care to their patients. They understand the means of serving their patients while accomplishing organizational needs. Millennial nurses are not driven by fiscal numbers. The business driven healthcare environment is not conducive to the why-oriented generation. They are not growing into being the owners of the unit and its processes. Servant leadership will provide the oncology nurses with healing, empathy, and commitment that they require. By creating a culture of stewardship and compassion, our patient outcomes and team member satisfaction are measured. A quality improvement project was implemented to evaluate the impact of servant leadership on staff satisfaction, involvement in unit measures, and nurse communication scores. Unit outcomes were evaluated by comparing Press Ganey data and employee surveys from 2015–2017. At the end of the 2-year period, the nurse communication rate increased

from 76% to 98%. The nurse engagement scores increased from 78% to 86%. Nurse Manager ratings moved from below the magnet benchmark of 2.86 to exceeding the benchmark of 3.03. The oncology team exhibited growth and increase in commitment since servant leadership was implemented. They received fair treatment, transparency and open communication. The supportive environment allowed employees to experience professional growth without feeling the emphasis on the financial aspect of nursing. It is hoped that the outcomes of this project will inform other leaders about servant leadership and how to implement its components in the oncology environment. The goal is to invest in the professional welfare of the oncology nurses.

### **321** **AN ONS MEGA-CHAPTER, GEOGRAPHICALLY WIDESPREAD, SEEKS METHODS TO INCREASE MEMBER PARTICIPATION IN CHAPTER EVENTS**

**Melissa Della Vecchia, BSN, RN, OCN®, Duke Cancer Institute, Durham, NC; Ranju Jha Singh, RN, BSN, OCN®, CCRP, Duke University Medical Center, Durham, NC**

The N.C. Triangle Oncology Nursing Society (NCTONS) chapter is made up of >600 members in 10 counties spanning over 6000 sq./mi. in central N. C. Currently chapter events occur in the 3 counties where membership density is greatest, as well as where the majority of members work. Attendance at chapter meetings averages 50 per event, equating <9% of the membership. The purpose was to increase membership inclusiveness by implementing virtual and sub-regional meeting opportunities throughout the geographical footprint. In an effort to respond to the needs of a geographically-challenged chapter, the NCTONS Board addressed ways to expand services to members. Early in 2017, the BOD endorsed a proposal to increase leadership participation on the BOD. For several years, the BOD has set goals to implement WebEx programming; now with continued growth and a new Membership Chair, the BOD will implement new methods to promote inclusiveness for all members. Research shows that the more convenient a meeting is for members, the more likely they will attend and expanded participate. Given endorsement and financial support from the BOD, we proposed the following interventions: 1. Assist BOD to implement WebEx for 6 CE programs/year; 2. Identify sub-regions and local leaders to coordinate meetings; 3. Coordinate with the NCTONS Industry Coordinator

for venue contracting and fundraising to support the project. Implementation of WebEx meetings will enhance distribution of programming, overcoming restraints of distance, traffic, and time. Coordinating meetings in sub-regions will promote the positives of interacting in person and hopefully recruit member participation in chapter leadership. The Membership and Program Chairpersons will maintain records on participation patterns to evaluate outcomes. Additionally, members will be polled to continuously improve the process. Meeting members' needs and increasing membership involvement can increase the individual's sense of willingness and value to participate in chapter events. By offering virtual contact and regional meetings, NCTONS aims to promote inclusiveness in chapter activities.

### 322

#### **THE IMPLEMENTATION OF AN ELECTRONIC MEDICAL RECORDS SYSTEM—A RETROSPECTIVE REPORT OF THE EXPERIENCES OF THREE AMBULATORY INFUSION SUITES**

**Karen deVries, RN, OCN®, CBCN®, Mount Sinai at Beth Israel Medical Center, New York, NY; Diona Lumani, MSN, RN, CMSRN, Mount Sinai Beth Israel, New York, NY; Eumenide Vernet, RN, MSN, OCN®, Mount Sinai West, New York, NY; Toby Bressler, PhD, RN, OCN®, Mount Sinai, New York, NY**

In 2013 three ambulatory infusion suites within a large urban NCI-designated cancer center system merged within a large healthcare system prompting the establishment of a common electronic medical record (EMR) to allow patients access to treatment at any of the facilities within the healthcare system. Prior to this system nursing and pharmacy documented in a separate system not related to ECS. Adapting to such practice changes can be extremely challenging within a high volume, fast paced, multi-center infusion practice. Importantly, patient care and their perceptions of care activities can be disrupted. The purpose was to describe and discuss the practice challenges of implementing a new ECS in a multi-site infusion practice within a larger healthcare system. A retrospective analysis of Data pertaining to patient experiences was obtained from the Press Ganey surveys across all three sites from January 2016 thru August 2017. One highlight was a wait time which decreased from 88.1% to 84.8% after instituting the new ECS. There was also an increase of the utilization of overtime from January 2016 thru August 2017 at all three sites, with an average of a 20% increase. Adequate training of physicians, nurses, pharmacy and ancillary staff

is essential to allow for the effective transition from one EMR system to another. In retrospect, a more in depth didactic training for the Infusion Nurses would have facilitated a smoother transition. While onsite support from the ECS team was present during the first two weeks, the patient volume was unchanged due to necessity. The need for additional staffing support may also have been beneficial. Bidirectional communication with the patients and families regarding wait time is essential to make this transition as smooth as possible. As we continue to evolve with the use of technology we hope to see improvement in patient satisfaction, wait time and use of overtime. We expect a decrease in adverse events related to an electronic medical record system as it will allow us to reach the highest quality and safety when caring for our patients.

### 323

#### **FERTILITY AND SEXUAL HEALTH EDUCATION ON AN INPATIENT ONCOLOGY UNIT**

**Rebecca DiPatri, RN, BSN, OCN®, Life With Cancer, Inova Schar Cancer Institute, Falls Church, VA**

In 2013, Update panel reviewed 2006 American Society of Clinical Oncology (ASCO) guidelines on fertility preservation. Recommendations include that health care providers address possibility of infertility and education and informed consent should occur prior to the initiation of cancer therapy. Fertility preservation options should be discussed and referrals made to reproductive specialists. Health care providers should advise patients surrounding potential threats to fertility as early as possible in the treatment process to allow for the extensive range of fertility preservation options. Patients diagnosed with cancer voice interest in discussing fertility preservation. Fertility loss is important to cancer survivors. All members of the oncological team should be prepared to discuss the risk of infertility with cancer treatment. Nurses should initiate fertility discussions because patients may be overwhelmed and may not consider impact of treatment, and may feel it is inappropriate to discuss. Nurses have a significant role in cancer related infertility follow-up. The purpose was to improve health care provider communication and patient education regarding fertility and sexual health by informing and educating patients on fertility risk, discuss available options, improve timeliness of fertility referrals and fertility preservation, and inform patients of associated costs. Discussed risk of infertility and preservation options prior to initiation of cancer treatment, initiated a unit based quality

improvement (QI) project, presented to Cancer Committee, collaborated with physicians, educated staff nurses, prepared developed flyer for admission binder, attended sexual health training, developed educational materials, prepared available semen sample collection kits, and referred to reproductive specialists. Increased screenings prior to initiation of chemotherapy; increased patient and family knowledge surrounding fertility; increased quality of life (QOL); increased sperm banking; increased sexual health education; increased physician and staff awareness; improved documentation; focused on survivorship goals; improved collaborative approach to fertility education. Barriers include timing of education, acute illness and urgency of treatment initiation, language barrier, poor communication, provider education gap, and comfort of staff with topic. A commitment to fertility preservation education can be led by oncology nurses.

### 324

#### UTILIZATION OF THE 2016 CLINICAL TRIAL NURSE COMPETENCIES OF ONS FOR ONBOARDING AND YEARLY EVALUATIONS—A SITE'S EXPERIENCE

Lavinia Dobra, MS, RN, OCN®, St. Joseph, Orange, CA; Viorela Pop, PhD, St. Joseph, Orange, CA

With the advent of personalized medicine, oncology clinical trials are more complex to conduct at the site level. Oncology Clinical Trial Nurses (OCTN) represent a small percentage of licensed nurses in America functioning in a professional and autonomous role covering a wide range of clinical and research practices. The role's complexities make it challenging to onboard and evaluate personnel. We required a more accurate assessment to capture evolving expertise. Our research staff includes five OCTNs, with OCN certification required within two years of hire. In 2015, our OCTNs achieved 24% analytic patient case participation in a clinical trial. Of these, 5% patients consented to a treatment trial. We outline the utilization of the revised ONS 2016 OCTN competencies, in creating a formalized onboarding document and adding it as a supplemental tool for staff evaluations. Implementation phases include: (1) review practice differences across oncology research departments in several hospitals within our health system; (2) evaluate OCTN competencies against current job descriptions by our team of five OCTNs, a trial manager and two executive directors; (3) criteria assessment of individual feedback, task relevancy and process changes; (4) six-month soft launch period using OCTN competencies

as a supplemental tool during staff onboarding and evaluation. Current phase outcomes: (1) recognized a high level of interest and need for OCTN evaluation guidelines across research departments and hospitals; (2) identified existing gaps in capturing task diversity, knowledge of disease process and research activities within the OCTN profession; (3) obtained team support for utilizing the OCTN competencies as a new procedure; (4) results pending completion of soft launch period, to determine effectiveness of the supplemental tool and future potential as a standardized process. Clinical trials are most successful when managed by highly trained OCTNs who meet competency guidelines and effectively collaborate with the extended multidisciplinary cancer care team in supporting research participation. By utilizing the revised ONS 2016 OCTN competencies, onboarding and evaluation processes accurately capture OCTN role complexity. In addition, a thorough program evaluation has the potential to assess the impact of this initiative and routine use of the ONS tool in our standard practice at St. Joseph Hospital.

### 325

#### INCREASING ONCOLOGY CERTIFICATION IN A RURAL HEALTHCARE SETTING

Christine Dunlap, RN, MSN, OCN®, St. Mary's Regional Cancer Center, Grand Junction, CO

Encouraging nurses to become Oncology Certified Nurses (OCN) can be challenging in any cancer program. Rural facilities encounter unique barriers including limited potential candidates with experience, costs of travel distance to testing sites, and lack of professional mentorship and advocacy provided by a local chapter of Oncology Nursing Society (ONS). Our facility in rural Colorado has offered incentives for certification including reimbursement for ONS membership dues and test fees, certified nurse recognition during Nurses Week, and clinical ladder advancement. The purpose of this project was to promote certification and increase rates of OCNs at our facility. In 2015, methods for increasing certification were reviewed. Based on suggestions from the Oncology Nursing Certification Corporation (ONCC) and a review of journal articles, advocacy efforts for certification began by talking with nurses about certification benefits and providing an OCN Review class. In 2016, ONCC offered the FreeTake option. This allowed the participating facility to cover the cost of testing, removing barriers for the nurse including testing fees, reimbursement paperwork, and fear of failing the exam. By collaborating with senior leadership to apply

for the FreeTake program, the facility was accepted for FreeTake and eligible nurses were encouraged to take advantage of the program. The percentage of OCNs increased from 37% in 2015 to 51% in 2016. Since implementation of the FreeTake program in early 2017, one nurse has successfully passed the exam and nine others have pending test dates. Provided all of these nurses obtain certification, the percentage of OCNs will increase from 51% to nearly 80%. Other successes include engagement of senior leadership in supporting the value of certification by participation in the FreeTake program, alleviation of barriers related to cost, and fear of test failure. Challenges of distance travel were removed when a local university opened a testing center that offered the OCN exam this year. The opening of a new cancer center in our area has prompted interest in starting a local ONS Chapter, which will promote professionalism, continuing education and mentorship to oncology nurses. Efforts to remove barriers to certification, like the FreeTake program, help to increase certification rates of oncology nurses.

### 326

#### PRECISION MEDICINE EDUCATION FOR NURSES

Emily Edelman, MS, CGC, Jackson Laboratory, Bar Harbor, ME; Paige Tanner, BS, Jackson Laboratory, Bar Harbor, ME; Therese Ingram Nissen, MA, Jackson Laboratory, Bar Harbor, ME; Katherine Johansen Taber, PhD, American Medical Association, Chicago, IL; Laura Nicholson, MD, Scripps Translational Science Institute, La Jolla, CA; Kate Reed, MPH, ScM, CGC, Jackson Laboratory, Bar Harbor, ME

Nurses have a critical role in the provision of genetic and genomic services in cancer care. In the past five years, the field has seen exponential growth in emerging genomic tests, especially in the area of molecular analysis of tumor cells to target treatment. Despite the increasing use of this type of somatic testing, there are few unbiased educational resources available for oncology providers to learn about the benefits and limitations of these new technologies. Oncology nurses are critical in addressing patient questions about these tests and helping to facilitate decision making. We describe a novel approach to precision medicine genomics education for oncology nurses to address the knowledge and confidence gaps for somatic testing. The Jackson Laboratory, a non-profit research institution, American Medical Association, and Scripps Translational Research Institute collaborated to develop two interactive, case-based

educational modules about somatic tumor testing. The goal of the program is to help clinicians gain knowledge and skills to incorporate genomics into practice. Exploring Large Panel Somatic Tumor Testing in Cancer (module 1) helps learners determine which patients are the best candidates for testing, including assessing risks, benefits, and limitations given different patient characteristics. Interpreting Somatic Cancer Panels (module 2) guides the learner on the components of the test report and key concepts in interpreting results using realistic case studies and mock test reports. These modules are freely available, and nurses can earn CNE credit. Learners complete pre- and post-quizzes to assess knowledge and an evaluation survey. From 12/2016 to 9/2017, 63 nurses enrolled in module 1 and 9 enrolled in module 2 (launched 6/2017). Fifty-eight percent had graduate degrees, 36% bachelor's degrees, and 6% associate's degrees and represent three countries and 29 U.S. states. Of those who completed evaluations for module 1 (60%), 100% agreed the program helped identify the clinical information that can be gained from large somatic cancer panels and determine how results could be applied to patient care. The average rating for the program was excellent. These results indicate that the design and content of the program were highly satisfactory to nurses of diverse backgrounds. We will continue to disseminate these modules to nurses to increase access to these resources as well as to assess learners' somatic testing knowledge gains from taking the program.

### 327

#### PILOTING A NEW GRADUATE ORIENTATION PROGRAM IN THE OUTPATIENT TREATMENT CENTER

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Most new graduate registered nurses (RN) are hired in inpatient before transitioning to outpatient settings. With many inpatient nurses going back to school for graduate degrees and the outpatient setting not offering similar tuition incentives, the pool of applicants to hire for outpatient settings has decreased, thus necessitating an innovative solution to address outpatient treatment center staffing. The purpose of this project was to pilot a new graduate orientation program that includes support for the new graduate nurse and

preceptor with the long term goal to decrease nursing vacancies and increase number of patients able to receive treatment. A literature review was conducted showing that hiring new graduates in an ambulatory setting is not routinely done. Recommendations indicate preceptors have to be adequately prepared to train new graduates and orientation needs to be structured and focused. A vacant position permitted hiring a new graduate to pilot the orientation program; preceptor training was conducted. A 14-week structured orientation was created based on principles of adult learning, Oncology Nurse Generalist Competencies and resources available within the institution. Outpatient partnered with inpatient oncology, IV team, cancer center clinics, and lab. Orientation progressed weekly with objectives that increased in complexity to address the barrier of new graduate's limited experience administering chemotherapy/immunotherapy agents. The RN and preceptor were not counted in staffing to allow adequate time for patient care, discussion and real time debriefing. The new graduate RN met weekly with the preceptor, manager, educator and clinical nurse specialist. The program guided the preceptor and new graduate RN in a stepwise progression to facilitate learning but was not successful. The pilot underestimated how the acuity of the environment would impact a new graduate's experience and confidence. Feedback indicated that having colleagues in the cohort permits peer support. In addition, selection of second-career candidates may foster more self-awareness and confidence in a complex outpatient setting. These recommendations are hiring considerations for the ongoing pilot. The orientation pilot fostered collaboration in oncology, gave preceptors experience working with a new graduate and improved the overall orientation program in the treatment center. The pilot identified a complete picture of what a new graduate needs to succeed. Lessons learned are now being used to help develop a new graduate in oncology program for the health system.

### 328

#### **BUILDING ON SUCCESS: ADVANCEMENT OF UNDERGRADUATE ONCOLOGY NURSING SCHOLARSHIP THROUGH THE FUNDAMENTALS OF ADULT ONCOLOGY NURSING COURSE**

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Undergraduate oncology nursing scholarship and research has been advancing steadily at our University

through Scholarly Projects and our faculty-mentored Nursing Honors Program. Through the Honors Program, now in its 11th year, students have planned, conducted, and evaluated oncology focused research projects, and disseminated results. These successful academic experiences combined with increasing interest in oncology nursing by our undergraduate nursing students has led to a new 2-credit elective course, Fundamentals of Adult Oncology Nursing, planned for a 2018 launch. The course purpose and content is described in detail. This course provides an introduction to the specialty of oncology nursing based on the principles presented in the Oncology Nursing Society (ONS) Statement on the Scope and Standards of Oncology Nursing Practice. Evidence-based course content relevant to oncology nursing will be informed by *Cancer Basics* (2nd Edition, Pittsburgh, PA: ONS) and include health promotion, disease prevention, screening and early detection and diagnosis, issues in oncology nursing practice and research, cancer treatment modalities, symptom management, survivorship issues, palliative and end-of-life care, and collaborative practice models. Evidence-based pathophysiology of cancer disease process will provide rationale for cancer treatment and understanding of side effects. Oncology nursing care delivered within the interdisciplinary oncology team necessary to provide optimal patient care for all phases of the cancer care continuum including prevention, detection, treatment, survivorship, and end-of-life care in a variety of settings will be reviewed. Documents to guide oncology nursing practice including the 2015 American Nurses Association Code of Ethics for Nurses with Interpretive Statements, the 2013 ONS Statement on the Scope and Standards of Oncology Nursing Practice and the 2012 ONS Leadership Competencies will be used to inform discussion of ethical and legal implications of oncology nursing practice. Emphasis will be placed on critical thinking to promote applying the evidence base for delivery of optimal oncology nursing care. Innovation is seen through presentations of oncology nurses practicing at local and national levels fulfilling clinical, administrative, research, and educator roles who will present lived experiences of role components. Our unique University values frame the course. Evaluations will be conducted in concert with the University Centers for New Designs in Learning and Scholarship.

### 329

#### **CULTIVATING EVIDENCE-BASED PRACTICE**

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Evidence-based practice (EBP) is a professional value that permeates the culture of care at our comprehensive cancer center. Nurses are expected to include evidence based approaches to care into their daily practice because without evidence-based practice: (1) patients do not receive the highest quality of care, (2) health outcomes are seriously jeopardized, and (3) health care costs soar. External forces driving the demand for evidence-based health care include: (1) the Institute of Medicine goal to have 90% of care evidence based by 2020, (2) pay-for-performance, and (3) the fact that Medicare no longer reimburses hospitals for treating preventable hospital acquired injuries and infections. In order to keep pace with the increasing demand for evidence based practice, targeted EBP development programs are needed to maintain and promote a strong spirit of inquiry while continually strengthening nurses' capabilities for implementing evidence based practice. To be optimally effective, targeted EBP development programs should be based upon an adequate assessment of nurses' perceptions about EBP. This process improvement initiative was undertaken to determine nurses' perceptions related to EBP: confidence, awareness, participation and barriers. An author-developed, brief, self-report survey was completed anonymously by nurses working on both inpatient and ambulatory units. One survey item asked nurses to rate their confidence related to level of EBP knowledge. Four open-ended questions surveyed nurses' perceptions related to EBP awareness, participation and barriers. Q-sort was used to identify dominate themes for open-ended questions. Interrater agreement for the Q-sort ranged from 77.3% to 87.3%. Survey results made it clear that nurses EBP developmental needs differed depending upon whether they worked on an inpatient or ambulatory unit. Inpatient nurses were more confident about their EBP knowledge than ambulatory nurses. Seventy three percent (73%) of inpatient nurses were at least moderately confident whereas only 38.8% of ambulatory nurses reported moderate or higher confidence. Inpatient nurses believed that EBP education would increase EBP participation whereas ambulatory nurses believed incentives might boost participation. Similarly, inpatient nurses believed that education/training would increase EBP awareness whereas ambulatory nurses believed that communication was needed. Dominate barriers to EBP included resistance to change (inpatient) and lack of knowledge

(ambulatory). EBP developmental programs should address the distinct needs of nurses working in either inpatient or ambulatory units.

### 330 ONCOLOGY PATIENTS ON NON-ONCOLOGY UNIT: A MULTIDISCIPLINARY APPROACH TO MEET COC'S STANDARD 1

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Oncology nurses play a critical role in the delivery of care to hospitalized patients with cancer. The Commission on Cancer's Clinical Practice Guidelines state that nursing care of the cancer patient is to be provided by nurses with specialized knowledge and skill in oncology because of the complex needs of patients with cancer require specialized oncology nursing knowledge to achieve optimal care outcomes. The oncology nurse is integral to the multidisciplinary oncology team, specifically nurses with certification in oncology nursing. Our unit's current certification rate is 90%, which solidifies the importance of ensuring oncology patients are admitted to the oncology unit. From July through November 2016, 20% of oncology patients were admitted to other units. Through collaboration with oncology nurses and oncologists, we developed an algorithm of patients that should be admitted to the oncology unit, including any patients with an active oncology diagnoses. We educated all associates on the importance of assigning these patients appropriately to the oncology unit when admitted from the Emergency Room. We additionally educated the house supervisors and patient access. We finished education of all appropriate parties by January 2017. Every morning, I data mined through a report in our electronic medical record and look for patients on the oncology service line team that were not on the oncology unit. I followed up with the admitting physicians, nurse, and charge nurse to complete in-time education on the importance of oncology patients being placed on the oncology unit. From February through July 2017, miss assigned oncology patients has decreased to 5%; however, in June and July of 2017, there was only 1 patient (less than 1% of the total oncology admits) miss placed. This also increased average daily census by three patients and decreased left without being seen times in the Emergency Room by 45% as medicine beds were not being filled with oncology patients. I will continue to look at this report every day and follow up in real time with associates. I have

presented to the new residents and new physicians hospital training on the importance of placing oncology patients on an oncology care unit. This has proved to be beneficial in providing the appropriate care to oncology patients during the continuum of their care.

### **331 INCREASING ONCOLOGY CLINICAL TRIAL ACCRAU THROUGH THE IMPLEMENTATION OF DISEASE MANAGEMENT TEAMS**

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In 2010, LVHN successfully pioneered their first pharmaceutical clinical trial. Since then, the program has rapidly developed from approximately twenty trials to over one hundred trials and includes a diverse portfolio, covering multiple disease sites in various phases; therefore, as the program evolved, identification of potential eligible patients as well as appropriate trial selection became diluted. The NCCN guidelines state that the “NCCN believes that the best management for any patient with cancer is in a clinical trial.” As a result of this problem and in accordance with NCCN recommendations, the Oncology Clinical Trials Supervisor (OCT Supervisor) identified a need to develop a multidisciplinary infrastructure to support clinical trial selection, feasibility, and accrual management. The Lehigh Valley Health Network Cancer Institute recently established Disease Management Teams (DMTs) that span across six disease sites with the purpose to review program processes and best practices, latest evidence based literature, national guidelines, and available oncology clinical trials. The DMTs are coordinated by the Oncology Quality and Evidence Based Practice Specialist (EBP) and consist of medical, surgical, and radiation oncologist; the oncology quality nurse; oncology administration; pathologist; radiologist; nurse navigators; genetic counselors; and clinical research nurses. The DMTs were identified by the Oncology EBP Specialist, OCT Supervisor, and Medical Director as the appropriate platform to promote change in the process of selection and targeted accrual of clinical trials. In the previous insufficient process, the medical director and trials team would review clinical trials that they were invited to participate; this resulted in little Principal Investigator accountability and low accrual at the disease level. Restructure of research responsibilities began with the Oncology EBP Specialist and Clinical Trials Supervisor; programmatic changes were

discussed within each DMT and a process was established. The final infrastructure changes include DMT responsibility for: (a) Choosing appropriate trials, (b) Vetting trials for feasibility, (c) Presenting to the Protocol Priority Review Committee, (d) Educating the cancer institute and promoting strategies for accrual, (e) Primary accountability for accrual goals. Clinical trial accruals have dramatically increased since the involvement of the DMTs. Post implementation in January 2017 from 58 accruals (Jan–June ‘16) to 152 (Jan–June ‘17). There is a revived energy across all DMTs and providers have voiced positive feedback of the improved process.

### **332 IMPROVING STAFF PREPAREDNESS AND PATIENT OUTCOMES WITH MOCK EMERGEN- CIES AT HOSPITAL SATELLITE OFFICES**

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In Ambulatory Care, patients with a cancer diagnosis arrive for treatment with previously diagnosed chronic illnesses. The combination of diagnoses creates an increased level of acuity with a potential incidence of a patient medical emergency. Mock drills guide nursing staff to intervene while building a confident comfort level and promote a positive patient outcome while caring for patients experiencing unexpected medical emergencies. Mock patient emergency drills are routinely completed within hospital departments. We identified that mock drills would be beneficial at satellite offices where invasive urological and dermatological procedures are performed and there are no emergency life support equipment. Mock drill leaders reviewed current procedures, interviewed staff, assessed emergency equipment and decided what education needed to be reviewed or extended. The staff had knowledge of basic life support (BLS) with an AED and the ability to call emergency rescue to transport patient for emergent evaluation and treatment. The staff recognized the need to be medically equipped for complications of anaphylaxis, syncope, hypoglycemia and cardiac arrest. The mock drill leaders collaborated on the assessment of needs for staff to successfully care for a patient emergency. It was determined that the staff would benefit from an emergency medication box. This box of medications would allow staff to care for patient experiencing anaphylaxis, acute chest pain, cardiac arrest, and hypoglycemia. A CPR board was ordered to assist in providing high quality CPR. A communication sheet



was created to document events and the outcome of the emergency. This document will allow staff to hand-off communication to emergency rescue when patient needs increase level of care. Mock drills will be performed biannually for review and to assess further needs of staff. Performing mock drills and providing proper medical equipment for handling patient emergencies in the ambulatory care setting, allows staff to review proper interventions and assist in gaining confidence with caring for an acutely ill patient. If staff has the knowledge and confidence, then that promotes positive patient outcomes for recovery and survival from event.

### 333

#### **THE RACE TOWARDS VALUE-BASED CARE: TRAINING FOR A MARATHON**

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In response to the rising costs of healthcare, there are several alternative payment models incentivizing providers to minimize variation and enhance care coordination ensuring value-based care is delivered throughout the patient experience. Costs associated with caring for patients with cancer outpace the rate of overall healthcare expenditures. CMMI's Oncology Care Model (OCM) is one of the country's first attempts to identify ways to control expenditures while maintaining high-quality care. Because it is not an answer key, one urban academic medical center shares its experience in the face of complex healthcare delivery. The approach of implementing a complex care model within the first year at a large academic medical center is applicable to any practice. The initial work lay the foundation that allow practices to be strategically prepared for inevitable changes both in how healthcare providers are being evaluated and what healthcare purchasers are expecting when selecting where to receive care. As providers balance new multi-drug treatment regimens with the high cost of new drugs, there has been increasing pressure on healthcare providers to understand its own operation and how to navigate this dynamic environment. Aligning existing and new efforts in clinical documentation, operational process improvement and data reporting capabilities will enable practices to have necessary information to support decision-making for systematic practice

transformation. An introspective look at the cancer program across multiple key cancers clinically, operationally, culturally and financially was the first step. A multi-prong effort assembling a cross-functional workgroup of leadership, site-specific operational leaders and chartering sub-committees were effective in achieving milestones. Balancing IT resources with competing projects at an integrated health system has been a challenge. The OCM started July 2016 and has triggered over 1800+ episodes in our first year. Patient data is run weekly and continuously refined to provide actionable insight to physicians, nursing leadership, social workers and hospital administration. Measures related to the model and priorities of cancer leadership are reviewed regularly. Building consensus and aligning priorities among cancer program leaders, understanding the full depth of all the data fields in our cancer registry, EHR, research databases and timing practice transformation efforts alongside existing hospital and cancer program priorities have been critical to success.

### 334

#### **HITTING THE RESET BUTTON ON ANNUAL SKILLS AND COMPETENCIES**

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Within five outpatient oncology locations no standardized approach of ensuring staff competencies, or even determining which competencies should be standardized was evident. The purpose was to develop a standardized method of annually assessing skills and competencies for the five outpatient locations. Wright's competency model for healthcare (2005) was used to help identify key skills and competencies specific to our clinics. Initially, ten skills and competencies were identified by the CNS using this method. Presentation methods were developed including computerized learning modules, brief staff in-services, and instructional videos. Ways to ensure competency included return demonstration and evidence of daily work. The new teaching and learning assessment methods were used by 150+ staff nurses. The process has been well-received by staff as they are able to incorporate completing the required competencies during their work day. Site managers expressed satisfaction with the planning process as they were no longer responsible for developing individual competencies. Verification of competency completion has

also been simplified with the adoption of the new methods. This multifaceted and complex way to ensure standardization and safety for the patients in the clinics involved assessing both staff skills and competencies and patient safety topics. Staff voiced their satisfaction with learning in a variety of ways and were eager to demonstrate their new knowledge. Successful implementation of the new method helped to standardize skills assessment at all sites, assuring consistent practice among all staff. Expansion plans are in place with the goal to provide opportunities to include varying skills and assessment avenues.

### **335 IMPLEMENTATION AND EVALUATION OF AN ONCOLOGY NURSING RESIDENCY PROGRAM FOR NEWLY GRADUATED NURSES**

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Over the past years, the Massachusetts General Hospital Cancer Center has experienced unprecedented growth in inpatient volume, patient acuity and complexity of therapies. With the influx of new biologics, cellular therapies, and research, the need arose to expand inpatient oncology beds on three inpatient units. To meet these demands, an oncology nurse residency program was implemented to meet the needs of the inpatient oncology service. Nurse residency programs are an evidence based approach to support the transition of new graduate nurses upon entry into the nursing workforce. Considering the specialized role of the oncology nurse and the urgent need for more oncology nurses on the inpatient units, the decision was made by the oncology nursing leadership to develop, implement, and evaluate a residency program in March of 2017. Fifteen new baccalaureate nurses were recruited in December 2016. With the support of the Norman Knight Nursing Center for Clinical and Professional Development and unit leadership, unit based clinical nurse specialists developed a new graduate residency model for oncology nurses and a plan for evaluating the effectiveness of the program. The model consisted of a 26-week curriculum with twelve weeks of unit based orientation

with nurse preceptors, didactic classes, simulation, shadowing experiences, narrative reflection and debriefing, and case presentations by the residents, which were extended over the final fourteen weeks of the residency. The curriculum contained lecture, simulation learning, and hands on skill sessions. Topics included safe handling of hazardous medications, central line care, care of the patient with myelosuppression, sepsis, palliative care, pharmacology, and wound care in the oncology patient. The Casey Fink Graduate Nurse Survey (CFGNS) tool was selected for evaluating the residency program. The nurse residents completed this survey tool at week two and at the completion of the twelve weeks of precepted orientation on the unit. Anecdotally, the nurse residents described great appreciation for the model. The results of the CFGNS are currently being analyzed. Thirteen of the residents successfully completed the program in August of 2017. The results of the Casey Fink surveys will inform the development of the next oncology residency program Summer of 2018.

### **336 ELIMINATING THE RISK OF BURKHOLDERIA CEPACIA BACTEREMIA ASSOCIATED WITH WATER BATH THAWING OF HEMATOPOIETIC STEM CELLS IN BONE MARROW TRANS- PLANT PATIENTS**

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Stem cell transplantation is a complex procedure performed by healthcare professionals which involves cell harvesting, processing, and thawing. Methods used in carrying out these steps depend on institutionally-prescribed protocols. Microbial contamination of stem cell equipment may present adverse health complications for transplant recipients. Healthcare professionals must ensure proper sterile procedures are rigorously maintained throughout the transplantation process. This presentation is to bring about awareness that bacteremia can be caused by using a water bath for stem cell thawing. In 2015, our bone marrow transplant unit reported two cases of bacteremias on day +3 post-autologous hematopoietic stem cell transplant (HSCT). After the patients were found to be febrile on day +3 post HSCT, blood cultures were drawn and sent to the lab. These cultures came back positive for Burkholderia

cepacia. Infectious Disease (ID) was consulted after the rare results were determined. *Burkholderia cepacia*, which is commonly found in soil and water, led ID to investigate into the stem cell thawing process. Environmental cultures were done on stem cell laboratory equipment, which revealed growth of *B. cepacia* on the plastic water jug used for transporting the de-ionized water and in the residual water bath used in the thawing process. Molecular typing was performed on the *B. cepacia* samples collected from the environmental cultures as well as from the patient with the infected central line. These samples were molecularly indistinguishable. After considering the risk for infection, implementation of the air thawing method was employed. Contamination could have been prevented by single usage of the water jug or using the air thawing method. Since utilizing the air thawing method, there have been no further cases of *Burkholderia cepacia* bacteremia reported. To reduce bacteremia infections in patients undergoing HSCT, medical professionals must eliminate all possibilities of contamination. Institutions using water bath thawing must ensure the sterility of all transplantation equipment employed during this process. The air thaw method of thawing stem cells has been found to reduce incidents of *Burkholderia cepacia* in stem cell transplant procedures. Therefore, it is highly recommended that the air thaw method be given serious consideration over the traditional water thawing method.

### 337

#### ONCOLOGY MEDICAL ETHICS

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Compassionate care and a healthy respect for the principles of ethics are expected of nurses. Knowing the definitions of autonomy, beneficence, non-maleficence, and justice does not guarantee that you will utilize these principles wisely in your daily duties as a nurse. We were asked to facilitate a 2.5 hour session on ethical dilemmas in the medical oncology setting. This class is part of a semester-long course entitled Clinical Ethics, which is offered at our university as part of a master's program in Medical Humanities and Bioethics. While researching the case studies to present to the class, we encountered several recurring themes among our nursing staff. Many nurses are uncomfortable discussing advanced directives with patients on their first visit. Often nurses struggle with their personal perceptions of what is fair

and just. Some question the boundaries of explaining evidence-based medicine to patients and family members. The class members consist of pre-med students, administrators, nurses, social workers, physicians and ancillary healthcare workers. Their opinions and observations ignited powerful discussions and gave us the opportunity to re-evaluate our attitudes and realize that listening and how you present your material is just as important as your clinical skills. Words matter. We have developed a self-assessment for oncology nurses to collect data on their view and concerns about ethical issues in the medical oncology clinical setting. We will administer this form to all of our oncology nursing staff. They will attend a 60 min. session about ethical issues in the clinical setting and will be asked to read several peer-reviewed medical journal articles relating to medical ethics in the oncology setting. They will then complete a second self-evaluation. The goal is to acknowledge the difficulties involved in "doing the right thing" while maintaining our professional ethics, providing quality patient care and addressing the ethical complexities of medical care.

### 338

#### FEASIBILITY OF ONCOLOGY NURSES TELECOMMUTING

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At this NCI-designated comprehensive cancer center a verification nurse (VN) role exists to improve patient safety by preventing chemotherapy administration errors. The VN role entails review of chemotherapy orders in advance of pharmacy preparation to identify prescribing mistakes. The VNs have no direct patient care responsibilities; they perform the verification process electronically at computer workstations located inside the pharmacy. New guidelines by The United States Pharmacopeial Convention (USP) required pharmacy construction to be in compliance with USP Chapter 800 Hazardous Drugs-Handling in Healthcare Settings. In the outpatient setting, a unique opportunity presented to explore relocation of the VNs workstations. The purpose of this pilot was to determine the feasibility of VNs telecommuting from their homes to successfully perform their role without impact to productivity or patient safety. Adhering to institutional flexible work arrangements principles, two of five VNs were

selected to initiate a 3 month pilot. After obtaining approval to participate they attended a required telecommuting training class and private areas in their homes were outfitted with secure telephone and internet lines and computers with access to the institutional network and electronic medical records. The feasibility metrics identified included workload efforts and prescribing errors. The presentation will share pilot results including evaluation of workload reports comparing the number of chemotherapy orders verified by on site VNs versus telecommuting VNs and safety event reporting which is used to capture prescribing errors discovered. The data suggests that VNs are more productive while telecommuting due to fewer distractions and there was no significant change in the prescribing errors reported as the rate was already very low. Other outcomes include financial cost associated with telecommuting, feedback from multidisciplinary team members and impact on VN job satisfaction. Due to the success of the pilot, telecommuting has been adopted as standard practice in this outpatient location and has since been expanding to other VNs. Clinical and administrative physical space is a high demand resource in many oncology healthcare organizations. This project can be easily replicated in settings where oncology nursing roles are purely electronic in nature, have no direct patient care responsibilities and productivity can be monitored. Innovative strategies such as telecommuting should be explored in oncology nursing to ensure patient safety processes are maintained and physical space is best utilized.

### 339

#### **IMPLEMENTING AN EDUCATIONAL PROGRAM TO ACCOMPANY A CLINICAL TRIAL NURSE ORIENTATION**

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Ongoing advances in cancer care have led to an increase in the number and complexity of clinical trials. In 2016 the American Nurses Association (ANA) designated clinical research nursing as a specialty nursing practice. This designation underscored the need to ensure clinical trials nurses (CTN) are appropriately trained to deliver this specialized level of care. Understanding this need clinical trial nurse leadership set out to develop a program to provide

their CTNs with an in-depth knowledge of the clinical trials process to accompany a preceptor driven orientation. The purpose is to describe the process in developing a one day didactic program for new CTNs and to report preliminary results. In order to structure this program, CTN leadership and Nursing professional development specialists met to outline the content. The team developed a one day didactic and interactive education program focusing on content including Good Clinical Practice (GCP), Human Subjects Protection (HSP), responsibility of the institutional review board (IRB), protocol navigation, and the role and responsibility of the CTN in the informed consent process, adverse event (AE) reporting throughout the entire protocol process. A pre and post-test tool was developed to evaluate baseline knowledge and uptake of content. A program evaluation tool was also developed to assess how effectively the program presenters met the needs of the audience and to measure the effectiveness of the overall program. Since implementing this program, five orientation classes have been completed with a total of 40 participants. Results from pre and post test demonstrate CTNs gained an increase understanding of basic clinical research concepts including, GCP & HSP, informed consent and adverse event reporting. The program evaluation also demonstrated an increase in overall confidence in the role of CTN. Our experience highlights the benefits of developing and implementing a standardized curriculum for new CTN orientation. The benefits include increase knowledge and confidence with basic clinical research concepts by newly hired CTNs. As our institution continues to expand the recruitment of new CTNs the program will continue to evolve based upon the feedback and evaluation of our current program. Furthermore, our experience highlights that other institutions conducting clinical research could benefit from implementation of a standardized didactic program.

### 340

#### **HIT SUBMIT! ABSTRACT WRITING BOOT CAMP COMMITS!**

**Maria Grabowski, MSN, RN, OCN<sup>®</sup>, UT Southwestern Simmons Cancer Center, Dallas, TX; Daiwai Olson, PhD, RN, CCRN, FNCS, UT Southwestern, Dallas, TX**  
Oncology nurses advance professional practice daily. Nurses generate ideas to enhance patient care and they convert these concepts into Research, Program Development, or Evidenced Based Practice (EBP) projects. For many, once this phase completes, no

further action is taken to broadly disseminate their findings. This often occurs due to lack of confidence or skills to extend results beyond their immediate work setting. To overcome this barrier, we developed a workshop on how to translate projects into presentation abstracts. Nurses were provided one-on-one training to define their work in abstract form, and they were encouraged to submit at workshop conclusion. Disseminating new knowledge is key to advancing oncology nursing. The purpose of this project was to determine if a group setting, brief intensive workshop with individual mentorship is effective in generating nursing abstract submissions. If successful, these nurses would also gain skills and confidence for future endeavors. With support of nursing leadership, we developed a novel four-hour workshop (“Abstract Boot Camp”) and identified nurses who had active projects but had not yet submitted their work publicly. Potential participants submitted their preliminary work for pre-review to assure needed resources were available. Faculty were selected for success in translating organizational advancements into national forums such as poster, podium, or publications. Prior to the workshop, oncology nurses had participated in a variety of practice enhancement projects and had shared their work within the organization. However, few had experience in disseminating their findings regionally or nationally. Submission of completed abstracts was assessed as the primary outcome measure. End of session surveys and interviews indicated that the course was well received. There were 21 attendees and 28 completed abstract submissions. This workshop proved highly successful in its goals of developing abstracts, submitting work, and engaging nurses as investigative leaders. Nursing leaders are everywhere. They are mentors, researchers, and clinicians. Their positive impact enhances the organization, profession, and their patients. In providing a supportive structure for these nurses to develop abstract projects, all benefit from their contributions. Disseminating these contributions is key to advancing nursing. Sometimes this can start through an abstract submission. Abstract Boot Camp proved to be a novel, effective, and low-cost intervention to support nurses in disseminating their achievements.

### **341** **MAKING THE NOISY QUIET**

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Activities associated with providing medical care are noisy, obtrusive and contradictory to what a quiet

environment. Patients report the noise of providing care causes sleep deprivation, increase stress levels and a decrease overall perception of the hospital stay. Discharge surveys are sent to the patient after discharge, asking them to evaluate the frequency with which the area around their room was quiet at night. The challenge of creating a quiet environment first required understanding of patient’s perception of noise. Nursing leaders interviewed patients receiving care real time. Patients reported their roommates, televisions, cell phones, clinical care equipment (i.e. pumps, cardiac monitors) and visitors to be the main culprits interrupting their sleep and causing noise. Using this valuable information, a team went into action to address the issues. Identification of the slogan HUSH kicked off the quietness campaign, “Help Us Support Healing”. Just as the slogan suggests, it involves all people in the hospital, including both staff and visitors. Banners were created to provide education for staff, patients and visitors regarding action items to help keep the hospital quiet. The banners were placed strategically at the hospital entrances and on each nursing unit. Ear plugs and sleeping masks were made available by materials management to dim the light and dampen the noise patients experience during sleep. Biomed identified specific headset to be utilized preventing TV noise, traveling from one patient’s area to their neighbor’s. Physical plant addressed squeaking doors and wheels in the patient care environment. A complete team effort was embraced. To ensure action items remain in place, audits are completed weekly by the corrective action team. Real time feedback is provided to the owners of the environment where fall outs occur. The project formally commenced in June 2016, action items delivered February 2017 and has continued with positive results. Patient satisfaction scores for January 2017 were 60.6 which did not meet the goal established at 63.4. Over the course of seven months the scores have continued to improve with July 2017 score reaching a high of 69.6. As Robert Collier said, “Success is the sum of small efforts repeated day in and day out.” The quietness results show many small efforts being repeated every day by all staff and visitors.

### **342** **PATIENT EDUCATION COORDINATOR— SUCCESSFUL IMPLEMENTATION OF A NEW JOB DESCRIPTION**

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Improving the discharge process has the potential to impact an organization on multiple levels, including improved patient education, patient satisfaction, nurse satisfaction, timely discharges, and lower readmission rates. Huntsman Cancer Hospital is a 100 bed free standing hospital within the University of Utah medical system. This organization was challenged with rapid growth and lack of adequate beds resulting in delayed admissions or hurried discharges. To improve bed flow, each inpatient unit was challenged to discharge more patients before 11 am. An extensive literature review was conducted to identify “best practices.” It was determined that a dedicated patient education nurse could help improve outcomes in the surgical oncology unit. The role of this new position is to only provide discharge education with no patient load. Discharge nurses are scheduled on high volume days Tuesday thru Friday. Patient education Coordinators focus on discharge needs, facilitating patient centered education allowing for individualized education to the patient needs, time and learning requirements. They coordinate care with other disciplines such as case management, pharmacy, and specialty outpatient teams. From the time the Patient Education Coordinator role has been implemented, the inpatient surgical floor has seen improvements in target goals. Successful metrics include discharging patients before 11am, decreasing readmission rates, improving patient and nurse satisfaction. This unit averaged discharges before 11am at a rate of 5–7%, with the Patient Education Coordinator role, they now discharge patients at an almost doubled rate of 11–13%. Readmission rates have also dropped, from an average of 17% to the current rate of 10%. Patients have identified these nurses in multiple Press Ganey comments and nurse communication scores have improved. Front line staff are very satisfied with the position as it decreases workload and allows increased quality time with more acute patients. Since permanently becoming a part of practice, the role has evolved to include opportunities to give meaningful input into hospital processes, bridge gaps between inpatient and outpatient nurses and develop expanded education materials.

### 343

#### **APPLYING THE KIRKPATRICK MODEL TO NURSE COMPETENCY ASSESSMENT AND TRAINING: LESSONS FROM THE FIRST**

#### **YEAR OF SYSTEMATIC LEARNING PLAN FOR COMMUNITY-BASED OUTPATIENT INFUSION NURSES**

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The complexity of outpatient infusion care has continued to evolve as nurses are expected to manage an ever-growing formulary of oral and infusion medications, supportive care measures and quality care metrics. Measuring and maintaining competency of high level care poses a challenge when nurses have a wide range of training and experience. In 2016, the educators at a multi-office infusion practice in Houston, TX integrated the Kirkpatrick Model of Training with nursing competency remediation. At initial competency, twenty-five nurses participated in the written assessment. Nurse educators graded the assessments using a rubric to ensure standard evaluation. Each nurse was placed into one of four tiers, with tiers 3 and 4 requiring participation in a three-month learning plan. Twelve nurses required remediation and the four level Kirkpatrick Model was applied to evaluate the success of the learning plan. Upon completion, nurses were asked to fill out a “happy sheet” rating their satisfaction with the learning plan (Level 1). They were required to complete a new competency test to assess learning (Level 2). In October, one year after this initial competency process change, nurses will be assessed for behavior changes (Level 3) and data will be available to complete an assessment on the overall effect on organizational performance standards (Level 4). Out of the twelve nurses that participated in the Kirkpatrick model, 83% remain employed at the end of the competency remediation period. Ten anonymous “happy sheets” were completed by the nurses; 90% had a positive experience with the remediation process. After participation in the learning plan, all nurses passed the second written competency evaluation, demonstrating success with Level 2. Applying the Kirkpatrick Model offered structure beyond initial assessment of nursing skill. Not only were expectations clearly outlined and measurable for nursing staff, nurse educators were able to benchmark their own efficacy regarding staff competency. Due to the constant development and complexity of Oncology nursing, nurse educators must execute and evaluate the success of their training and continuing education programs. The Kirkpatrick Model offers four systematic ways to measure success, from front-line opinion to positive impact on the organization.

344

### **ONCOLOGY POSTGRADUATE FELLOWSHIP: A MODEL TO PREPARE ADVANCED PRACTICE NURSES FOR ONCOLOGY PRACTICE**

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An increasing demand for cancer services, changes in the cancer care delivery system, and concerns about cost of care create reservations about the current health care system's capacity to provide high-quality care for all patients with cancer. These issues highlight the need to optimize the value and quality of care and mitigate clinician shortages. In response to the growing need for APRNs in the specialty area of oncology, appropriate preparation of the nurse needs to be addressed. To meet the gap in the need for more advanced oncology nursing training, the purpose of this project was to design a postgraduate oncology nursing fellowship that will be implemented at a large urban cancer center in the southeast area of the country in 2018. A task force met to identify the essential components of a postgraduate fellowship based on the current evidence and Oncology Nursing Society (2007) competencies for oncology nurse practitioners. The fellowship was designed for nurses who have a graduate level degree and have a specialty interest in oncology nursing. Based on the Transition Theory the aims for the graduate nurse fellows are to: (1) develop advanced clinical knowledge and skills in oncology; (2) integrate into all aspects of cancer care; (3) engage in leadership opportunities to improve outcomes for patients with cancer and families; (4) gain greater autonomy and assume responsibility and accountability in caring for patients with cancer. In order for nurses to achieve the four aims of the fellowship, the model is comprised of four components: (1) advanced oncology curriculum; (2) clinical immersion; (3) professional and collaborative role development; and (4) evidence-based nursing practice and research. The APRNs who choose to specialize in oncology need additional preparation to advance their role and coordinate quality cancer care for adults from diverse populations and settings. The one year long oncology nursing fellowship is the means by which advanced practice nurses will gain the skills, knowledge, and leadership to optimize outcomes for patients with cancer.

345

### **A NURSE CROSS TRAINING PROGRAM TO OPTIMIZE EFFICIENCY**

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An ambulatory, multi-service line, oncology clinic without access to an internal float pool had lack of resources to cover daily clinical needs. Primary team assignments for nursing staff lead to operational inefficiencies and lack of knowledge to promote patient safety and quality for multiple service lines. Implementation of a cross training program represented a culture change that contributed to promoting autonomy and collaboration within the nursing team. The purpose was to develop an internal cross training program to improve quality and patient safety, while promoting team collaboration, operational efficiency, and fiscal responsibility. With 14 service lines, servicing 30 providers throughout the week, initial cross training plans were developed in a strategic manner by choosing staff based on similar clinical specialty or opposite clinic days. Clinical preceptors were appointed and staff trained on days when their primary team was out. Orientation meetings and documentation were completed with team members and nurse educators to ensure competence. At completion of the initial cross training plan, staff were competent in at least two clinical areas, and each clinic had two backup nurses trained. The training program took a year to complete to ensure cross coverage availability for all 14 service lines within the ambulatory center. The cross training program impacted the center in many positive ways. The providers feel more confident when the primary nurse is out. Nursing collaboration increased as cross trained nurses partnered with the primary nurse to facilitate throughput for high volume clinics. The nursing team improved overall team dynamics and they assist each other without being asked for help. New clinics have been managed by the cross training program without hiring additional staff. The program has universal impact for clinics with staffing challenges. Formal training increased staff autonomy, productivity, and team collaboration. The program allows for a coverage plan when team members are away and improved the quality of care given by nurses that were previously not cross trained. The program is ongoing and continues to date based on new staff onboarding and clinical expansion. Nursing staff buy-in has been exceptional and the program continues as new clinics form and additional nurses volunteer to cross train. This program has been rolled out in some of our other locations throughout the city.

346

### IMPLEMENTATION OF A SHARED LEADERSHIP MODEL ON A HEMATOLOGY/ONCOLOGY UNIT

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The role of the nurse manager on an oncology unit is critical to staff retention, quality improvement, patient satisfaction, and creating a healthy work environment for staff development. In today's healthcare environment this can present a challenge for a manager on a large oncology unit with multiple staff members. Recently there have been several shared models of leadership developed that employ two managers as equal partners distributing leadership responsibilities. This model provides balance for each manager in the daily management role while allowing subordinates greater access to the leaders of the unit. The purpose of this project is to implement and evaluate the effectiveness of a shared model on a 32 bed inpatient hematology/oncology unit at University of Rochester (UR) Medicine. The Wilmot Cancer Institute at UR Medicine is a rapidly growing cancer center with an inpatient hematology/oncology unit of almost 75 full-time equivalent staff members. To improve staff engagement and trust building relationships between staff and leadership, we implemented a co-nurse manager model on this unit. The benefits to implementing this model are to divide administrative tasks, lead quality improvement projects, and perform leader rounding. Scheduling of each managers time is flexible to stagger coverage to off shifts when typically there has been less leadership presence. Both managers have previous leadership experience and welcomed the opportunity to co-partner with another leader. Feedback from the staff has been very positive towards the co-manager model and we are eagerly awaiting results of a recent staff engagement survey to continue our evaluation. The unit's patient satisfaction scores have also improved almost 3% to their highest levels since the model was implemented in late 2016. Another goal of the model is to study how the managers work together with regard to division of labor, autonomy vs. co- decision making, communication, and the personalities of the managers. A qualitative research study is being designed that will include separate manager and staff interviews at spaced intervals. The co-manager model is an innovative approach to oncology leadership on large units. Challenges such as compassion fatigue

and staff retention, can be met in a more efficient manner when there is greater access to leadership.

347

### A PROGRAM TO ENHANCE WRITING SKILLS FOR ADVANCE PRACTICE NURSES

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Advance practice nurses (APNs) make significant and unique contributions to scholarly journals because their contributions are developed from both scientific evidence and clinical practice experience. Unfortunately, expert nurse clinicians publish less compared to other nurse authors. This writing program was developed to improve writing skills and self-efficacy among APNs, who were enrolled in a doctor of nursing practice (DNP) program at a large hospital affiliated university. The program consists of structured online writing modules, a one day writing workshop, taught by an expert author/editor, and training to use a novel writing checklist. The checklist was developed to be used in this program. It summarizes all module content, identifies writing weaknesses and recognizes when a manuscript has been edited sufficiently for submission. Program evaluation measures include the Post-Secondary Writerly Self-Efficacy Scale and three open ended questions that explore usefulness of the checklist. A total score was calculated for the self-efficacy measure and qualitative data were coded to identify common themes. Evaluation measures were completed by 76 of 109 students. The self-efficacy average score was 79 (SD 8) which indicates participants "agree" the program increased their writing self-efficacy. Qualitative data revealed that students think the checklist is user-friendly and identifies areas of writing that need improvement. This multi-component writing program contains critical writing skills that APNs need to successfully publish and improve nursing care and science. Due to important clinical obligations, APNs may have lengthy amounts of time between writing manuscripts. Eighty-seven percent of APNs in our sample reported they would use the checklist in the future. This process will help to identify weak areas of writing, which nurses can then refer to program or other writing resources to develop the relevant writing skills. This program can be implemented in schools, clinical sites or as a continuing education program. Program graduates can



refer to the checklist overtime, to maintain writing skills and publish throughout their careers. Clinicians can use the checklist with colleagues to help guide and mentor their writing process.

**348**

### **THE BLENDING OF MEDICAL AND SURGICAL ONCOLOGY TO PROVIDE AN OPTIMAL CONTINUUM OF CARE**

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Our growing oncology population increased 250% over two years. At that time, we did not have a truly dedicated oncology unit. The oncology nursing leadership team, inpatient and outpatient, had the opportunity to work with transitioning the medical oncology patients to the surgical oncology unit. It was a strategic move designed to allow for continuity of care. The purpose was to create a dedicated oncology unit where this new patient-centered approach would provide seamless care for our patients and make our care processes and collaboration easier for our care teams. We assessed patient volume on all units to determine the percentage of patient populations in order to accommodate the oncology patient population. We brought together a multidisciplinary team from that unit to determine the learning needs of staff. We developed and taught an 8-hour didactic course, entitled "Oncology Boot Camp," on the essentials of caring for oncology patients, with a focus on chemotherapy. After completing a chemotherapy administration test, nurses were assigned to get hands-on experience hanging chemotherapy with a dedicated preceptor in one of our infusion suites. On day one of the transition, we started daily multidisciplinary rounds with the oncology hospitalist team where staff could get real-time answers to their questions. When the oncology unit had a chemotherapy patient, an experienced resource nurse was provided to assist the staff with dose calculations and to ensure the chemotherapy plan was carried out as intended. The Clinical Nurse Specialist has provided ongoing weekly education sessions on a variety of oncology topics. To date, 88 nurses have completed Boot Camp and all have passed the

chemo test except one, who retested and passed. A post-survey revealed that 87% of nurses felt participation in Boot Camp was meaningful and 75% would recommend the course to others. The multidisciplinary rounding has proven to be satisfying for all involved and the nurses know the care plan for the patient. Bringing all of these services into the new location has helped improve the quality, safety and service of inpatient oncology. The attitude of the nurses have been positive and nurses were eager to learn. The didactic learning and hands-on infusion experience provided a meaningful improvement in the nurses' ability to care for oncology patients.

**349**

### **DEVELOPING NEW LEADERS IN A GROWING CANCER INSTITUTE**

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The Levine Cancer Institute was established in 2010 under the vision of Dr. Derek Raghavan. Dr. Raghavan's vision for the Institute was to redefine the role of a traditional cancer center by bringing cancer research and clinical innovations closer to patients. With over 25 cancer locations throughout the Carolinas, patients have access to world-class care close to home. The intended objective of this abstract is to identify the necessity of a leadership development program in a rapidly growing cancer institute, review the phases of development, first year outcomes, lessons learned and discuss future sustainment plans. Since its inception, LCI has grown from 85 employees to more than 1100. With over 150 providers, 15,000+ new patient visits each year and 1000+ patients in clinical trials, the Levine Cancer institute met its 5-year growth goals in year 2. With so many new and developing leaders, our Senior Leadership Team identified an opportunity to cultivate a leadership development program that would enhance the leadership skills and knowledge of our front-line leaders to help them manage our rapidly changing environment. After examining the evidence supporting leadership development, we created a triad of effort that included creating Leadership Competencies for performance enhancement, quarterly Leadership work days for Clinical Nursing Supervisors and Managers, and monthly Leadership Lunch and Learns for ongoing educational opportunities and discussion. We identified our areas of focus through surveying the leaders as well as utilizing the American College of HealthCare Executives self-assessment competency tool. We developed several task forces to help

develop the triad approach that were comprised of 50% Nursing Leadership and 50% Non-Nursing Leadership. By utilizing the Donna Wright Model for Competency Assessment in Healthcare, we collaborated with the leaders to create a teammate-centered method of verification that included choices for adult self-learning. Our first-year outcomes included: 84% attendance in the monthly leadership lunch and learn series, 100% completion and validation of leadership competencies and a 90% approval that the learnings were moderately to highly impactful on their everyday work and contributing to growing a sustainable culture of leadership development. By creating a systematic and developmentally rich environment for self-growth in leadership theory, tactics and skills we have planted the seeds for a sustainable healthy work environment that grows its leadership team.

**350**

### **MOVING BEYOND A CLINICAL LADDER: A BENNER MODEL FOR PROFESSIONAL DEVELOPMENT AND RECOGNITION FOR ONCOLOGY NURSES**

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Care delivery by educated, certified nurses practicing to the full extent of their education is associated with positive patient outcomes. The Department of Nursing at Memorial Sloan Kettering Cancer Center (MSK) implemented an evidence based, tiered career development system for nurses based on Patricia Benner's theory (1982) to ensure high quality practice and to better recruit, retain and recognize nurses. In 2012, the Chief Nursing Officer led an initiative to re-envision the 30 year-old clinical ladder. The system lacked structure and process becoming a source of dissatisfaction because of minimally defined promotional criteria and inconsistent interpretation across the department. Review determined need for a system supporting excellence in a committed oncology nursing work force to ensure positive outcomes. The goal was to create a program encouraging pursuit of lifelong learning, excellence in practice, and career development while supporting job satisfaction through recognition of achievement. A program, Nursing Career Advancement and Recognition of Excellence

(N-CARE<sup>®</sup>) was developed based on findings from an extensive review of literature, expert opinion, focus groups and organizational data. Included are 3 components based on Benner principles: promotion for Clinical Nurses II-IV, position maintenance, and professional recognition. Revised requirements include BSN degree for all levels and national certification. Promotions require an application, specific criteria of performance, and approval by the board of peers. An exemplar of nurse empowerment, the N-CARE<sup>®</sup> Board maintains oversight. Career track choices (operations, education, practice) were established in the CNIV role to promote growth, succession planning and support nursing leaders. Annual maintenance requirements mirror promotional criteria and ensure ongoing accountability. Review board administers the Annual Advanced Degree Nurse (ADN) financial awards program which rewards achievement beyond role requirements. Seven promotional cycles have occurred with 362 promotions (95% of applicants). Numbers of certified nurses increased almost four-fold in 4 years. 225 incentives were awarded to ADNs. Focus groups following the first promotional cycle revealed overall increased satisfaction. Follow-up surveys of candidates and leaders demonstrate high satisfaction with process and program support strategies. New goals include process engagement with Nurse Leaders and formal, ongoing evaluation. Guiding career development at MSK, N-CARE<sup>®</sup> raises the bar for excellence: educated, certified nurses pursuing growth creates a winning formula for our nurses and serves as an innovative model of engagement, development and recognition.

**351**

### **MERGING EVIDENCE AND PRACTICE: AN EDUCATION SERIES TAILORED TO THE ADULT LEARNER**

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A career as an oncology nurse can be busy and demanding. While we have good intentions to "brush up" on topics we are less familiar with or that may present concurrently in our complex patients, our time and opportunity to do so may be limited. We also have learning needs as adults that differ drastically from our learning needs when we were children. Malcolm Knowles's Adult Learning Theory proposes that the adult learner is focused on immediate application

of knowledge and is motivated to learn by internal, rather than external factors. This need for relevant, convenient, and adult focused oncology nursing education presented a unique opportunity for our team of breast cancer nurse educators. This presentation will provide an overview of the “Breast Case Conference” nursing education series at the Stefanie Spielman Comprehensive Breast Center and how it has addressed nursing education needs across our team. It will discuss how this series was conceptualized, how educational needs for the oncology nurse and advanced practice providers are identified, how the monthly sessions are implemented, and how the participant feedback has shaped the series. We will also discuss how the planning and execution of this series are rooted in a theoretical framework that supports adult learners. At the end of this presentation, the learner will have an enhanced understanding of the unique needs of the oncology nurse to continue his or her education to meet the demands of the ever changing oncology landscape. He or she will gain knowledge of tools and strategies to identify these knowledge gaps and implement evidence based educational opportunities that are relevant and convenient to the targeted audience. The learner will also have an increased knowledge of Adult Learning Theory and how to approach education with special attention paid to the adult learner.

### 352

#### **JOURNEY THROUGH DEDICATED EDUCATION UNIT FROM NURSE RESIDENCY TO PROFESSIONAL NURSE**

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Oncology patient care is primarily delivered in the outpatient department (OPD). A large NCI designated cancer center OPD started a Dedicated Education Unit (DEU) with a university to offer a residency for new graduate nurses. The literature identifies the first two years of clinical nursing practice as the point in time when nurses are most at risk for leaving the profession. Evaluation is needed about what supports a new nurse’s transition to long term retention and professional oncology practice. The purpose was to improve student/residency support for new nurses in an ambulatory cancer clinic and facilitate successful retention of evolving professional oncology nurses.

Systematic evaluation of an innovative DEU/residency program was undertaken to assess and improve the transition to practice. Resident nurses were integrated into practice with expert preceptors. Together they used competency check lists and journaling to reflect and document this evolving role transition. New nurses moved from the mindset of “I just want a job and be good at it” to being confident, fully evolving oncology nurses. They made the transition from student to resident to expertly skilled clinician. A successful transition from nursing student/resident to professional oncology nurse was achieved in the OPD cancer center. From a five year cohort of residents nurses (n= 25) in the DEU, some of the metrics utilized for evaluation of professional development include specialty certification and leadership roles. Some examples include ACLS and OCN certification and undertaking preceptor and charge nurse responsibilities. Evaluation findings affirmed that efforts of the DEU/residency program fostered clinically competent and enthusiastic nurses. To date, all of the participants have stayed in nursing roles within the NCI designated cancer center. Refinement of the DEU/residency is ongoing. Some identified areas of improvement include expertise in end of life care and compassion fatigue and leadership skills development. A focus on a culture of inquiry is essential to support collaboration and a spirit of welcoming to inspire the next generation of nurses who will transition into professional practice as expert oncology nurses.

### 353

#### **ESTABLISHING A COMPREHENSIVE STANDARDIZED ORAL CANCER TREATMENT WORKFLOW PACKAGE FOR GI MEDICAL ONCOLOGY NURSE CASE MANAGERS**

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Oncologists are prescribing more FDA approved and non-approved oral cancer treatments. To fulfill those ordered oral cancer treatments, clinical staff are challenged to a) meet ASCO’s Quality Oncology Practice Initiative (QOPI®) Certification Standards, b) fulfill the prescription and confirm prior authorization before it is dispensed by a specialty pharmacy and, c) document the treatment start date, required

laboratory tests and drug specific side effects to report. The purpose is to establish and launch a standardized oral chemotherapy workflow for GI Medical Oncology clinical Nurse Case Managers (NCMs) at the Multispecialty Clinic at the Moore's UCSD Cancer Center Multispecialty Clinic, one of 69 NCI-designated comprehensive cancer centers. A nurse-led multidisciplinary team met, then established a standardized workflow that delineated tasks and timelines to negotiate and confirm prior authorization for the prescribed oral cancer treatments. Then Clinic NCMs launched the workflow package, educating 10 Clinic GI Medical Oncology NCMs to use the package when the oncologist orders oral cancer treatments. Components of the workflow package included a one-stop, on-line site with steps to follow to fulfill the oral cancer treatment prescription; a confirmed process with resources to obtain authorizations; and follow-up patient education materials, prompting patients to self-identify and report treatment side effects. Three months after launch of the workflow package, NCMs completed a Survey Monkey® survey, evaluating the package's a) accessibility, b) ease of use, c) clarity and d) comprehensiveness. Compared with pre-launch scores of not satisfied for these four evaluation areas (n = 10), 80% (n = 8) of surveyed NCMs post package launch reported a very or extremely satisfied score for each of the four evaluation areas. By establishing and launching a standardized workflow package, clinicians can ensure that patients receive their oral cancer treatments on time with appropriate and documented support and follow-up. Establishing this workflow package ensures quality patient care and a foundation for multidisciplinary practice. This standardized workflow package, established and evaluated, can be used by other facilities to meet QOPT® standards.

### **354** **IMPLEMENTING AN ONLINE LEARNING MANAGEMENT SYSTEM**

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During the development of a training team, Tennessee Oncology realized there was a gap in the consistency in education of our clinical oncology staff. Healthcare is ever changing. In an outpatient practice with 30 locations and 500 clinical staff, it was essential to standardize training materials across the company. It was important to know clinical staff were up to date and shared the same baseline knowledge. Tennessee

Oncology also needed to be able to easily track and report on completed education and competency validations as paper forms were being misplaced, lost, or not completed. A decision was made to move away from paper to use of an electronic learning management system. Phase One of the project included the following tasks: (a) purchase an online learning management system—a one stop shop for all learning, (b) research the education course catalog to find applicable learning for clinical oncology staff, (c) provide an itemized list of required courses and due dates to be completed at the time of new hire, and quarterly, for annual learning as approved by the Director of Nursing. After completing Phase One, Phase Two involved implementation of additional system functionalities including (a) create internal education and assign to all, or groups of, clinical staff, (b) track required licenses, (c) track certifications, (d) send automatic alerts to employees when certifications or licenses were due for renewal. Ongoing activities: throughout the year courses become obsolete. The course catalog is constantly reviewed in the learning management system to ensure that retired courses are being replaced with current/new courses. Outcomes: implementing an online learning management system has helped with the following: (a) clearly defined due by dates and a record of completion dates, (b) minimized confusion of education requirements throughout the year, (c) accurate online reporting of incomplete and completed learning modules, (d) access to printable transcripts for use during annual reviews or accreditation / regulatory site surveys with decreased incidence of lost or never completed paper forms. In the future, the plan is to implement additional available functions to create electronic direct observation competency validation forms and upload outside education and training certificates to employee profiles.

### **355** **THE ROLE OF FASHION IN HEALTHCARE— REINVENTING TRADITIONAL TREATMENT CLOTHING**

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Healthwear design has traditionally been an area focused solely on function rather than fashion. There are very few clothing and accessory items available to cancer clothing that are elegant, but also medically compliant. In 2014, renowned fashion designer Oscar De La Renta passed away from cancer, having

received treatment at the University of Miami Sylvester Comprehensive Cancer Center through a port-a-cath. In his memory, his family and namesake label pursued a project to thank his treatment center and help cancer patients. In partnership with leading healthwear company Care+Wear, Oscar de la Renta decided to design a chest access hoodie for cancer patients undergoing treatment at the University of Miami Sylvester Comprehensive Cancer Center to improve the patient experience. Working with nurses from the Sylvester Comprehensive Cancer Center, Oscar de la Renta and Care+Wear created a hoodie design with two strategically placed diagonal zippers to allow for easy access to chest ports without the patient having to undress and with snaps at the top of the zippers so that treatment lines can reach the chest area while still keeping the patient warm in the hospital. Nurses and clinicians from leading hospitals such as the Sylvester Comprehensive Cancer Center, Sentara Healthcare, Massachusetts General Hospital, Johns Hopkins and the University of Virginia provided critical feedback on the design's color, zipper placement, length, sizing and material to ensure comfort, quality, style, accessibility and compliance with medical needs. In addition to providing an innovative solution for patients at the University of Miami, the project demonstrates the importance of nurse feedback and involvement in the creation of healthwear products and raised awareness of the ongoing needs of patients during treatment.

### 356

#### **KOREAN ONCOLOGY NURSING SOCIETY ORAL CHEMOTHERAPY SAFETY STANDARD PRACTICES**

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With the development of various cancer therapies and the increased survival rate of cancer patients, clinical areas of oncology nursing will be further expanded. Antineoplastic drugs' exposure has been a significant problem for oncology nurses. Such hazardous drugs have one or more of characteristics like carcinogenicity, teratogenicity, genotoxicity, reproductive toxicity, or organ toxicity. Nurses may be exposed during preparation, administration, or handling of patient excreta. Strictly precaution should be needed

for oncology nurses. In 2008, Korean Oncology Nursing Society (KONS) published chemotherapy safety standards for patients with cancer. However, there is no standardized practical guideline for oral chemotherapy. The purpose of this study was to develop the standards which were created to address patient safety in oral chemotherapeutic agents in outpatient oncology settings. Task Force team consisting of the clinical experts which is led by the Planning Committee was convened to review the publication of the standards. The draft of each guideline was an expert review process, which was reviewed by the planning committee members, and the decisions made through the five rounds of consultation were finalized by the board and finalized as a practical guideline. The proposed set of standards has been approved by the Board of Directors for KONS. Finally four chapters of general standard, informed consent and education, order confirmation and administration, and side effect and management were established with 26 standards. Although some of the standards may differ slightly from those currently practiced in each institution, it is an important to present directions for future standardized practices that are difficult to carry out under medical environment. KONS will address the development of safety standards for extended areas like home setting, pediatric cancer patients, or elderly patients.

### 357

#### **INNOVATIVE EDUCATION FOR LINE CARE BUNDLE IMPLEMENTATION**

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Central-line blood stream infections (CLABSIs) are a costly event both for patients with poor outcomes and for hospitals as a hospital-acquired condition. Implementation of a bundle of intravenous (IV) care practices has shown in the literature to be effective to reduce CLABSIs. The Bundle implemented at this 517-bed acute care teaching hospital in Pittsburgh, PA included nine new products and changes in line care maintenance and dressing practices. The purpose of this project was to develop innovative education sessions to support the implementation of a new line care bundle. In the past, new product education occurred through just-in-time education including brief informational sessions for staff on the units.

This type of education proves to be time and labor intensive for educators and difficulty occurs with trying to pull staff away from patient care and to connect with those who work off-shifts. The sessions included background information and reason for implementation, Bundle specific information, hands on product demonstrations, and a dressing change simulation. Nursing leadership was supportive of this initiative from the start and granted 2 hours of educational time for all nursing staff at the hospital. During the session, attendees answered questions so that immediate understanding of key points was confirmed. Because of the nature of implementing such an extensive new line care Bundle, follow up reinforcement, real-time feedback and ongoing support are crucial to Bundle success. Following Bundle implementation, central line dressing audits provided both real-time feedback to nursing staff and unit summary of practices and areas of improvement. When nurses completed annual competencies, they completed a questionnaire and a simulation of Bundle practices. The questionnaire included many of the same questions covered in the initial training to provide 3-month knowledge retention information. During competencies, nurses also completed a dressing change via computer simulation. This was an innovative tool created by the institutions' internal instruction/curriculum design team. The simulation is available online and will be used for ongoing educational needs. The simulation was determined to be a crucial tool for reinforcement of an infrequent procedure. The extensive and multi-faceted education provided to support this line care Bundle initiative will be paramount to the success of the Bundle to reduce CLABSIs.

### 358 IMPROVING INFUSION UNIT SCHEDULING AND FLOW THROUGH PREDICTIVE ANALYTICS AND INNOVATIVE SCHEDULING TEMPLATES

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Template scheduling in infusion units where chemotherapy, biotherapy and supportive medications are

administered is a complex process. Several factors contribute to the complexity, including fluctuating patient volume, varying treatment durations and inconsistent chair utilization. At our institution this process is further complicated by volume of 200-300 patients daily in five decentralized units sharing treatment space, nursing staffing resources, and one pharmacy to process drugs. Inability to successfully manage the scheduling template and predict flow can result in suboptimal infusion flow and increased patient wait times, which negatively impact patients' experience, quality of life and nursing satisfaction. Innovative strategies are needed to assist oncology nurses and administrators in creating and maintaining efficient scheduling templates. The purpose of this project was to decrease patient wait times by using lean and predictive analytics to optimize infusion template scheduling. Nursing and administrative leadership collaborated with an external data engineering firm iQueue/LeanTaaS, to develop infusion templates to improve unit flow and efficiency. Historical information including infusion template durations, appointment data, and nursing staffing schedules were provided to the consultant to analyze and lean principles, data science, and machine learning were applied. New scheduling templates were implemented and a predictive scheduling tool was created to maximize utilization. The presentation will illustrate how the predictive tool is used daily during a morning huddle to identify potential looming inefficiencies for the next days and suggests template changes that would best match available resources. Infusion charge nurses ensure the changes are clinically appropriate, use the tool to make decisions related to nursing staffing and respond to the constantly shifting dynamics of a high volume infusion practice. With the implementation of the iQueue templates and the incorporation of their scheduling tools we have seen a decrease in chemotherapy wait times from 40 to 24 minutes (40%), with a steady negative trend. Nurses report increased unit efficiency and administrative staff have reaffirmed the wait time impact on the patient experience. Successful template execution has resulted in expansion to other outpatient infusion sites within the institution. Partnering with external consultants with expertise in maximizing resource utilization positively impacted efficiency in our infusion units. It is essential that oncology nurses and administrators persistently explore novel approaches to enhance patient experience and learn different strategies to manage operational constraints.

359

### THE YEAR 1 EXPERIENCE: THE IMPACT OF CALIFORNIA'S AID IN DYING (AID) LEGISLATION AT AN NCI-DESIGNATED CANCER CENTER

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In 2016, California's End of Life Option Act took effect. Established by state law, the right to assisted suicide is also known as death with dignity, physician assisted suicide, aid in dying (AID). Advanced practice nurses (APNs) developed a clinical education package about the AID legislation and its implementation in practice. The APNs presented results evaluating the education package as a 2017 ONS Congress poster. From June through Dec, 2016 allowed by AID legislation, 111 people in California ended their lives using lethal prescriptions, 191 received prescriptions from their physicians and 258 began the end of life process. Since AID legislation became law in California, to assess professional clinical staff about their perceptions of the impact of the legislation, level of comfort and knowledge base about the legislation's implementation in practice, and attitudes about the legislation and need for further education or support. In June of 2017, 225 professional clinical staff members at an NCI-Designated Comprehensive Cancer Center (UCSD Moores Cancer Center) received a 5-item Survey Monkey™, requesting feedback about the effectiveness of the initial AID education, the number of patient encounters for AID medication to date and their current attitudes about AID legislation and UCSD policy implementation. Survey Monkey Results: n = 48 (21.3% response). The majority of clinical staff had few requests for AID medication. (% = Responses) 0 requests: 55% 3-5 requests: 31% 3-5 requests: 9% >5 requests: 5% Selected clinical staff responses: 23% underwhelmed by the numbers of patients requesting services 31% more comfortable with the process 23% continue to grapple with the moral and ethical implications of the law. One year post AID legislation enactment, clinical staff report few requests for AID medication. Findings from a clinical staff survey suggest that the AID legislation provisions require continuing education of clinical staff, clinical staff support and initiatives toward process improvement.

360

### MASTERING THE PRECEPTING ROLE IN THE ONCOLOGY AMBULATORY CARE

### SETTING—ARE YOU READY FOR THE CHALLENGE?

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At the Rutgers Cancer Institute of New Jersey, the last preceptor course was offered in 2006. Our recent expansion of multiple outpatient satellite locations required us to hire a large amount of staff in a short period of time and thus necessitated additional preceptors. Staff was reluctant to fulfil this role. We were concerned that the lack of experienced preceptors would impact the success of the orientation, retention, and satisfaction of the nurses new to our facility. When considering implementing a program for preceptor training in the oncology ambulatory care setting, nurses and ancillary staff were queried regarding their learning needs and desired format for preceptor training. Based on the results, the course was offered in two parts. The first part was a learner-paced, web-based module that was assigned to all nursing and ancillary staff. This module included an overview of the roles of the preceptor, assessment of learning needs, theories of adult learning and teaching strategies, development of goals and objectives, evaluation of learning outcomes, and providing effective feedback. The second portion of this program was delivered as a live presentation which was offered on two different dates. It consisted of an array of role playing, case studies, and didactic content. A total of 37 individuals that were self-selected and management sponsored registered for the live course. Criteria for attending included one year of employment, and two years of oncology experience. Oncology certification was preferred. An outside speaker was selected because of his expertise on this topic. His presentation included case studies using real-life, relatable scenarios to exemplify major points and challenges that preceptors face. Additionally, this activity included interactive group discussions and role playing to demonstrate adult learning concepts. Evaluations for both the web-based and live programs were completed by participants with very high ratings for content learned. Since the implementation of the program 8 months ago, 22 of the 37 attendees of the live program have actively participated as preceptors for new staff. Seventeen new staff were hired; 2 were terminated due to unsuccessfully completing the probationary period. The remaining new staff reported

favorable reviews of the program and preceptors reported better preparation to train new staff. Additional feedback from both new hires and preceptors includes implementing a formal oncology-based mentoring program.

### 361

#### **DEVELOPING A TAILORED AND SUSTAINABLE MONTHLY EDUCATION PROGRAM FOR OUTPATIENT CANCER CENTER STAFF**

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Professional development is the responsibility of the individual registered nurse (RN) to maintain licensure and practice evidence-based care. Live continuing education (CE) offerings are usually offsite and/or at times restrictive for staff participation. Thus, the need for a regularly occurring and viable CE program in the cancer center was identified. The purpose was to develop and implement a monthly education series to address current learning needs, promote professional development and provide a CE program that staff could attend within the cancer center. The ACNO of Oncology created a formal learning needs assessment. Completion of this assessment was required of all cancer center staff before attending annual competencies in order to maximize participation. 122 responses were received from licensed and unlicensed assistive personnel (UAP). Topics rated below 65% for “comfortable with my knowledge and skills” were selected as material to cover. Attention was paid to preferred day, time, and delivery method per staff feedback to identify best availability and address previous low attendance. Responses indicated staff preferred to attend before their shift from 0700–0800 and over half wanted live sessions. Advanced practice providers (APPs) and physicians were selected as speakers. Five sessions have been held and attendance has grown with each one. A WebEx option was implemented for those to attend on their day off. Topics included palliative care, oncology emergencies, clinical trials, thoracic surgery and an ONS recap of presentations from staff who presented at Congress. Program effectiveness is rated as excellent by > 80% attendees and speaker knowledge at 100%. Comments have been positive; including information will influence daily practice, has provided excellent background knowledge, supported with telephone triage and assisted in recognizing signs of an oncology emergency. Staff self-identifying learning needs, preferred delivery method and time via structured assessment created a sustainable and successful program. The learning

assessment will be distributed yearly to track progress, plan for the upcoming year and could be recreated in other departments and institutions.

### 362

#### **IMPLEMENTING MOCK EMERGENCY DRILLS IN THE OUTPATIENT CANCER SETTING**

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There is a notable increase in clinical emergencies at a regional comprehensive cancer center with an estimated 81,941 patient visits in 2016. Our comprehensive cancer center is a BLS-certified facility utilizing an affiliated hospital for emergent transfers. After an emergency occurring in the laboratory, staff expressed a need for more education on emergency management. Routine mock drills help retain knowledge and skills necessary during an emergency. The use of simulation for emergency training is common, particularly in the outpatient setting. Multidisciplinary drills were implemented in 2017 and to date, 10 mock drills have been performed and practiced. Selected scenarios chosen for mock drills are relevant to emergencies occurring at our center involving both patients and visitors. Drills included seizures, fall, MI, stroke, elder abuse, suicide, vasovagal events and emergency evacuation via Stryker® chair. Targeted objectives for each scenario were developed by the team with staff input. Organizational policies and evidenced-based procedures are cited when developing scenarios. The goal of this program is to enhance patient and visitor safety by improving staff’s knowledge, teamwork skills, confidence and communication during an emergency situation. An evaluation form is given to staff following the drill to assess comfort level and attained knowledge post drill. The evaluation was used to give the team insight on improvements for upcoming drills, increased awareness of emergency equipment, and proper documentation needed for each event. Positive feedback led to the program’s growth. A nurse-led initiative was developed in response to expressed anxieties and lack of comfort by staff related to their role in emergency management. By implementing drills, staff is prepared, can identify and respond to situations while interdigitating safety goals of both a comprehensive



cancer institution and the Joint Commission. Drills were designed to practice skills, improve knowledge, and build self-confidence in a safe and controlled environment. It is an adaptable strategy that can improve patient safety and team cohesiveness during emergencies in the outpatient oncology setting. Team planning continues with bi-monthly meetings, scenario development, and monthly drills with staff. A successful emergency drill team encompasses organization, clearly identified roles, and frequent team practice in the form of planned scenarios.

### 363

#### **A HYBRID ONCOLOGY CERTIFICATION REVIEW COURSE: AN INTERVENTION FOR INCREASING CERTIFIED NURSES**

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In the *Clinical Journal of Oncology Nursing (CJON)*, Brown et al. (2010) stated that oncology nursing certification demonstrates that a nurse has the expertise to competently care for patients with a diagnosis of cancer. "By supporting, rewarding, and recognizing oncology nursing certification, employers can encourage nurses to become certified and maintain certification." Huntsman Cancer Institute (HCI) is a 200 bed NCI designated hospital that provides over 167,000 outpatient clinic visits annually. In early 2016, only 22% of nurses were oncology certified despite the available financial support for exam reimbursement and a review program conducted in a study group format. Pre-intervention survey indicated that staff preferred oncology certified educators and content experts to provide a structured review program rather than participating in study groups. The purpose of this intervention is to increase the number of oncology certified nurses by providing support and resources in preparation for the Oncology Certified Nurse (OCN) exam. Course content was determined by conducting a hospital-wide survey to identify the topics nurses found most challenging. When the program was restructured, a hybrid design was selected using a combination of in-class sessions and online asynchronous self-study components. In the fall of 2016, the first course was implemented, then offered bi-annually. The course was three hours per week for 6 weeks. Content was developed by a Masters prepared educator with extensive oncology experience and was instructed by oncology certified nurse educators. Class materials were available on an online

platform and included additional resources for topics not addressed in the in-class sessions. The Human Resource Department and the Oncology Nursing Certification Corporation provided data on total number of nurses and OCN exam status, respectively. After one year, there was a significant increase of oncology certified nurses from 22% to 27%, and an additional 3% of nurses had submitted the exam application and were awaiting test date notification. Structured classes provided by oncology certified educators combined with an online asynchronous component may better support nurses in obtaining their OCN versus a traditional study group. This intervention will ultimately improve patient outcomes and the quality of nursing care for oncology patients.

### 364

#### **ESTABLISHING A COMMUNICATIONS PLATFORM TO COORDINATE MULTIMODALITY CANCER TREATMENTS**

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Coordination of care can be especially difficult when patients receive multimodality oncology treatments from different providers, facilities, at different times and based on various protocols. As of the Fall quarter 2017 at the Moore's UCSD Cancer Center, (one of 69 NCI-designated Cancer Centers), the GI practice on average added 10 new patients diagnosed with GI malignancies, requiring multimodality treatment regimens including chemotherapy and radiation therapy. For patients to receive care as prescribed, patient care required comprehensive coordination. Therefore, GI medical oncology nurse case managers (NCMs) determined that providers needed a more cohesive communication platform. To address the ongoing need to improve coordination communication, NCMs representing medical and radiation oncology designed a GI practice Communications Needs Assessment to determine effective strategies to improve coordination of patient care. GI NCMs and mid-level providers (NPs; PAs) provided responses (n = 15) to a Survey Monkey<sup>®</sup> survey to address communications challenges and establish a platform for Best Practices to coordinate and deliver GI multimodality care. Survey respondents endorsed the following strategies as a platform to improve communication and coordinate care: GI medical/oncology and radiation/oncology NCM's will meet weekly via Skype. A shared internet-based excel spread sheet will be created as a master document to coordinate medical and radiation oncology patient treatment schedules. Medical and radiation oncology NCMs will coordinate patient

education resources as well as collaborate on newly written patient education materials. These strategies were rated on a Likert scale as to need, anticipated effectiveness and barriers to implement. In addition, Survey respondents provided additional recommendations to improve coordination of multimodality patient care. At 4 months post implementation of the platform strategies, GI NCMs and mid-level providers were resurveyed (n = 12). Providers rated the four strategies as improved or much improved for ease of use, effectiveness and impact on coordination of patient care. A comprehensive needs assessment drives the components of a focused and effective communication platform to improve coordination of care. The needs assessment and accompanying communications platform serve as a Best Practices template for other practices that are challenged to coordinate multimodality care.

### 365

#### PROFESSIONAL PRACTICE NURSES AND ONCOLOGY CLINICAL EXPERTISE SUPPORT

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Historically, the Clinical Nurse Specialist (CNS) has been a primary resource for staff nurses in oncology departments in hospitals and outpatient settings. The three primary foci for CNS roles have been research, quality of care improvement, and education in oncology care delivery. National closures of academic CNS programs have had a detrimental effect on the ability of organizations ability to hire and maintain a full complement of CNS staff and support nursing excellence. A strategy was established by an outpatient comprehensive cancer center to address this deficit with the creation of a professional practice team of clinical experts, known as Professional Practice Coordinators (PPCs). Nurses from a representative cross section of oncology care partnered with the department of Clinical Education, Practice and Research to collaborate on: Improving standard work flow for patient care, facilitating an effective and efficient orientation process, addressing economic factors (e.g., overtime and turnover), and overseeing the creation, approval, and updating of nursing policies and procedures. PPCs have been able to identify clinical

issues, work with their managers, and collaborate with other staff members to improve practice. Each of the PPCs is responsible for educational and professional development within their department. They also work as a team on larger cancer center wide quality improvement and clinical inquiry projects. Clinical and professional education for the PPCs is provided by the Clinical Research, Education and Practice Department. Dissemination of best practices and findings are supported in PPC and staff attendance at local, regional, national and international conferences. Collaboration across specialties and with other cancer centers is an expectation which enriches oncology expertise, and improves patient outcomes. PPC work has resulted in measurable organizational benefits: a. the submission of abstracts for conference presentations by staff has increased 25%; b. provision of consistent integrated clinical resources; and c. standardization of staff orientation. PPCs represent a novel nursing collaborative driving the creation and implementation of evidence based oncology practice and inquiry.

### 366

#### MAINTAINING CHEMOTHERAPY NURSE COMPETENCY IN A HIGH RISK, LOW VOLUME SETTING: COLLABORATING WITH A LOCAL INFUSION CENTER

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Problem identified that chemotherapy certified nurses in a local community hospital experience low volume of intravenous, intramuscular, and subcutaneous chemotherapy with high risk patients. This resulted in a lack of exposure to hands-on experience and lack of confidence associated with chemotherapy administration. PDSA process used to address this problem. The purpose of this quality improvement project was to improve the confidence level of chemotherapy certified nurses with chemotherapy and the administration process through standardizing the process for developing chemotherapy administration competencies. Collaboration was formed with the local infusion center associated with the hospital to increase the experience of the direct care nurse with large volumes of daily chemotherapy. The plan involved the nurse completing an ONS Chemotherapy and Biotherapy course and included; hospital specific policies and management of the acute oncology patient. The nurse is then required to apply this knowledge during an eight hour day at the infusion

center where they would be administering chemotherapy directly with an infusion nurse. After the first eight hour day, annual four hour competencies are completed at the infusion center. Ongoing oncology specific continuing education through online journals is also required to maintain chemotherapy certification. The outcome variables of the effectiveness of the process are shown through completion of competencies and measurements of staff confidence through interviews and questionnaires. The problem was identified that inpatient chemotherapy certified nurses are responsible for administering chemotherapy to high risk patients throughout the institution but were not experiencing enough volume to maintain confidence with process. The interventions were developed and implemented to standardize the education process, offer more hands-on experience, and improve confidence with chemotherapy administration. In turn, it also fostered a collaborative relationship with the infusion center which staff are now used regularly as a resource. Staff interviews were conducted to study the effectiveness of the process. Based on the interviews the implementation was modified. Continuous quality improvement is ongoing.

### 367

#### CAR-T CELL EDUCATION FOR ICU AND BMT NURSES

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Implementing an Immunotherapy program requires education of all of the nurses who will care for these patients during therapy. Education is a challenge when there is little published information. Chimeric Antigen Receptor T cell (CAR-T cell) therapy is rapidly developing for the treatment of lymphoma and other cancers where there are limited options available. Because this is a therapy that is evolving from the bench to the bedside is limited oncology nursing literature published with no information for intensive care nursing. To provide information to the oncology and intensive care unit (ICU) nurse specific to evolving immunotherapy, possible complications that may occur as a result of receiving immunotherapy and what assessments and therapies are appropriate to minimize adverse outcomes. A four-hour class was created and offered to the bone marrow transplant (BMT) nurses and the medical intensive care nurses

who care for these acutely ill oncology patients. This course reviewed the immune system, previous immunotherapy categories available on the market, and what unique benefits CAR-T cell therapy can offer. Adverse events that have been common to this population were discussed and current best practices for managing these events were presented. Research trial information including the purpose and goal of phase I and II trials were reviewed for the bedside nurses' understanding. Pre and post-test performed to evaluate understanding of the information presented. Medically published literature, YouTube videos, and phone calls to other institutions were used as the sources for information for this course. Nurses who were studying for an oncology certification developed some topics to present. Nurses from both BMT and ICU felt prepared to care for our CAR-T cell trial patients. Education is a challenge when new therapies are introduced into practice. Oncology education for the ICU has been particularly challenging. Just-in-time education when patients who are coming to the unit on research therapies during an acute care crisis is not an ideal time to educate on these new therapies. Pre and post-test scores were evaluated to test for learning. Average pre test scores were 53% and average post-test scores were 85%. After two-months of CAR-T cell therapy patients, nurses reported they had received adequate education to care these patients.

### 368

#### PRE-TRANSPLANT EDUCATION PERFORMED BY A DESIGNATED PATIENT EDUCATOR: CAN THIS IMPROVE KNOWLEDGE, BEHAVIOR, COMPREHENSION, AND SATISFACTION FOR BONE MARROW TRANSPLANT PATIENTS?

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A bone marrow transplant (BMT) can be a life-altering procedure for patients and their caregivers. Receiving, understanding, and applying knowledge acquired through proper education before, during, and after transplant are vital for optimal outcomes. The patient educator will provide up to date, evidence-based, individualized education related to BMT with the goal of improving patient satisfaction, optimizing understanding, reducing readmissions, and improving patient outcomes. This interventional study examined the impact a pre-transplant education class given to BMT patients and their caregivers at the University of Alabama at Birmingham Hospital (UABH) has

on improving their knowledge, satisfaction, and level of distress with the transplant process. Researchers also identified the impact formal pre-transplant education has on bedside nursing work time used to educate patients at the time of admission. The UAB BMT administrative leadership team committed to a change of practice for the program by seeking approval for the addition of a new position to provide the specialized education and making attendance to the class mandatory for patients. An Institutional Review Board for Human Use was approved September 2017. The BMT patients their caregivers received a Likert style questionnaire to complete before and after attending a pre-transplant education class. The questionnaire provided data used to measure the statistically significant improvement in knowledge levels pre-intervention and post-intervention. Patients received the National Comprehensive Cancer Network's (NCCN) Distress Thermometer and Problem List for Patients before pre-transplant education and one month after their transplant to measure their perception of distress during the transplant process. Press Ganey<sup>®</sup> Hospital Consumer Assessment of Health Plans Survey (HCAHPS) provided objective data to measure patient satisfaction, which illustrated a 33% improvement in communication about medications. Bedside nurses received a survey to measure their perception of the impact on nursing work time and their feedback provided the summary for this result. BMT patients and caregivers treated at UABH perceived an improvement in their knowledge, satisfaction and distress levels following the administration of a pre-transplant educational class. Sustained and ongoing multidisciplinary involvement evaluating each aspect of educating patients and caregivers of the BMT process should continue to be a focus of transplant programs in an effort to improve outcomes and reduce costly readmissions for this specialty patient population.

### 369

#### **DEVELOPING A HOLIDAY TIME-OFF SCHEDULING METHOD FOR NURSING STAFF IN AN OUTPATIENT ONCOLOGY TREATMENT CENTER**

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Delivering high quality care to the oncology population while supporting staff to achieve an acceptable home-life balance is an ongoing issue in the nursing profession, and often reaches its peak with Holiday

Season scheduling. In a high volume Oncology Treatment Center (OTC), the Thanksgiving, Christmas, & New Year's schedule is often difficult for management to balance meeting the needs of staff while still achieving an appropriate workforce for patient care. The goal was to develop a method that would increase the probability of delivering a staff satisfying Holiday schedule, increase overall nursing staff numbers, and increase nurse to patient ratio. A Work Culture Committee was created with the unit's Clinical Operations Director (COD) and eight nurses to collect staff feedback. Staff verbalized the current holiday system was "unfair" and "difficult to get time off". An initial staff survey assessed the level of satisfaction with the current scheduling method, their perception of staffing adequacy, and work-life balance. Using survey results, the committee developed a new holiday scheduling approach which was approved by the COD. The new holiday format method was introduced to staff for feedback via staff meeting. With these suggestions, a new holiday schedule was developed to meet the needs of the unit. Analysis showed greater benefit using a four group holiday scheduling method instead of the three group method previously used. For example, group one received the week of Thanksgiving, group two Christmas, group three New Year's, and group four could choose any non-holiday week from November to January. The four groups rotate yearly to alternate assigned holidays. Creating four Groups resulted in less staff requesting the same time every year and increased the ability to approve more staff their holiday time off. Implementing these new changes has been positive for staff satisfaction. A post survey sent to staff showed a 26.67% increase in staff satisfaction and 100% of staff believe the new method is fair. The average staffing numbers during holiday week increased from 15 to 19.6 and the nurse to patient ratio decreased 1.8 to 1:7. This has been a positive change for our unit. We will continue to implement this holiday model in the future, while continuing to monitor staff satisfaction, staffing numbers and patient volumes and adjustments accordingly.

### 370

#### **EVALUATION OF A NEW LEUKEMIA STANDARDIZED EDUCATION PROGRAM FOR INPATIENT ONCOLOGY PATIENTS**

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About 363,794 people are living with leukemia in the United States. Research demonstrates that specialized nurse-led, patient-centered education programs impact a patient's understanding of disease process and symptom management. The nurse-led acute leukemia education in our institution was not standardized. The purpose of this project was to evaluate a process improvement project that standardized education for newly diagnosed acute leukemia patients on an inpatient oncology unit. Two patients completed a survey that assessed preferred teaching methods and understanding of treatment related side effects at time of consolidation. Twenty-two nurses (37% response rate) completed a nine, 5-point Likert item survey that assessed staff perceptions of leukemia education. Based on pre-survey results, inpatient nurses developed a multifaceted patient education program using a disease trajectory approach. Handouts were created by staff or assembled from an electronic database. Staff were educated on the curriculum via huddles and mandatory education. Thirty-six patients completed the education program over a 7 month period, with 10 patients completing the post intervention survey. Post-implementation, most patients reported being informed/very informed about diagnosis (100%), medications (100%), future treatment plans (90%) and complications (100%). Only 72.7% of patients reported being informed or very informed about intimacy ( $\mu=3.82$ ). A convenience sample of 22 clinical nurses completed the post survey (46% response rate). Mann-Whitney U was used to compare pre and post nurse survey results. Post-implementation, nurses were significantly more likely to agree with the following compared to pre-implementation: patients can explain neutropenia ( $U=158.0$ ,  $p = .012$ ), staff can find education handouts ( $U=153.0$ ,  $p = .029$ ), and patient education is consistent ( $U=66.5$ ,  $p = .000$ ). Nurses also reported patients were significantly more prepared regarding infection ( $U=6.0$ ,  $p = .000$ ), intimacy ( $U=140.0$ ,  $p = .012$ ), central line care ( $U=141.5$ ,  $p = .007$ ), and the treatment plan ( $U=142.5$ ,  $p = .014$ ). The means for intimacy and thrombocytopenia were low ( $\mu=2.55$  and  $3.77$ , respectively). Survey responses demonstrated that nurses provided consistent disease management information using the standardized education program. Patient and nurse surveys demonstrated improvement opportunities regarding information on intimacy and thrombocytopenia. The curriculum is being revised to address these improvement opportunities. This standardized program

should be evaluated using a research perspective for its usefulness in and be considered for adoption in other hospitals or adaptation for other hematology populations.

**371**  
**USING SOCIAL MEDIA TO REDUCE CANCER DISPARITIES**

**Jacqueline Miller, RN, BSN, OCN®, Virtua, Medford, NJ**

The color of your skin or your zip code should not determine if you survive a cancer diagnosis. Unfortunately, cancer disparities continue to exist. One of the key challenges is access to quality cancer screening services. To improve access to screening services, Virtua initiated mobile mammography services to our distant communities. We identified that mailing flyers and posting in church bulletins was not sufficient to notify the widespread community. Starting a page on Facebook "Virtua: Free Cancer Screenings" and strategically focusing our ads to uninsured women, 40-64 years, within 10 miles of each event increased awareness and participation in breast cancer screenings. As our network expanded, we added cervical, colorectal, and prostate cancer screening education in our posts. We have reached thousands of people with our page and significantly increased cancer screenings for uninsured neighbors. The purpose of this presentation is to share our process and lessons learned from using social media to increase participation in cancer screenings. Our hope is to encourage all cancer programs to actively participate in social media in offering screening services to underserved community members. Initiating a Facebook page required meeting with the Virtua social media department to discuss goals and limitations. Administrators and responsibilities were determined. Development included naming the page, our contact information, a link to our webpage, and creating events. Each mobile mammogram event is posted. Cancer screening educational information is posted on off weeks. Other local groups were identified, and sent requests to allow us to join to increase our viewing audience. A list of community partners was developed and we routinely send private messages them to request they "share" our events. Evaluation is completed weekly. Metrics include the number of women who completed a mammogram and the number of views, shares, and comments on each posting. Our events have reached over 50,000 community members in the last 6 months. Our educational posts have reached over 2,000 community members in 3 months. The implication for oncology nurses is to realize the power of

using social media to promote cancer screening and prevention. Over 1 billion people are on Facebook. However it is underutilized for cancer education. Starting and maintaining an active page can reach a widespread audience and improve cancer survival rates for all.

### **372** **ENHANCING EDUCATION THROUGH DEVELOPMENT OF A PATIENT AND FAMILY RESOURCE ROOM**

**Patricia Monk, RN, BSN, OCN<sup>®</sup>, Penn State Health Hershey Medical Center, Hershey, PA; Mary Jo Carrillo, RN, BSN, OCN<sup>®</sup>, Penn State Health Hershey Medical Center, Hershey, PA**

Providing standardized education to patients and families can become a challenge on busy acute care units. An informal assessment indicated that education was not being delivered and documented in the patient's chart consistently. A hematology/oncology unit-based shared governance Education Council at a large, academic medical center designed a patient and family resource room in response to this gap. The room was designed to help facilitate standardized education for admitted patients and their families as part of a unit goal to reduce unnecessary readmissions through timely education. The room was designed to be quiet, private, comfortable area for patients and families to access educational materials. The design promotes self-guided learning, without the need for nurse presence, which has allowed for sustainability over time. The education intent of the room design was to provide consistent hematology/oncology evidence based education to help patients and families cope and manage their disease process, including prevention and treatment of side effects, treatment of their disease, and the ongoing journey of cancer care. Standardized education materials were developed and delivered on specified days of the week, to include topics such as mouth care, pain management, chemotherapy safety at home and central line care. Members of the unit education council developed slide presentations on each of the chosen topics to be played continuously throughout the day. Other designated written materials from the National Cancer Institute and The Leukemia and Lymphoma Society were utilized as supplements. The schedule of the topics is provided to patients and families upon admission and reviewed by the admitting nurse. The topics for the day is placed on the communication board in the patient's room by the day-shift nurse each morning. The presentations are announced daily, as a reminder,

by the unit secretary over the unit intercom system. Additional written materials, fact sheets, and booklets on various hematology and oncology topics are also available in the room to anyone who visits. A survey is provided to patients and families to complete. The survey evaluates the topics presented, delivery method of content, and what they would like to see incorporate as education. The evaluation of this process is ongoing. Readmission reduction continues to be a unit goal with various interventions in place as data is being collected.

### **373** **END-OF-LIFE SIMULATION FOR THE NOVICE NURSE**

**Nicole Munday, BSN, RN, OCN<sup>®</sup>, University of Kansas Hospital, Kansas City, KS; Jamie Leopold, BA, BS, BSN, RN, OCN<sup>®</sup>, University of Kansas Hospital, Kansas City, KS; Coralie Pickert, BSN, RN, OCN<sup>®</sup>, University of Kansas Hospital, Kansas City, KS**

This simulation was created in response to new oncology nurses reporting that they were uncomfortable caring for the dying patient. End-of-life education in nursing school is inconsistent and has minimal hands-on learning. This activity gives participants an active learning opportunity to improve confidence when caring for their first dying patient. This opportunity was incorporated into our health system's Nurse Residency program. The end-of-life simulation was created to give novice nurses exposure in caring for the dying patient. The purpose is to use kinesthetic teaching, in combination with didactic teaching, to optimize learning and amplify confidence and competency in caring for these patients. Oncology nurse residents attend a didactic session on how to care for the dying patient which included signs of the dying process, symptom management, cultural considerations, and appropriate methods to communicate with family. Groups of 2-4 participate in two simulations: the first focuses on the care of the actively dying patient and the second focuses on post-mortem care. Both simulations also incorporate cultural considerations. Each group participates in the simulation while another group watches. Structured debriefing is conducted after each simulation to synthesize learning from the scenario, and the groups then rotated. A survey using Benner's Stages of Clinical Competence is collected prior to and after the learning experience. The survey asked about confidence and skill in caring for the dying patient and communication with the patient's family. Pre-learning data identified a need for additional education for

the novice nurse. Post-simulation results are pending and will be analyzed after all simulations have been completed. Informal feedback has been positive with nurses stating increased confidence in care of the dying patient. Our expected outcomes include an increase in knowledge in identifying the signs and symptoms of the dying process, increased comfort in providing symptom management and providing post-mortem care, and higher self-reported skill level in communicating with the family of a dying patient. Simulation is a teaching strategy shown to enhance learning for nurses. This is the first time our hospital has combined simulation and end-of life-teaching during orientation and nurse residency.

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## LEADERSHIP/MANAGEMENT/EDUCATION POSTER SESSIONS—SATURDAY

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**374**

### INTEGRATING CANCER-RELATED EMPLOYMENT ASSESSMENTS INTO ONCOLOGY NURSING CARE

Rebecca Nellis, MPP, Cancer and Careers, New York, NY; Joanna Morales, Esq., Triage Cancer, Culver City, CA

Approximately 50% of cancer survivors are “working age” and, when faced with a diagnosis, must often address the central question of whether and/or how to continue working through treatment, take time off, or return to work. The Institute of Medicine (IOM) has called on healthcare teams to address the whole patient and warned that failing to address employment and financial concerns may increase suffering, and threaten a patient’s adherence to prescribed medications and overall return to health. Oncology nurses who have received the appropriate training are uniquely positioned to assess patients’ employment-related needs, and identify essential information and resources for balancing work and cancer that can help improve both job-related and health outcomes. However, there is a gap in formal education related to this topic, and professionals themselves indicate a gap in understanding and lack of awareness of relevant resources. To address this significant knowledge gap, a unique and innovative training was specifically developed to help oncology healthcare professionals better understand the workplace concerns of individuals diagnosed with cancer and how they can help to address those concerns. Navigating Cancer: Work & Insurance is a full-day, in-person training that provides up-to-date practical and legal information

and tools to help guide patients in balancing work and cancer treatment. These issues include deciding whether to disclose their diagnosis to an employer, working through treatment and/or taking time off, returning to the workplace, maintaining both income and insurance, and more. Interactive group exercises and case studies are used to simulate the experience of the patient to help attending oncology professionals put learning into practice. To date, this training has been presented 39 times in 35 states, to 1,045 participants. For every session, attendees complete a pre-training assessment and post-training evaluation. In addition, in 2016, a post-intervention survey of 2015 participants was conducted to learn more about the impact the training was having on a community level. Among respondents, 96.5% felt better prepared to talk with patients about work and cancer than they did prior to attending; 84.2% said they initiate conversations with patients about the impact of work and cancer more frequently; and 73.7% indicated using the information provided in working with patients at least monthly, with 47.6% of that group using the information at least weekly.

**375**

### LEVERAGING PERFORMANCE IMPROVEMENT METRICS AND ENGAGEMENT STRATEGIES TO MANAGE THE DEVELOPMENT OF MULTIDISCIPLINARY DISEASE-BASED CLINIC AND TRANSFORMATION OF THE CARE TEAM MODEL TO IMPROVE THE PATIENT EXPERIENCE IN AN AMBULATORY ONCOLOGY WOMEN’S CLINIC

Dawn Neuhauser, MSN, RN, NEA-BC, OCN®, City of Hope Medical Center, Duarte, CA

With the shift of oncology care to the ambulatory setting, the need for processes to best manage coordination of care and patient navigation became paramount in providing timely, comprehensive care. The rapid growth of ambulatory care in this setting resulted in Women’s disease based services being spread across the campus, creating a disconnect within the program and less than desired experience for patients. A multidisciplinary disease based clinic for Women’s Cancers was opened to provide comprehensive services to our patients. Concurrently, a strategic plan was devised to integrate a care team model intended to create team alignment and to clarify role responsibilities. The purpose was to transform the multidisciplinary care delivery model to improve the patient experience journey for our oncology patients. Interventions: Introduced Nurse

Care Coordinator role to organize care around our disease team model. Mapped the ideal patient experience journey and identified gaps between current roles and responsibilities and desired standard work for care team members. Developed a staffing plan including required competencies and educational needs. Introduced a triadic leadership framework comprised of physician, nursing and service line leaders and a communication model utilized to drive the transformation of the care delivery model to improve the patient experience. Leadership team utilized performance improvement model and metrics in conjunction with engagement strategies to track and evaluate progress. Communication model allowed for bidirectional movement of information between leadership and staff on the ground. Key performance metrics were identified and tracked for completion or improvement. Targeted patient satisfaction and staff engagement scores were monitored during implementation to determine impact of change. Developing an integrated triadic leadership structure has helped align all disciplines within the clinic on key initiatives and increase accountability for program development. Staff engagement created a strong sense of ownership, inclusion in decisions and outcomes, influenced patient and staff satisfaction, and enhanced team relations. It is not enough to share data; we must engage various disciplines in refining that data in order to transform it into meaningful information. Creating forums to solicit feedback and ideas from the bottom up, and cascade enterprise wide initiatives from the top down is critical for fostering engagement.

### 376

#### ENGAGING AND EMPOWERING NURSES IN THE OUTPATIENT SETTING THROUGH SHARED GOVERNANCE

Lynne OConnor, MSN, RN, Hillman Cancer Center, Pittsburgh, PA; Georgia Colangelo, BSN, OCN®, RN, Hillman Cancer Center, Pittsburgh, PA

Shared governance among nurses and the organization plays an important role of engagement, empowerment, and retention of nurses. Shared governance has been shown to empower nurses in direct patient care to make decisions about their practice which ultimately leads to an improved patient experience. Additionally, there is compelling evidence that shared governance in an organization helps to develop future leaders by being recognized by leadership and by developing an understanding of the “big picture”. This leads to a natural progression into a leadership role. Introducing shared governance at the

Hillman Cancer Center was a vision of the leadership team. The purpose of the project was to establish a Professional Practice Council (PPC) at the Hillman Outpatient Cancer Center in order to help integrate, engage and empower nurses. The Hillman Cancer Center is an outpatient center that delivers cancer care to its patients. Key staff members were identified by the Senior Director and Unit Directors to help establish the council. The council members elected officers, defined the mission statement, ground rules, and by-laws. The goal of the PPC is to implement one successful project a year. Some interventions were needed. The first year, the group had a few failed projects and became discouraged. The PPC had to re-organize, add new members and replace negative and disengaged members. The first successful project was the implementation of emergency room fast track cards. These cards are given to oncology patients in order to facilitate flow and triage of the oncology patient who reports to the emergency room. Subsequent projects of the PPC include: the development of the nurse education fund, the addition of a celebration bell, the implementation of the “Journey through Treatment” patient education classes, and the construction of a respite room for nurses. The projects implemented by the PPC have made a positive impact on both the patient and nurse experience. The founding of the PPC has also helped to identify nurse leaders in the institution. The result of the success of the PPC has led to the establishment of the Quality and Safety Council and the Evidence Based Practice Council. The success of the PPC in the outpatient setting confirms that it is imperative for hospitals to encourage shared governance in the outpatient arena.

### 377

#### INTRODUCING EVIDENCE BASED PRACTICE TO THE NEWLY HIRED OUTPATIENT ONCOLOGY NURSE

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In 2016, 100 nursing leaders attended a week long evidence based practice (EBP) immersion workshop and were charged with inspiring a spirit of inquiry at our institution. Key factors in creating this culture are leadership support and belief in the value of EBP to improve healthcare quality and patient outcomes. The CNS (Clinical Nurse Specialist) and nurse manager of an outpatient hematology unit identified an opportunity to educate nurses during orientation to enculturate these behaviors early. The goal was to



have early integration of EBP skills into the nurse's routine by engaging new hires during the orientation process in a structured way. During the first two weeks of orientation the orientee meets with the CNS to review library resources, search strategies and PICOT question development. The orientee is encouraged to look at nursing practice with "fresh eyes" and question established practice. The orientee learns to query the literature and rely on evidence to support clinical practice. During bi weekly meetings with the Preceptor, Nurse Manager, CNS and Nursing Professional Development Specialist the orientee presents an article of interest. Orientees begin developing a PICOT question around week 6 with assistance from the CNS. The question is refined and finalized by the completion of orientation. The orientee then uses this question to search and appraise the literature. Orientees are expected to give a presentation based on the evidence within 3 months after orientation. 19 RNs were on boarded July 2016–August 2017 with a 98.5 % retention rate. 75% of the RNs completed the EBP presentation within the 3 month post orientation period. Final presentation will include summaries of EBP work completed by new hires, staff feedback on the EBP process, and resources utilized in the program. Inspiring a spirit of inquiry in oncology nurses is essential to respond to rapidly changing advances in patient care and technology. The organizational culture needs to support the practice of routinely asking clinical questions and changing practice based on evidence. The integration of EBP competencies into the orientation process is a method to encourage early adoption of the desired practice.

### **378** **PORT-A-CATH COMPETENCY STREAMLINES STANDARD OF CARE**

**Kimberly Overman, RN, Duke Cancer Institute, Duke University Health System, Durham, NC; Pansy Ford-Simon, RN, BSN, OCN®, Duke Cancer Institute, Duke University Health System, Durham, NC; Mary Ann Plambeck, MSN, RN, OCN®, NEA-BC, Duke Cancer Center, Durham, NC; Kimberly DeBaun, BSN, RN, CNML, Duke Cancer Center, Durham, NC**

Oncology patients with implanted port-a-catheters historically had labs drawn in multiple areas. Due to inconsistencies and competent staff availability, many patients had to undergo peripheral lab draws. This created confusion and frustration and was reflected in patient satisfaction, staff work culture surveys, and physician feedback. The purpose was to establish: (1) an oncology nurse team designated to consolidate care

of oncology patients with ports, (2) centralization and standardization of nursing port access competency training. Recent cancer center construction permitted the allocation for individual port nurse rooms adjacent to 9 phlebotomy stations; by policy, these were removed from high traffic areas to minimize infection risk. Nursing roles included: accessing ports, drawing standard of care labs, and providing protocol flushes. Originally our hospital-based Vascular Access Team (VAT) provided "shadow" experiences during nursing orientation; this yielded inconsistent practices demonstrated during annual competency validation and patient dissatisfaction. To improve practice, we developed a partnership with VAT that resulted in updated IV policy/competency documents and revisions to port access kits. Cancer Center Leadership facilitated non-oncology access to training. With excitement, we faced high patient volumes from centralizing port patients, more than originally anticipated. Within one year of opening, we doubled our FTE-base from 3 to 6 RN's and added an NCA with phlebotomy skills. Currently, our daily port volume averages 70 patients with wait times of <10 minutes. Within 2 years, and in addition to all oncology clinic and in-patient nurses, we have established 79 competent super-users in the emergency department and several outpatient hospital-based clinics/procedural areas, such as peri-op, endoscopy and echocardiography. An unplanned staffing outcome was utilizing several super users in a secondary role to cover port vacation needs. The establishment of an Oncology Port Access Program has been highly successful resulting in both patient and staff satisfaction, and reductions in adverse events including need for peripheral venipunctures. As a result, the centralized location permits one to develop a special skill set from repetitive accessing under direct observation, while optimizing patient care and standardizing initial and subsequent annual competence. Our nurses are recognized as a resource for patients, staff/providers, and super-users. Areas for growth include establishing a patient education process for pre-port insertion and opportunities for point-of-care troubleshooting in clinics.

### **379** **ESTABLISHING AN EDUCATION PACKAGE FOR NON-SPECIALTY ONCOLOGY NURSES TO IMPROVE PATIENT CARE**

**Celine Palmiter, RN, BSN, OCN®, UCSD Moores Cancer Center, La Jolla, CA**

As of summer 2017, the Moores UCSD Cancer Center provides ambulatory care treatment and

support services for 70,000 oncology patients per year. Among the 15 Moores divisions, the GI team is one of the busiest with 22 oncologists (9 medical and 13 surgical), providing care to approximately 1,300 new patients and 10,800 returning patients per year; on average 45 patients are evaluated in clinic per day; on average Nurse Case Managers (NCMs) address and coordinate 15–20 PEP interactions/day (PEP = Phone, EPIC in box, Pager). Coordinating care for GI oncology patients can be difficult due to the complexity of side effects and varying treatments for specific GI cancers. To educate and support non-GI NCMs (per diem NCMs) who cover GI practices, the GI NCMs determined that an up-to-date, comprehensive clinical Education Package provides a clinical resource for covering NCMs. To establish the Education Package, the project was divided into three Parts. Part I consisted of GI NCMs surveying Moores GI providers (GI NCMs, PA/NPs) via a Survey Monkey® survey. Part II evaluated the survey responses (Part I), establishing the Education Package (Version 1) with content considered most beneficial to non-GI NCMs covering GI practices. Part III involved non-GI NCMs using and evaluating the Education Package (Version 1), providing input on content, ease of use and perceived improvement in patient care. To evaluate Version 1 (Part III) of the Package, the non-GI NCMs (n=7) provided the following responses: greater than 90% considered the education package easy to use, greater than 90% provided comprehensive content and value and greater than 80% perceived improved patient care. After reviewing responses from non-GI NCM (per diem) colleagues, the GI NCMs revised the Education Package (Version 2), incorporating non-GI NCM recommendations. The Education Package (Version 2) is now in use by any non-GI NCM, covering GI practices. In 6 months, the Education Package will be evaluated again, ensuring it is up to date and effective. Input received during the final evaluation will establish the Education Package (Version 3) and serve as a template for developing Education Packages for other specialty practice coverage.

### 380

#### **COMMUNICATION SKILLS TRAINING FOR HEALTH CARE PROFESSIONALS UTILIZING SIMULATION-BASED CURRICULUM TO IMPROVE QUALITY AND SAFETY IN PATIENT CARE**

**Diana Pasqua, BSN, RN, OCN®, NYU Winthrop Hospital, Mineola, NY; Patricia Janicke, BSN, RN, CNRN, SCR, NYU Winthrop Hospital, Mineola, NY; Margaret**

**Deere, BSN, RN, OCN®, NYU Winthrop Hospital, Mineola, NY; Doreen Powers, RN, OCN®, NYU Winthrop, Mineola, NY; Sean Cavanaugh, BA, NYU Winthrop Hospital, Mineola, NY**

The purpose was to create a simulation based curriculum to improve the skills of the interprofessional health care team, with an emphasis on improving communication skills. The goal is to utilize pre and post tests to measure the knowledge gain of communication skills of the clinicians who work in the oncology setting. Communication between the patient, family and clinicians is a critical component of high-quality, safe care. There is compelling evidence from the literature demonstrating that good, patient-centered communication is associated with many important and meaningful health outcomes, including adherence to drug regimens, pain control, patient satisfaction and physical health outcomes. Patients with cancer report unmet communication needs for information about the extent of disease, prognosis and treatment options, intent and adverse effects. The task of breaking bad news can be improved by understanding the process involved and approaching it as a step-wise procedure, applying well-established principles of communication and counseling. An inter-professional team met to create the curriculum for the education day. The education planners created case studies utilizing a standardized patient to have the staff demonstrate effective communication skills when discussing difficult news with an oncology patient. Each of the case studies had different communication tasks for the clinician to review. Prior to participating in the simulated case study with the standardized patient, the staff attended an educational workshop that discussed a step wise process on how to discuss delivering bad news to patients. The staff was provided education regarding the “SPIKES” protocol which is an acronym for a six step protocol for discussing bad news to cancer patients. All staff that attended the program were given a pre test and post test to measure the knowledge gained at the Oncology education day. There is compelling evidence that shows that good, patient-centered communication can improve patient outcomes. The current literature reflects that there are not many formal communication training programs and opportunities for improvement have been identified. If the results from the pre and post tests for this Simulation education program demonstrate knowledge gained regarding communication skills, than this can help improve the communication skills of the oncology health care team and hopefully improve patient outcomes.

381

### THE BOTTOM LINE: THE ABILITY OF THE NURSE LEADER TO IMPACT REVENUE

Bonnie Paternoster, MSN, RN, CNML, Moffitt Cancer Center, Tampa, FL

There is an increasing demand for nursing leaders to provide exceptional care while focusing on workflow design in order to improve efficiencies and reduce cost. While reviewing our charge reversals, late charges and projected revenue it was apparent that there were opportunities for improvement. For example, our charge reversals were at 11%, late charges were above 5% and projected revenue based upon actual volumes was close to \$600,000 below budgeted projections. To begin to address these issues, a partnership among key stakeholders in the Finance Department and the nurses in the Infusion Center was formed. Next, multiple interventions were done that included: chart audits to examine the reversals, review of the charge ticket itself as well as the nurses understanding of how to use it, followed by a review of the nurses understanding surrounding necessary documentation to support charges and where it should be done. Based upon the findings, targeted education took place that included: training for the Finance team to ensure that they understood where to look for supporting documentation in the patients chart before reversing a charge, training for the nurses so that they understood what was needed to support various charges and where to document it, followed by a revision of the charge ticket itself to make it more user-friendly for the nursing staff. Additionally, it was discovered that a few of the Finance team members did not have the necessary access to be able to view the nurse's documentation in the patients chart; IT was contacted and the necessary security was granted. Graphs were developed and the information related to each of these areas was shared with the Infusion Center staff on a monthly basis. We quickly began to see improvements in all areas. After 12 months, the results of these efforts revealed an 8% decrease in charge reversals, a 3% decrease in late charges and \$136,452 above budgeted revenue projections based upon actual volumes. In conclusion, it evident that nursing leaders must have an in-depth understanding of their budgets and how they can make an impact. Ongoing discussions and formal partnerships with colleagues in Finance will be critical to ensure the nurse leader's ability to control costs while also looking for opportunities to increase revenue.

382

### ACADEMIC ONCOLOGY NURSE EDUCATOR AS SUPPORT FOR LOCAL CHAPTERS AND COMMUNITY PRACTICES

Jean Pawl, PhD, RN, OCN®, Augusta University, Augusta, GA; Emily Grunwald, BS, Augusta University, Augusta, GA

Academic-Community Partnerships evoke thoughts of collaboration regarding clinical practice and patient outcomes between an academic cancer center and community cancer centers. A brief review of the literature reveals discussions of the roles of Clinical Nurse Educators or Academic Researchers within the field of Oncology and the outcomes these roles provide. While practice and research are the more common aspects known about oncology-focused Academic Nurse Educators, there are other activities less commonly appreciated by those outside of the University setting. Other Potential Activities: As an Academic Nurse Educator, I support my local ONS Chapter through coordination of an annual regional educational workshop at which national speakers are invited to discuss current issues in oncology to Chapter members and other participants. I lend my academic expertise to assist the speakers in crafting objectives, content outlines, and best practices to present salient information in a format that is tailored to our specific geographic needs. Furthermore, with the resources and personnel available within the university setting, I am able to offer assistance in literature searches; abstract submission; poster creation and printing; oral presentation feedback; and/or study and testing strategies for the OCN exam. Many oncology nurses have great ideas to share but need the reassurance, polish, and time to bring those ideas to fruition. Through networking at the local chapter ONS meetings, I interact with variety of community organizations, therefore, I am able to connect students with practicing nurses at the dinner meetings or through shadowing or clinical opportunities within local community practices who, in turn, role model professional behavior and the practice of oncology nursing. And in return, I can offer academic support for the practice nurses' growth through the same services offered to the local Chapter members. With out-of-the-box thinking about how to best serve present and future Oncology nurses, the full appreciation of the academic role of clinician, researcher, teacher, community servant and educator can be enacted and support the mission of providing excellence in cancer care, research and education.

383

### **WEEKLY SAFETY EVENT REPORTING HUDDLES: ENHANCING FEEDBACK AND STAFF ENGAGEMENT**

**Kim Peterson, MSN, APRN-CNS, ACCNS-AG, OCN<sup>®</sup>,  
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Oncology nurses work within complex systems while facing time constraints and competing priorities, limiting their ability to report and follow up on significant events occurring in daily practice. Literature supports disseminating information about events at the nursing unit level, providing a non-threatening environment for discussions, and promoting idea sharing to prevent future events. Reported patient safety events (PSE) capture only a fraction of events that occur, but when paired with open discussion and staff engagement they help create a culture of safety. The purpose of this quality improvement project was to bring unit staff together weekly to further PSE engagement, discuss locally reported events, and provide feedback on corrective measures to improve practice. PSE reporting barriers were anonymously elicited from staff through an informal communication board and interventions were tailored to responses. Reported barriers to submitting PSEs included “don’t want to get in trouble,” “reported before and nothing changes,” “I tried . . . gave up in frustration,” and “takes too long.” Weekly staff huddles were scheduled at designated times in a casual, nonthreatening environment to garner staff input and provide education on relevant topics. Interprofessional participation was encouraged to promote collaboration and unit cohesion. PSEs reported electronically from the previous week were reviewed and categorized and a brief narrative of events completed. Staff also received updates on prior discussion topics. To capture additional events, a drop box labeled “Frustration Station” was developed at week seven for paper PSE submissions for those who found the electronic reporting system difficult or too time consuming. When appropriate, these reports were later submitted via the electronic system. Event narratives, progress, and solutions from huddle discussions were posted on our unit-based intranet cloud for review by staff at any time. Weekly PSE huddles have been held for 20 weeks and are ongoing. They have been well attended by staff. Staff are fully engaged and freely discuss reported events during huddles while receiving feedback and updates on how their reported PSE’s improve systems and minimize risks to their patients. Future directions include expanding interprofessional attendance at

huddles and identifying a champion to lead PSE huddles during night shift.

384

### **STANDARDIZATION OF CLINICAL NURSING FLOATING GUIDELINES TO ENSURE CONTI- NUITY OF CARE DELIVERY ACROSS AMBULA- TORY ONCOLOGY INFUSION CENTERS**

**Heather Purvis, RN, BSN, OCN<sup>®</sup>, Yale New Haven  
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Cancer Care Center, Waterbury, CT**

Smilow Cancer Hospital, an NCI designated comprehensive cancer center, is comprised of ten Ambulatory Oncology Care Centers throughout Connecticut with the shared vision of providing high quality care, innovative therapies, support services and clinical trials to patients closer to home. Each Center has separate staffing volume based on unique functions under the Smilow umbrella, which lends to the development of individual cultures and workflows related to each center’s population’s needs. As staffing needs are identified within a care center, nurses are asked to float to other sites. Three managers collaborate to determine which of the other care centers can assist with the need, which may result in a nurse serving outside of the scope of their own manager. Staff were polled about their individual experiences while floating. The following gaps were identified: Lack of orientation to office layout and staff at the site, lack of an identified point person, disparity in patient assignment, and unfamiliarity between patients and floating staff. Based on the results, we have identified an opportunity to create a standardized approach to the deployment of staff to unfamiliar sites which ensures continuity of care and improvement of practice. The purpose was to outline standardized Ambulatory Oncology Float Guidelines. Based on staff feedback, float guidelines were created, outlining expectations of both visiting staff and receiving center, defining eligibility criteria to float, acuity of patient assignment, and role clarification. An assignment acuity tool was created to ensure the visiting staff member would be utilized to their fullest potential while maintaining safe practice. The guidelines were circulated throughout care centers for review and feedback. A post-float evaluation

tool was created to examine staff experience and identify future points for improvement. Evaluation data will be collected within 48 hours of the float experience. Evaluations will be reviewed monthly by nursing leadership. Adjustments will be made based on feedback and communicated back to staff. This will be done for six months and then as needed to ensure the guidelines and tool are effective. Development of standardized float guidelines promotes safe and seamless patient care across settings and leads to improved staff satisfaction with floating experience.

**385**

### **LEVELING UP: INCREASING NURSE PARTICIPATION IN PROFESSIONAL DEVELOPMENT PATHWAY**

**Penelope Raddatz, BSN, RN, CHPN, OCN®, Froedtert Hospital, Milwaukee, WI; Tara Pack, BSN, RN, Froedtert Hospital, Milwaukee, WI**

As a Magnet facility, professional development is promoted and recognized through the Professional Development Pathway (PDP). Nurses who progress through the PDP provide valuable contributions to a healthcare facility. This performance driven recognition program promotes quality improvement and encourages engagement in Shared Governance. Increasing the number of PDP recipients is one of our health care systems FY17 Strategic Plan goals and is a Magnet expectation. The purpose of this project was to increase the number of nurses on the inpatient oncology unit engaging in the PDP process. In previous years, participation in the program has been minimal. Between 2010 and 2016, the inpatient oncology unit saw an annual participation average of 3.8 nurses. In an effort to increase the number of nurses on the oncology unit engaging in the PDP process, interventions were implemented that included: PDP workshops, PDP Unit Champions, and the promotion of constructive use of non-productive time. Four PDP workshops were organized and held on the unit, staffed by previous PDP recipients. The goal of the workshops was to coach and encourage new staff members to begin their journey on the Professional Development Pathway. PDP Champions were identified by the unit's the Shared Governance Development Council, based on previous PDP level attainment. The PDP Champions provided individualized support to guide and mentor nurses with assembling their professional portfolios. The unit's Charge Nurse established a non-productive time log and encouraged staff to schedule and record their non-productive hours spent completing their professional portfolios, attending workshops,

and engaging in professional development activities. This visual tracking system encouraged commitment to non-productive time as scheduled and increased communication and collaboration among nurses. As a result of these interventions, a culture of peer and leadership support was established. The inpatient oncology unit saw the number of nurses participating in the Professional Development Pathway double from 2016 to 2017, with 12 recipients. A post-intervention survey revealed an overall positive response to the interventions. Higher rates of engagement have been linked to better patient outcomes, higher patient satisfaction scores, and increased nurse satisfaction and retention. These interventions could be applied on any inpatient oncology unit to increase participation in the Professional Development Pathway.

**386**

### **HEALTHWEAR'S ROLE IN IMPROVING EXPERIENCES FOR CANCER PATIENTS WITH PERIPHERALLY INSERTED CENTRAL CATHETERS AND PORT-A-CATHS**

**Chaitenya Razdan, MBA, Care+Wear, New York, NY**

In a world where new drugs and technologies to improve healthcare are launched every day, there is a surprising dearth of innovative clothing solutions for cancer patients. Current products provided in hospitals are focused on function and not on how they look or make patients feel. Care+Wear, a leading provider of innovative healthwear, recognized the growing need to bring innovation and design to the healthcare industry. Working in partnership with leading hospitals, patients and clinicians, Care+Wear created a variety of clothing and accessories to improve patient experiences. Care+Wear's ultra-soft, antimicrobial, breathable and machine washable PICC Line Cover, was designed to replace the traditional tube sock typically assigned to protect and cover the PICC line site. The Cover features a mesh window allowing for breathability and visibility of the PICC Line site for both patients and clinicians. Internal surveys conducted of patients who received covers at the University of Virginia Health System and Johns Hopkins demonstrated satisfaction with the cover. Realizing the broader need to help cancer patients with wearable clothing solutions, Care+Wear launched Chest Access Shirts for patients with chest port-a-caths to allow for easy access and convenient treatment for patients and clinicians alike. These products are now available at such leading hospitals as Cleveland Clinic, Mayo Clinic, Hospital Corporations of America, the Department of Veterans Affairs, Massachusetts

General, Johns Hopkins, University of Virginia and directly for purchase online. The continuing success of these products demonstrates the growing demand for healthwear during the cancer treatment process.

**387**

### **WILL WE EVER GET ENOUGH? STRATEGIES TO ENHANCE MINORITY PARTICIPATION IN RESEARCH**

**Karen Reifenstein, PhD, RN, University of Rochester, School of Nursing, Rochester, NY; Matthew Asare, PhD, CHES, University of Rochester Medical Center, Department of Surgery: Cancer Control Unit, Rochester, NY**

A lack of adequate participation by African-Americans (AAs) in research studies remains a public health concern. Historically, women and minorities have been underrepresented in clinical trials, and this underrepresentation has perpetuated health disparities in racial/ethnic minorities and continues to widen the chasm between minorities and the majority population. AAs and Hispanics had the lowest NCI or co-sponsored clinical trial participation rate for any ethnicity at 1.3% in 2013. Equitable representation of diverse racial/ethnic groups in cancer clinical trials and research studies offers the prospect of generating new hypotheses that may enhance treatment, help explore differences in responses to risk factors and treatments, and promote access to potentially life-saving or life-prolonging therapies for all racial/ethnic groups. Underrepresentation of AAs in clinical trials is serious, because the incidence and mortality rates of some cancers (e.g., prostate) are higher among AAs than in Caucasians. Breast cancer (BC) is a life-threatening illness for many African American women (AAW) and is often more aggressive and more resistant to treatment in this population. BC mortality for Caucasian women (CW) had a substantial decline from 1975–2014 (decreasing from 31.8 per 100,000 to 20.0 per 100,000), AAW's BC mortality rates changed little during this same period (29.5 per 100,000 compared to 28.1 per 100,000). Nurses are in positions to recruit and retain diverse individuals in research, as they are on the front-lines of patient care. The purpose of this study is to evaluate factors that may adversely impact AAW's participation in research and clinical trials and offer suggestions to enhance their accrual rate. Review of literature for studies between 2006 and 2016. Scientific work that provides insight from nursing and public health on this topic is limited. Information from the nurse's point of view will help to fill the void in this research area.

Historical, societal/structural, cultural, and economic factors may affect research participation. Future studies should acknowledge historical concerns up front, involve members of the AA community as recruiters, have co-investigators of the same ethnicity/racial background as the potential study participants, and recognize and respect a person's culture and try to work within it when attempting to recruit minority subjects for scientific investigations. Nursing perspectives may help move the science forward.

**388**

### **HUDDLED-UP AND WIRED: A REAL-TIME ELECTRONIC DASHBOARD ENHANCES THE ONCOLOGY PATIENT EXPERIENCE**

**Nicole Reimer, BSN, RN, OCN®, LVHN, Allentown, PA**

Patient throughput in acute care settings is critical for all patients, including inpatient oncology patients. Evidence discusses initiatives to make patient throughput more efficient, however, adoption of tactics often has limited success. Like many hospitals, in an academic Magnet® hospital with a 20-bed medical-surgical hematology/oncology unit, daily morning huddles were conducted to enhance inpatient flow. Prior to the hospitals' transition to an integrated electronic health record (EHR), select patient information was manually gathered from disparate systems and written logs and transcribed to a white board. By huddle time, little of the information reflected what was actually happening. Implementation of a new EHR drove design of a real-time electronic dashboard which automatically populates desired metrics. The dashboard collates easily digested tables and graphs of key throughput indicators, including overall hospital and emergency department (ED) census, anticipated operating room and post-anesthesia care unit volumes, discharge orders obtained before 11 a.m., and average transport times and room cleaning times from the day before. The information is continually updated in real-time, allowing a bird's eye view and ability to drill down into more specific data. The 30–40 leaders who participate in the huddle—including the hematology/oncology unit manager—are the people who can affect change. Resultant impact has been diverse and significant. Following implementation of the electronic dashboard, with leaders able to see blockages in patient movement and react accordingly, ED diversion has been reduced to zero for over 18 months. A dashboard report showing daily discharges, the previous day's discharge efficiency compared to the goal, and red light/green light visuals contributed to a 10% annual average increase in

discharge orders written before 11 a. m. Data availability and ability to drill down also drove changes such as alternative solutions to patient placement, reduction of blocked semi-private beds, and reallocating environmental and transport staff during peak discharge times. This EHR-supported huddle received the “Most Wired-Innovator Award” from Hospitals and Health Networks magazine. Key takeaways from this presentation by the hematology/oncology manager are knowledge of the huddle infrastructure and processes. Emphasis will be on electronic real-time dashboard reports which impact oncology patient throughput to enhance oncology care delivery, such as assuring bed availability for elective inpatient chemotherapy.

### **389** **PEER MENTORSHIP IN THE STEM CELL TRANSPLANT SETTING TO INCREASE RETENTION AND SATISFACTION**

**Victoria Reiser, BSN, RN, BMTCN<sup>®</sup>, UPMC Shadyside, Pittsburgh, PA**

High nurse turnover among Stem Cell Transplant Units is related to numerous new therapies, insufficient emotional and psychological support, and increasing acuity, inducing compassion fatigue. Oncology nurses experiencing compassion fatigue are at risk for burnout leading to turnover. Nursing satisfaction decreases, performance and critical thinking are impaired, and patient outcomes are affected by turnover. By providing structured mentorship following orientation, the literature shows reduced turnover, increased retention, higher nursing satisfaction, and improved outcomes. This project aims to decrease turnover rate, improve nursing satisfaction and promote professional development of nurses on an inpatient Stem Cell Transplant/Hematology Unit of an acute care hospital in Pittsburgh, PA by providing structured mentorship to staff nurses. Nurses having completed orientation on during the first 1–1.5 years since date of hire selected mentors from senior nurses educated on mentoring practices specific to nursing. Senior nurses received mentoring education, with more planned in October 2017. Seven mentor pairs began monthly education, goal setting, and professional development activities in June 2017. Monthly turnover for the Calendar Year (CY) 2016 ranged from 2–5.67%, and has continued to increase in CY 2017. From May–June 2017, 5 nurses left the unit for other opportunities. The unit’s 2016 National Database of Nursing Quality Indicators (NDNQI) for Job Satisfaction, Professional Development

Opportunity, and Professional Development Access values were above the nationwide mean at baseline prior to mentorship. The goal is to build upon this strong performance in 2017. Nurse turnover rates will be evaluated monthly prospectively. Quarterly surveys will evaluate the quality of the program. Final data will reflect the rolling turnover rates since beginning the program, satisfaction with mentorship program, and qualitative information on interactions between mentors and mentees. Both informal and formal mentoring successfully improve retention and satisfaction among nurses. This program aims to blend both strategies in a specialized setting. This project is ongoing and mentorship program expectations are forthcoming. Ongoing support in the form of mentorship for oncology nurses, especially in stem cell transplant, can be used to retain nurses in the inpatient setting, promote professional development, and improve nursing practice.

### **390** **GAPS IN KNOWLEDGE AND MANAGEMENT OF IMMUNE-RELATED ADVERSE EVENTS IN PATIENTS WITH ADVANCED CANCERS AMONG ONCOLOGY NURSES**

**Patricia Repetto, M.Ed., CHCP, Medscape Oncology, New York, NY; Tara Herrmann, PhD, Medscape Oncology, New York, NY; Haleh Kadkhoda, MS, Medscape Oncology, New York, NY; Elaine Hamarstrom, PhD, Medscape Oncology, New York, NY; Charlotte Warren, PhD, Medscape Oncology, New York, NY; Lianne Wiggins, SITC, Milwaukee, WI**

With the FDA approval of several cancer immunotherapy (CIT) agents, a new standard of care for many patients with advanced cancers has evolved. However, these agents possess unique adverse event profiles, making it essential that oncology nurses, as core members of the cancer care team, understand how these agents affect their patients and practice. The objective of this study was to determine the need for education among oncology nurses in identifying and managing immune-related adverse events (irAEs). Medscape Oncology and the Society for Immunotherapy of Cancer (SITC) launched two online educational activities between November 2016 and January 2017. Each activity featured a 30-minute video roundtable in which oncology nurses discussed best practices in identification and management of irAEs in patients with advanced NSCLC or melanoma who were receiving an immune checkpoint inhibitor. Multiple choice questions were posed prior to content exposure (pre-assessment), and again after

content exposure (post-assessment). A repeated-pair design allowed each learner to serve as his/her own control. A 5-point Likert scale measured participant comfort level in managing irAEs before and after education exposure. Data were collected through February 16, 2017. 2,130 nurses participated in the educational activities and completed all pre and post assessment questions. Despite gaining clarity related to the identification of irAEs, results showed the following persistent gaps: (a) Sixty-one percent were not aware of safety considerations related to the use of immunotherapy including the timing of potential irAEs, (b) thirty-three percent of nurses failed to recognize the differences in safety profiles between immunotherapies and chemotherapies, (c) fifty percent failed to appropriately identify and manage irAEs associated with immune checkpoint inhibitor therapy, and (d) nearly half rated themselves as uncomfortable managing irAEs. Data from this educational research suggest that a large percentage of oncology nurses lack the knowledge needed to identify and/or manage irAEs. As a result, many oncology nurses exhibit little confidence in their ability to manage irAEs and struggle with educating their patients. Further education is warranted to improve oncology nurse knowledge, competence, confidence, and performance associated with the use of CIT and the management of irAEs. Developed through an independent educational grant from Bristol-Myers Squibb; Incyte Corporation; Merck & Co., Inc.; Prometheus Laboratories; Quest Diagnostics.

### 391

#### DO TREATMENT ACUITY LEVELS IMPROVE PATIENT SAFETY? A SECOND LOOK

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Developing relevant and meaningful nurse staffing models that provide an environment of safety is the cornerstone of quality healthcare. Nursing leadership is obligated to facilitate this environment by ensuring safe assignments and delegation of workloads. This is a follow up observational study to our findings presented one year ago, which indicated a positive correlation between treatment acuity levels and improved patient safety outcomes. Data was collected between September 2016 and July 2017. The same acuity measurement tool was used which was developed by our ambulatory infusion team. Treatments were assigned

an acuity level between one and five based on length and complexity of treatment. The acuity levels of treatments assigned to each registered nurse (RN) were calculated to determine an average RN monthly acuity level. Patient safety incidents (PSI) such as medication errors and complications of care were retrieved from the medical center central database. The average RN monthly acuity levels were compared to the number of reported PSIs each month. Our prior study evaluated eight months of data. The average RN monthly acuity levels ranged from eight to eleven. The only month without a reported PSI was in the month where the average RN acuity level was eight. For this study, we evaluated data from the eleven months immediately following our last observation period. During this period, average RN monthly acuity levels ranged from nine to fifteen. The month with the lowest average acuity level of nine correlated with the lowest number of reported PSIs, which was one. Conversely, the month with the highest average acuity of fifteen, correlated with the highest number of PSIs which were nine. The findings from this evaluation period are consistent with our previous findings in that there is a correlation between lower acuity levels and improved patient safety. Based on these findings, it is beneficial to develop an acuity tool and to determine the safest acuity level for a unit. Utilizing this acuity level as a guide to determine staff assignments will result in improved patient safety outcomes.

### 392

#### THE INSTITUTION OF BARRIER ROUNDS TO DECREASE LENGTH OF STAY ON A MEDICAL ONCOLOGY UNIT

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Interprofessional collaboration has been shown to improve the quality of care of patients and decrease the length of stay of hospitalized patients. By establishing a daily interdisciplinary (IDR) meeting entitled "Barrier rounds", the staff and physicians are proactive in addressing the needs and possible barriers to discharge for all medical oncology inpatients and to better plan for the day of discharge. The purpose of this is to describe the measures that were put into practice to assess potential barriers that must get addressed or accomplished for the patient to be discharged home safely. This allows the patient to receive the care needed in a more timely fashion, thus decreasing length of stay. The following measures were instituted: 1. A template was created for staff nurses to assess and document the potential barriers



identified during the patient's stay and to report them to the oncoming shift. 2. Staff were educated on what to report during the IDR session. They were instructed to give pertinent information only to make sure the meeting time would be expeditious to ensure compliance. 3. The primary nurse, director/manager, social worker, utilization review, pharmacy, chaplain, and physician attend daily rounds. 4. During these rounds, the nurse reports the patient's potential barriers and the group discusses the efforts to be put into effect to remove the barrier. 5. Rounds occur the same time daily in the nurse's station with everyone present. Each patient report takes no longer than 2–3 minutes. Any orders needed are immediately obtained. Nurses and staff were able to improve assessment of patient's needs such as symptom control or facility placement in a timely manner. Length of stay decreased by 33% in the first month of instituting barrier rounds. Current length of stay is 7 days which is expected to continue to decrease. The importance of seeing to oncology patient's needs in a timely manner is paramount to their wellbeing. Decreased length of stay not only assists with hospital costs, it decreases the patient risk for nosocomial infection. Although physician participation continues to be intermittent, barrier rounds have increased communication between the nurse and physician. The nurses are more proactive and have elevated their advocacy for their patients.

### 393

#### WHEN THE ONCOLOGY CLINICAL NURSE SPECIALIST BECOMES THE DIRECTOR OF RADIATION ONCOLOGY

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The traditional spheres of influence of a Clinical Nurse Specialist (CNS) include that of patient and family caregiver, nursing practice, and organization/system. Within these spheres, the CNS' roles include that of leader, educator, and clinical expert in a particular field. Any clinician practicing in healthcare today, understands the need for flexibility based on needs. Understanding the CNS role, along with a broad background in oncology, can effectively contribute to an immediate role transition. The purpose of this is to describe how a clinically-based advanced practice role in oncology can transition to a generally administrative role in radiation oncology and one in which the APN did not perceive herself as being an expert clinician or leader. At the time of assuming this role, the department was 2 weeks into

a project of installing a new linear accelerator with only one machine available for treatment for the next 10 weeks along with an impending visit from the Joint Commission. To gain immediate knowledge and support, the initial work focused on leadership/providing direction and included: meeting with the department's leadership team, project timeline and communication, assessment of staff competencies, policies, and environment of care. This progressed to review of Press Ganey Patient Satisfaction Scores and instituting a plan for improvements, reinstating huddle and staff meetings, leading a Failure, Mode and Effects Analysis related to treatment planning, developing quality studies to meet ACR accreditation and addressing evidence based practice and education needs. The installation of the TrueBeam linear accelerator proceeded according to the timeline with all parties accountable. The Joint Commission visit proceeded without any citations. Monthly employee rounding has identified potential issues which are addressed promptly. An employee engagement action plan was developed and enacted. Planning for a new HDR unit is underway with a team in place. Three radiation oncology nurses are going back to school to achieve their BSN. Understanding radiation oncology equipment, procedures, roles, and processes is not necessarily a skill set that even a seasoned Oncology CNS knows. However, with an understanding of the CNS' spheres of influence and roles, a successful transition can occur through the use of effective teams and project management.

### 394

#### DIAL IN FOR QUALITY AND SAFETY

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Though nurse-sensitive clinical indicators within a 1,000-bed, two campus Magnet® hospital met benchmark targets, there was lack of continuous improvement for some indicators. This issue included the 20-bed medical-surgical hematology/oncology unit. Analysis revealed opportunities to more narrowly focus and limit competing quality initiatives, understand and comply with evidence-based practice (EBP) protocols and appreciate real-time performance to drive quality and safety. The purpose of this improvement project was to identify key performance indicators (KPIs), standard operational definitions, a template, and standard work for daily quality conference calls between unit managers and their nurse leader. Identified KPIs were urinary catheter, central

line and sequential compression device (SCD) utilization; pressure injury and fall numbers and rates; and immunization administration compliance. For each KPI, essential EBP care elements were listed on a standard 1-page template and education regarding each KPI was reinforced to unit managers. Standard work for a daily quality conference call was developed and included: consistent time of day—12:00 pm or later; identification of participants, to include unit managers and their nurse leader, and a clerical staff member to record data; and, verbal reporting by each manager of their unit's data according to the template order. To obtain their data, each manager is accountable to make daily patient rounds, including direct care staff in the data gathering and using the interaction as a teachable moment. The daily calls began in Fall, 2016 and continue to present. Four nurse leaders and their managers are involved, covering 36 medical-surgical and critical units. Best practice inhibitors were identified and tactics devised. Manager accountability and staff interactions about quality were enhanced. Organization-wide, catheter utilization decreased and SCD, central line bundle and immunization administration compliance and documentation improved. Pressure injuries and fall improvements were realized by consistent interventions at time of quality call, requiring less coaching. Improvements on the hematology/oncology unit include catheter-associated urinary tract and central line-associated infections, SCD compliance, stage 3 pressure injuries, and falls. This effort confirms that concentrated efforts to increase awareness contributes to outcomes and, "what you measure, you improve." The hematology/oncology nurse manager and a clinical nurse will detail this pragmatic strategy and share how it promotes evidence translation and drives a culture focused on continuous accountability to impact oncology care delivery and outcomes.

### 395 OUTCOMES OF NURSE RESIDENCY PROGRAM IN AMBULATORY ONCOLOGY SETTINGS

**Karen Russell, RN, MSN, AOCNS<sup>®</sup>, Emory Healthcare, Winship Cancer Institute, Atlanta, GA; Catherine Parker, MSN, RN, OCN<sup>®</sup>, Emory Healthcare/Winship Cancer Institute, Atlanta, GA**

A common belief holds that only experienced oncology nurses should be recruited to the ambulatory setting. This practice of exclusivity, in an environment of increasing demand is inadequate to meet current and future staffing needs and prolongs the

vacancy gap. Reliance on temporary staffing solutions can result in a negative impact on costs, continuity of care, and staff satisfaction. Our organization chose to challenge the assumption regarding the new graduate nurse role in ambulatory oncology nursing. The goal of the Ambulatory Nurse Residency Program was to build a pipeline of nurses to address the increased demand in the ambulatory oncology setting and to increase satisfaction and engagement of existing nursing staff. Interventions: (a) Developed the processes for building the framework to support new graduate registered nurses into the ambulatory oncology setting. (b) Implemented opportunities for supporting nursing students experience in the oncology clinics and infusion centers, preceptors, and new graduate registered nurses. To be presented are evaluation results including retention rates of our new graduates, nurse preceptor evaluations, and Casey-Fink survey responses from the first year's Vizient/American Association of Colleges of Nursing (AACN) Nurse Residency Program. To be discussed are our outcomes and lessons learned from the our first year experience with this program. Our first cohort of new graduate nurses was hired in February, 2017. This group has passed their 6 month milestone and are all functioning independently in their settings. As of this date, we do not have survey results, but by ONS Congress in 2018, we will have 6 and 12 months of experience and data to report. The infrastructure we developed includes: clinical and didactic experiences for nursing students, preceptor training and workshops, and development of comprehensive orientation programs specific to learning needs of a newly-licensed registered nurse in ambulatory oncology.

### 396 CREATING AND SUSTAINING A SAFETY COMMITTEE AT A COMMUNITY BASED PRACTICE

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Community based oncology practices face similar safety issues than those observed in hospitals. Many community practices do not have defined process for monitoring medication errors, drug reactions, issues in labs and paperwork errors. To address these issues, Tennessee Oncology, a multi-site practice made up of 30 clinics, created a Safety Committee which promotes open conversation about safety in the community practice environment. The committee

experienced four stages of team building: forming, storming, norming and performing. **Forming:** The group took time to develop a charter and determine the appropriate stakeholders. The team is made up of a physician lead, administrative leadership and front line staff in order to make sure the committee is making meaningful changes at the point of care. **Storming:** The storming phase occurred as the group continued to create an identity. It changed meeting locations, length of terms to be served on the committee and created a standard agenda format. It is important that safety be owned not by one or two people, but by every employee in the company. Using the National Patient Safety Foundation's "Free from Harm" report, goals were set that align with national patient safety goals. **Norming:** The group settled into a routine during its first major project: setting benchmarks for each of the safety events reported on. With over 30 different types of events, sub committees were formed bringing in additional front line staff. Each group met three times and created upper and lower specification limits that now guide responses to event reporting. **Performing:** Over the next year the committee began to perform and took on a larger project: developing and implementing staff driven safety rounds. Not only did the committee develop a rounding checklist suitable for community based settings, it created education to teach the staff about a safety round and how to round. After two years, the Safety Committee at Tennessee Oncology is well established. The group meets regularly and has accomplished several projects by maintaining a focus on safety but allowing the flexibility required in a multi-location community setting.

### 397

#### DESIGNING FOR EFFECTIVE POST-TREATMENT, PATIENT COMFORT AND CARE

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Patients who undergo mastectomies often face consequences both physically and mentally. Nurses are at the front lines of post-op breast cancer care, offering advice for at home care, while acknowledging that what is currently available is not always suitable for all patients. Mastectomy bras are designed to support patients' post-treatment, but are often uncomfortable or do not allow for proper drainage. Current options often damage reconstructed nipples and are

difficult to put on resulting in pain and many additional issues for patients. Working in conjunction with leading healthwear company Care+Wear and doctors and nurses from the MedStar Georgetown team, a project to create an improved mastectomy bra for post-surgery use that would improve healing experiences was conceived. The insights from a variety of groups were instrumental in the success of this partnership. Nurses provided feedback as to how comfort, skin sensitivity, temperature regulation, fit, and adjustability should be taken into account during the design process. The clinical team jointly provided valuable feedback to ensure that the product that met the patient's needs. The final design provides breathability for patients with nipple reconstruction through a soft, antimicrobial mesh window and includes adjustable velcro closures for the straps. The bra opens at the front with an adjustable hook and eye closure for easy access for both patients and clinicians. Following feedback from the MedStar nursing team, the bra is finished with a scalloped rib band for comfort, stretch and access to the drain tube. The bra's lining pockets can also be inserted with pads for "normal" bra wear or cooling relief post-surgery. The project is a key advancement in post-treatment recovery for mastectomies, demonstrating the importance of collaboration between innovative healthwear companies, clinicians and patients to enhance patient experiences.

### 398

#### PROMOTING TOTAL LARYNGECTOMY EDUCATION

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The inpatient surgical oncology unit at Smilow Cancer Hospital, a large National Cancer Institute designated comprehensive cancer center, identified an opportunity to improve patient education in the total laryngectomy population. The surgical oncology unit receives 20 to 30 total laryngectomy (TL) post-operative patients per year who require extensive education related to the care and management of the laryngectomy. To promote safe discharge home, competency in self-care of new anatomy including laryngectomy tube changing and cleaning and suctioning of stoma

and trachea must be demonstrated. If patients are unable to exhibit competence in all major aspects of TL care, in-hospital length of stay (LOS) will increase, and patients may require transfer to a skilled nursing facility. The goal of this study was to provide surgical oncology nurses with a comprehensive standardized TL education required for a safe discharge home through improved self-efficacy among TL patients. Fifteen surgical oncology nurses were surveyed to assess baseline knowledge of existing TL educational resources. Sixty percent of nurses interviewed did not know about the existence of current educational resources and 68% of nurses did not consistently utilize these resources. A multidisciplinary group was convened to review survey results, revise and update existing print materials. Nursing staff often observed patients experiencing anxiety and resistance to education during practice with self-suctioning. In order to reduce patient anxiety, two tracheostomy teaching models were purchased to promote a safe environment for patients to practice laryngectomy care. Model utilization was incorporated into a revised competency checklist. All nursing staff received education on revised teaching resources, implementation of the model, and importance of TL postoperative education. TL peer support contact information was also provided for nursing staff to contact for improved patient support. Nursing staff knowledge and utilization of educational resources will be reassessed using a survey after 6 months. Pre-and post-implementation patient satisfaction data will be assessed via Press Ganey® (patient experience survey). We will also monitor LOS and ratio of discharges home versus discharge to skilled nursing facility. Future directions for this project will be to assess to reduce barriers and evaluate compliance and effectiveness of educational resources. We anticipate more consistent and comprehensive education will improve outcomes for this population and promote safe and timely discharge to home.

### 399

#### **ALL ABOARD: NEXT STOP INTEGRATION**

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Recruitment and retention of experienced oncology nurses is challenging. When hiring a nurse, we want to ensure that we are selecting the best candidate for the job. Recently at a NCI designated Comprehensive Cancer Center, we set out to select additional staff for a unit expansion. The nursing leadership team approached this challenge with a focus on the processes of interviewing/selection, onboarding, orientation, and mentoring. All candidates were interviewed by a group of nurses utilizing both panel-like and behavioral interviewing techniques. Behavioral interviewing highlights behaviors based on candidate experiences and selection of candidates that best fit the culture. Panel-like interviewing allows for reliability and objectivity. These approaches eliminated misinterpretation of questions, provided consistency to the set of questions asked of each candidate, and gained insight into how a candidate copes with stress. Onboarding of all new clinical staff in conjunction with orientation is necessary in order to ensure adequate instruction on processes, procedures, organizational culture, and responsibilities. This in turn fosters both staff retention and safety. A new onboarding and orientation process was created where new staff received two days of classroom style introductions to organizational policies and procedures. Orientation checklists were developed and distributed along with an orientation binder specific to each role. Additionally, key department members provided an overview of their department, and described how this intersected with new staff roles. Every Friday, orientees met as a group with an educator for a two hour review of additional educational topics, and to discuss any questions that came up during the week. To provide feedback, weekly meetings between managers, preceptors, and new staff members occurred. Learning opportunities and goals were developed and evaluated for each week, using a weekly evaluation form. This allowed for a tailored orientation. Because a supportive mentoring culture promotes a more efficient and safe work environment, each new nurse was mentored by a senior staff member while beginning and continuing into independent practice. Through effective interviewing and selection processes, innovative onboarding and orientation, and mentoring, our organization has been successful in retaining nearly 100% of the staff hired for the unit expansion. Senior staff engagement in the process of interviewing, orienting, and mentoring has forged purposeful relationships with and support for new staff creating an improved work environment.

400

### **AN INPATIENT AND OUTPATIENT COLLABORATION TO IMPROVE CHEMOTHERAPY ADMINISTRATION KNOWLEDGE AND SAFETY**

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Sibley Memorial Hospital (SMH) combined with Johns Hopkins Sidney Kimmel Comprehensive Cancer Center in 2012. SMH is a community hospital with historically minimal inpatient chemotherapy, while much more is outpatient, but both have grown exponentially since the merger. In five years, the outpatient center has grown from 7 to 37 chairs, 3 to 15 nurses, and 3 to 14 oncologists. All outpatient nurses are OCN certified and have vast experience administering chemotherapy; the average number of treatment patients seen a day is approximately 50. The inpatient unit has been on a slower growth timeline as far as chemotherapy admissions, but with the initiation of a new hematologic malignancy service line and a growing number of oncologists, numbers have increased. This has led to the need for inpatient nurses to be chemotherapy/biotherapy certified quickly and thoroughly. All nurses were given deadlines to take the ONS chemotherapy/biotherapy online course, but still needed to observe and be observed administering chemotherapy per the competency process designed by oncology nursing leadership. The purpose of this collaborative project was to utilize outpatient chemotherapy administration expertise to mentor inpatient oncology nurses in order to deem them as competent by SMH standards. As each nurse completed the online course, they were scheduled observation in the clinic. A nurse mentor utilized a sign off sheet to keep track of how many and what type of administration observations took place; when the nurse would subsequently have a patient for chemotherapy administration on the inpatient unit, the outpatient nurse would observe, using a more detailed sign-off sheet, and the inpatient nurse would be considered “competent” after a designated number and type of collaborative observations. Before the project, it was difficult to sign inpatient nurses off for competency with swiftness and ease. Anecdotally, the inpatient nurses have all indicated that their observation and sign off experience has been beneficial in seeing more administration and increased their comfort level with safe chemotherapy administration. The project has also fostered relationship building between both

units. Many cancer centers are growing, and with the influx of outpatient chemotherapy regimens, it is beneficial to utilize outpatient nursing expertise to mentor and prepare inpatient nurses for competent chemotherapy administration.

401

### **NURSE INTERN PILOT IN AN AMBULATORY ONCOLOGY INFUSION SUITE**

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Patricia Benner’s work “From Novice to Expert” (1982) identified 5 levels of capabilities, novice, advance beginner, competent, proficient, and expert. Integral to progressing through these levels is clinical setting experiences. In a NCCN ambulatory oncology infusion suite, seeing upwards of 230 patients per day, efforts to build programs for recruitment and retention of oncology nurses has led to the piloting of a “nurse intern” model. The purpose was to evaluate a Nurse Intern program for benefit to nursing students as they consider working in oncology care post-graduation and additionally, for the benefit to the infusion suite and the clinical care of patients within the cancer center. A pilot was enacted with a single nurse intern over a summer term to evaluate the feasibility of a nurse intern program in an oncology infusion suite. An orientation of competencies and specific assignments was designed to meet the scope of care allowable for a student nurse of senior status. Preceptors and a nurse leader mentored the intern as skills and expertise was gained. The 10-week pilot was a success from the perspective of the nurse intern, nurse leader and the oncology infusion suite nurses. The nurse intern was highly motivated, passionate and eager to learn the foundation of oncology nursing. The nurse intern took on tasks including vital signs, 12-lead EKGs, central line dressing changes, and peripheral IV removals that allowed the RN to focus on other elements of patient care. Oncology nursing faces an upcoming shortage as experienced nurses begin to retire. Starting a program that supplements students’ clinical knowledge and experiences before graduation strengthens the transition for new graduate nurses into residency. Utilizing the concepts of Benner from novice to expert a long range plan for developing professional oncology expertise facilitates the best possible outcomes for the novice transitioning into professionally competent nurse. Beginning to cultivate the confidence and skills of nurses in clinical settings as nurse interns with expert clinicians and

mentors meets two objectives: 1.) The student has positive experiences with oncology staff and patients. 2.) A pipeline of enthusiastic committed nurses to meet the future needs of oncology care is established.

## 402

### THE TEAM APPROACH TO ONCOLOGY NURSING

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A 38 bed medical oncology unit of solid tumor and hematologic malignancy patients. The staff wanted a forum to voice concerns, share experiences, ask questions, and learn. As a unit we came together and decided to rebuild our unit council to create an open space for healthy criticism and teachable moments. The purpose was to engage oncology nurses to enhance their nursing professional development and promote clinical excellence in oncology patient care. T.E.A.M. approach used to rebuild our commitment to each other. Team Building helped to create an environment of Trust and Transparency through staff outings, personal, and social events. We used twitter and Whatsapp as ways of communication. Engagement and Empowerment were achieved through our monthly Unit Council meetings. We encouraged participation through unit projects such as a brag book and picture ID cards. Accountability and Action by being “owners” not “renters” of our unit by holding each other to high standards and achievable goals. We recommended our nurses to work on quality improvement projects, EBP projects, and nursing research. We worked towards promoting nurses advancing in the clinical ladder. This all was encompassing in our Magnet journey as an institution. The results of our employee engagement survey showed improvement from 2015 to 2017 in Autonomy, Professional Development Access, Professional Development Opportunities, and RN to MD interaction. First staff RN Principal Investigator IRB Approved Study at NYP-CUIMC, Staff RNs presented EBP poster at ONS Congress 2017, Staff RNs advancing on the clinical ladder, requirements are to complete unit Quality Improvement project, participate in shared governance, certified in specialty area, precept, contribute to shared knowledge, and experience. ○ RNs 2014, 2015, 2016, 3 RNs earned clinical ladder status for 2017, 5 Clinical ladder candidates preparing for 2018 application. Empowered nurses pursue advancing their profession and improving the quality of their care.

This helps improve patient outcomes and improve the quality of cancer treatment in the hospital. Using the TEAM approach allowed us as an oncology unit to build and grow together. We realized that it takes time and effort to reach clinical excellence, but more importantly it takes a TEAM!

## 403

### EDUCATIONAL VIDEOS FOR THE ONCOLOGY PATIENT

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Stress and anxiety associated with a new diagnosis of cancer can affect a patient’s ability to retain information and decision-making capabilities about the disease process, treatment, and symptom management. Research indicates that between 40–80 percent of medical information shared with a patient is forgotten immediately. The patients’ perception on the importance of the information plays a key role in retention. Specificity and simplicity of the material also enhance memory retention. Changes in technology allow patients an opportunity to obtain information from resources outside of the traditional healthcare setting. Technology enhance the quality of patient education providing consistency in information delivered to the patient and patient’s family members. A multimedia patient education library with a variety of instructional videos for patients followed by discussion with the nurse employing the teach back method will enhance understanding of side effects of treatment and/or the disease process. The intent of the project is to provide standardized, evidence-based patient education on various oncology topics in a video format that can be viewed at the patient and caregiver’s convenience. A team of oncology nurses identified key educational topics. Scripts were created to provide information on those topics. The scripts were reviewed and revised based on feedback from the hospital Patient Family team and nursing. Nursing team members participated in filming of the scripts. The videos are three-to-five minutes in length. Videos will be uploaded to iPads that can be checked out by the patient and/or caregiver during the hospital stay. Internet hosting of content will also be available. Feedback will be solicited from participants to evaluate the helpfulness of the content and identify future videos for development. Additionally, for information posted on the internet, the number of times the video link was clicked will be followed monthly. By developing user friendly patient education videos, consistent education on oncology topics will be available.

The skill of the nurse (novice versus experienced RN) will not impact the information shared with the patient. Once the patient has had an opportunity to review the information, the oncology nurse will follow up with specifics related to the treatment plan and address any concerns that the patient may have. The video option will provide an additional method to keep oncology patients informed by providing accurate, up-to-date information.

#### **404 NURSE NAVIGATION AND THE EFFECTIVENESS OF PREOPERATIVE EDUCATION**

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There has been an increase in microvascular breast reconstruction: 2016 19% of our patients received microvascular reconstruction and it is up to 24% for the 1Q 2017. This study will explore the effectiveness of the current preoperative education model provided by nurse navigation (NN). We intend to assess the patient perception of post-operative outcomes in Virtua's microvascular breast reconstruction patients. Nurse navigation provides in person individual preoperative education with the patient. At this visit the patient meets with Physical Therapy (PT) or Occupational Therapy (OT). NN reviews: events before, during and after surgery including: sentinel lymph node biopsy, what to expect the day of surgery, post op in the ICU, transition to medical surgical unit and discharge. NN developed the preoperative education tool, which is used to review the following: incision care, activity expectations, lymphedema, Jackson Pratt (JP) drain care and drain demonstration, rolling walker, homecare services, and medications. Linguistically and culturally appropriate printed materials are provided, as well as surgical pillows, drain bags and a stress ball. We focused on women that have had DIEP (deep inferior epigastric perforators) Flap surgery at Virtua from July 2016, to present, and are at least six months post-operative, and that have or have not met with NN and PT or OT preoperatively. We developed a survey consisting of 12 questions. Phone calls were made in advance to alert the patients that surveys were being mailed. Surveys were sent along with prepaid addressed envelopes. Oncology nurse navigators have the ability to improve their patient's preparedness for microvascular breast surgery. We

intend to evaluate the effectiveness of the face to face preoperative visit and the education tool. The survey results will provide an opportunity to identify gaps and potential barriers in our preoperative education and whether there are additional services we can provide that will enhance the patient experience. To date we have sent out 28 surveys, with a 39% return rate. Preliminary results indicate that 100% would make the decision to again have breast reconstructive surgery. Our assessment is ongoing; as we analyze data and formulate strategies to address barriers. Preoperative education is critical in improving the patient's preparedness and perception of post-operative outcomes with this delicate and complex surgical population.

#### **405 IMPROVEMENTS IN COMMUNICATION BETWEEN RADIATION ONCOLOGY AND MEDICAL ONCOLOGY NURSE NAVIGATORS TO ENHANCE CARE COORDINATION FOR PATIENTS RECEIVING CONCURRENT TREATMENT MODALITIES**

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Coordination of care for patients who are undergoing concurrent treatment modalities has been an on-going challenge for our department. Keeping up with the ever changing list of patients who are in the scheduling queue has been difficult through emails, faxing RT schedules, or by phone and we knew we needed to find a better way to communicate. Many of our patients are mutual patients between radiation and medical oncology. Chemotherapy is often ordered to start on the first day of radiation therapy in order to be most effective. The radiation therapy treatment planning process may take up to 10 business days, and occasionally, patients would not have their treatment initiation properly coordinated. An interdisciplinary team, led by Radiation Medicine nursing leadership, met to discuss possible solutions. The ONS position paper, Access to Quality Care, encourages nurses to identify access barriers and seek solutions to provide quality patient care and our navigators were involved in this process. The overarching goals were to improve our interdepartmental communication, streamline throughput throughout the scheduling processes, break down silos between departments, improve both patient and employee satisfaction, which would ultimately improve patient outcomes by following the

prescribed treatment regimen. ACR-ASTRO Practice Parameters for Communication in Radiation Oncology suggest that there is no substitute for direct, timely, personal communication on all clinically relevant matters with the patient, family or support persons, and physicians or other health care professionals, in this case, the nurse navigators of each of these departments, both radiation and medical oncology. Nurse Navigators from radiation and medical oncology and our Chief Radiation Therapist now meet twice weekly in brief, face-to-face sessions, to review all pending and/or concurrent patient lists. Utilizing a standardized treatment planning checklist, they review their mutual patients' current status in the radiation treatment planning process. Our goal was to coordinate between the two disciplines, so that the patients who are undergoing concurrent treatment can schedule their first chemotherapy infusion and the first RT fraction on the same day, ultimately enhancing the clinical outcomes of their treatment regimen. Although we are only about 4 months into this new process change, there has been significant improvement in all of these areas and we are continuing to review and improve upon our process in the future.

#### **406** **NOT YOUR MOTHER'S JOURNAL CLUB: BRIDGING THE PERI-ANESTHESIA ONCOLOGY NURSES KNOWLEDGE BASE**

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With the opening of this state of art stand alone surgical center in 2015, surgical platforms were now expanding for this 473 bed Magnet designated NCI teaching hospital. The Peri-Anesthesia Professional Development Council identified the need to bridge the knowledge base of the perioperative nurses. While a journal club is an open forum with guided structured discussions, we created an electronic correspondence including an article and synopsis, to see how this alternative information sharing process would be received. A group of RN's, diverse in experience, were hired to support this new unit. Realizing various strengths and weaknesses of these nurses, we identified a unique opportunity to tailor their learning needs to this specific patient population. Our plan was to develop and assess current practices of these nurses, identify any gaps in knowledge and keep them informed with the most up to date evidence based literature in peri-operative oncology nursing. The initial assessment included

questions focusing on nursing demographics, preferred learning methods, and various pre and postoperative areas of interest. Upon receiving a favorable survey response rate (72%) and useful feedback, we initiated the monthly email educational correspondence. This pilot was identified as a unique and innovative way to disseminate the most up to date evidence based research by the staff. For this reason, the professional development committee suggested that we share the correspondence with the entire periop platform. One year later, we performed a post implementation survey evaluation and 69% found the information useful. With continued success and growing interest in our program, the committee will host our first journal club this December. Collaboration continues with the Nursing Professional Development Specialists (NPDS) in creating an online Journal Club that will provide attached CEU's for the staff in all areas. As the health care model shifts toward outpatient settings, it is imperative nurses are not only engaged but continue to share the same information in a user friendly and intuitive way between nurses on multiple platforms.

#### **407** **THE PERFECT STORM: ONCOLOGY LEADERS' ROLE IN SUPPORTING THE INTERDISCIPLINARY TEAM TO ENHANCE THE DELIVERY OF END-OF-LIFE CARE**

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Palliative medicine (PM) consults were underutilized in a 700-bed acute care hospital, especially care of cancer patients deemed to have poor prognosis. Temel et al. (2010) found that early palliative care interventions in patients with non-small cell lung cancer led to "significant improvements in both quality of life and mood." Earlier palliative care is also linked to fewer aggressive treatments, longer survival rates, and improved quality of life (QOL). After attending a conference a clinical inpatient oncology registered nurse (RN) identified an opportunity to improve end-of-life (EOL) care using the End of Life Nursing Education Consortium (ELNEC) model; another RN was exploring how to improve communication around EOL decisions; and the nurse leader was exploring grant funding to improve EOL care. Clinical nurses partnered with the nurse leader and PM physician to lead an initiative to improve EOL care on the oncology unit. The purpose was to strengthen



interdisciplinary collaboration in optimizing PM resources to care for the increasingly complex oncology population. Provide collaborative leadership to engage the interdisciplinary team in an EOL quality improvement (QI) initiative. Interventions: Utilized Knoster Model for Complex Change and Maslow's Hierarchy as applied to nursing practice environment to guide change. Aligned interdisciplinary visions, goals, incentives, and action plans to optimize PM resources. Conducted an evidence-based practice (EBP) project on EOL communication. Obtained an internal organizational grant that funded End of Life Nursing Education Consortium (ELNEC) education for interdisciplinary caregivers to strengthen collaboration and EOL communication skills. Instituted a collaborative leadership model and care team rounds. Developed electronic QOL assessment and PM consult trigger. Developed RN champions. Met individually with staff to determine level of autonomy, identify basic needs for professional growth, and coached professional development goal-setting. Garnered executive support for resources to meet concurrent needs for staff development and operations to support the EOL QI initiative. Evaluation: PM consults increased by sixty percent, patient QOL scores improved, improved staff perception of EOL competency. All nursing quality metrics, staff engagement and autonomy, and patient satisfaction outperform national median benchmarks. Collaborative leadership of clinical nurses, nurse leader, and physician successfully improved EOL care through EBP changes, interprofessional ELNEC education, improved staff autonomy, patient and family communication, and team engagement.

#### 408

##### **INFUSION CHAIR UTILIZATION: PHASE 2**

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At our NCI designated cancer center a peak in patient appointment times was noted between the hours of 10am and 1pm. Beginning late in 2015 we implemented a set of interventions aimed at spreading the appointments times more evenly throughout the day. Although we saw sustained improvement with these first steps, over time we noted other opportunities. Our team continued to analyze the data in an effort

to identify other opportunities to flatten the curve of patients arriving for treatment, thus decreasing wait time and increasing capacity. Several additional opportunities were noted and 2 of them have been implemented: treatments of 2 hours or less are now routinely scheduled after 2pm and office practice is accountable to have all orders signed and ready for release before the patient arrives at infusion. The nursing teams developed an information sheet including realistic time frames for all infusions. Our schedulers were then educated to use this list and advise requesters that those shorter treatments are now given only in the afternoon. This allowed us to reserve the earlier slots for longer infusions or emergent care that might require longer chair time. We hired a practice manager to supervise this scheduling staff and provide on the spot education for them as needed during this transition. The second intervention involved close collaboration with out physician leaders to enforce the requirement for orders to be signed and available for release when the patient arrives at infusion, thus preventing chair time from running longer than the expected length. The first phase of this project was able to redistribute about 10% of our daily infusions. Phase two project was able to identify change in practice while maintaining patient safety and increased patient and nurse satisfaction. Both interventions further decreased wait times between 10 and 1 and allowed for improved chair utilization. Data analysis shows sustained improvement in utilization and potential for increased patient and staff satisfaction.

#### 409

##### **LUNG CANCER PREVENTION: ADVOCATING FOR RADON- AND SMOKE-FREE REGULATIONS**

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Smoking is the leading cause of lung cancer, followed by exposure to radon gas and secondhand smoke (SHS). More cases of radon-induced lung cancer occur in those with a history of smoking and SHS exposure. Kentucky leads the nation in incidence and mortality from lung cancer. Smoking prevalence in Kentucky is higher than the national average and Kentucky has moderate to high potential for elevated indoor radon. In January 2005, the U.S. Surgeon General issued a national health advisory encouraging all Americans to

test for radon in their homes and mitigate when levels are > 4.0 pCi/L. In July 2015, Kentucky proposed regulations to require quality control protocols guiding radon measurement and mitigation aligned with EPA recommendations and industry best practices. In May 2017, the regulations were amended to weaken the quality control protocols; eliminating the requirement that mitigators reduce radon to below 4.0 pCi/L and not mandating calibration of measurement equipment. Such amendments would leave Kentuckians with inaccurate information and no guarantee that radon would be reduced. This innovative collaborative, nurse-led radon policy advocacy project aimed to oppose amendments to Kentucky's Radon Contractor Certification Program as they would jeopardize the prevention of radon-induced lung cancer. We will also describe our evidence-based smoke-free policy approach and public education on synergistic risks of tobacco smoke and radon. The BREATHE (Bridging Research Efforts and Advocacy Toward Healthy Environments) team at the University of Kentucky College of Nursing collaborated with radon, healthcare, and public health partners to provide oral and written comment to the legislative oversight committee in opposition to the amended regulations. Nurses, physicians, business leaders, non-profit professionals, and health educators from BREATHE's Radon Policy Division, the Kentucky Nurses Association, the Commission on Cancer, American Lung Association, the Kentucky Association of Radon Professionals, and the Northeast Kentucky Area Health Education Center provided public comment. Follow up meetings and communications are ongoing. Guided by Kingdon's Multiple Streams Approach, evaluation of the radon policy advocacy approach is in process. Our smoke-free policy outcome studies show improved air quality and population health, and reduced hospitalizations. Advocating for evidence-based cancer prevention policies will safeguard the public from environmental carcinogens. Reducing radon gas and tobacco smoke exposure has the potential to prevent lung cancer and save lives.

#### 410

##### **EXPANDING EDUCATION AMONG NURSING STAFF: FROM MED-SURG TO ONCOLOGY**

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An NCI-designated Comprehensive Cancer Center (CCC) became affiliated with a community hospital

in 2010 with a goal to establish an inpatient Oncology unit and an Acute Hematologic Malignancy Service at the community hospital. This collaboration provided the opportunity to enhance current community hospital staff's oncology education and identify an orientation process for new hires through collaboration between the CCC and the community hospital. The education plan included didactic content and four observation shifts at the CCC. The didactic goal was to provide a foundation for the care of acutely ill hematologic patients. The goal of the observation shifts was to observe bedside nursing care of leukemia patients. Detailed objectives for the observation were established and nurses were linked to an experienced nurse at the CCC. The community hospital nurses lunched daily with the CCC Clinical Nurse Specialists to address questions and concerns. Within one week, each nurse completed 24 hours of observations. The community nurses were subsequently surveyed to evaluate the experience and inform changes for future observations, to include newly hired staff. The surveys assessed experiences with decision making on multidisciplinary rounds, multidisciplinary discharge rounds, preparation for chemotherapy administration within the electronic health record and in the medication room, chemotherapy administration at the bedside, patient education, daily huddle nursing discussions, and change of shift safety rounds. All participants found the experiences extremely to very useful. In addition to the clinical observation, the didactic education was found to greatly enhance the entire experience. In fact, the community nurses requested that the educational video be available for future viewing. This initial program helped to establish an ongoing model of educational collaboration that can be replicated among other nursing specialties within the health system. Anecdotal data demonstrated increased confidence among the community nurses. The observations also strengthened the community nurses' precepting skills, preparing them to educate new oncology nurses as the program grows. In addition, the community nurses now feel integrated within the CCC.

#### 411

##### **EMBRACING, NURTURING AND RETAINING NEW ONCOLOGY NURSES TO PROVIDE STAFFING STABILITY**

Nicola Stewart, BSN, RN-BC, OCN<sup>®</sup>, Metropolitan Methodist Hospital, San Antonio, TX

During my fifteen years on a 12-bed medical oncology unit in San Antonio, maintaining a stable nursing staff has been challenging. In January 2017, the annual RN

turnover rate for the unit was 59.2%. Of the 16 RNs who are part of the unit's team, nine have less than one-year of experience in the Hospital. The goal of this project was to stabilize the nursing staff by focusing on embracing and nurturing new oncology nurses and subsequently increasing patients' satisfaction with their nursing care. An open-ended 20-question survey was developed to identify the staff's opportunities, needs, goals and challenges. This was distributed to the 16 staff nurses on the unit, with 100% completion rate. Based on the survey results, a small focused team of experienced nurses assisted in providing professional growth, positive reinforcement and team building to decrease RN turnover. Activities included recognition during Oncology Nurses Week, personalized notes of encouragement, providing charge nurses' phone numbers for inquiries, education board updates, educational dinners, preparing holiday bags for patients and the homeless and a Facebook page for unit news and educational opportunities. Based on observations and feedback from patients, patients experience a significant amount of comfort when they are familiar with their assigned nurses. Based on this, the unit began promoting continuity of care patient assignment unless compassion fatigue became a factor. If that occurs we encourage alternative patient assignments, as Potter, et. al., (2010) reports "44% of inpatient oncology nurses experience burnout." As of August 2017, our turnover rate decreased to 12.9%, and our Press Ganey HCHAPS scores increased from the 26th percentile (4th quarter 2016) to the 95th percentile (2nd quarter 2017). We continue to have nine engaged and wonderful oncology nurses who continue to thrive and grow as they have over the last nine months. Staffing stability improves nursing morale and engagement and patient satisfaction. It builds upon and accentuates individual strengths as we work collaboratively to care for our special oncology patients.

#### 412

### INNOVATION IN NURSE STAFFING AND ROLE DEVELOPMENT FOR AMBULATORY ONCOLOGY CLINICAL NURSE COORDINATORS

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General Oncology Clinical Nurse Coordinators (CNCs) in our large comprehensive cancer center

care for approximately 15,000 patients yearly. Analysis of staffing revealed a 12% deficit in coverage with 62 FTE and NDNQI data confirmed only 25% of nurses viewed staffing as adequate. Meyer & O'Brien-Pallas state "... indicators that influence [patient] outcomes remain under-theorized and unmeasured resulting in a 'black box' that masks the nature and organization of nursing work" (p.2828). A team convened to examine our oncology care staffing. The purpose was to create evidence driven staffing changes to assure quality oncology care and improve CNC job satisfaction. Interventions The recommendation for 14% float coverage per 1.0 CNC FTE was set to provide support for vacation/sick hours, continuing education hours, and research /quality improvement work. Float CNC orientation includes 6 weeks in a primary disease group plus an additional week in four other services. Time off guidelines were standardized, a float request/approval process implemented and a process developed for inter-departmental CNC communication. Float CNCs meet bi-weekly to share experiences, learnings, identify areas for improvement and build morale. The following implementation metrics for evaluation include: CNC job satisfaction (departmental and float); Percentage of time-off requests approved; leave requests; Breaks; and Float CNC retention. Available time for continuing education, research projects and career development has increased for CNCs. Continued analysis of "right-sized" staffing and standard work is essential to assess the ongoing efficacy of this program. Prior to the inception of the Float CNC, "team coverage" was common. Dedicated float CNC coverage enables provision of best patient care and increase CNC job satisfaction. Oncology nursing mandates highly skilled clinicians with strong critical thinking skills who are able to have time for: self-care, quality care analysis, and the ability to engage in clinical inquiry. A new staffing model with designated CNC oncology generalists provides exemplary nursing care coverage for specialized care team CNCs. This unique team of float CNCs collectively brings inter-departmental knowledge, skill, and experience for a collaborative endeavor resulting in best patient outcomes and CNC job satisfaction.

#### 413

### BRIDGING THE GAP BETWEEN BEDSIDE NURSING AND BONE MARROW TRANSPLANT CLINICAL RESEARCH

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Bone marrow transplantation (BMT) is an important curative treatment for patients affected by life-threatening hematologic diseases. Approximately 25,000 allogeneic BMT are performed annually worldwide. New treatment regimens are offered on clinical trials and interdisciplinary collaboration between bedside nurses and the research team is vital to their successful execution. Studies have shown that a collaborative approach improves patient care and patient satisfaction. Often adequate resources do not exist to promote collaboration-centric research, especially for oncology nurses who are tasked with executing vital research procedures. The BMT research nurse collaborated with the inpatient nurse coordinator to develop a research committee, with the hypothesis that increased nursing involvement in research would result in fewer missed samples and better overall conduction of clinical research. Interested nurses participated in brainstorming sessions and developed the goals and strategies for the committee. The goals are four-fold: Empower bedside nurses in the clinical research setting; Improve cross-discipline communication; Improve research educational methods used on the unit; Implement nurse-led evidence-based projects, mentored by an Advanced Degree Practitioner. Strategies to attain these goals include committee meetings, unit research champions, a comprehensive research binder, research team presence on the unit, and relevant guest speakers at meetings. The committee has met monthly since inception in March 2017. Two bedside nurses act as research champions, whose responsibilities include disseminating information and ensuring all nurses are in-serviced. The research binder is regularly maintained, and guest speakers have been presenting to the staff. The research committee is fostering communication, strong working relationships, and a culture of respect for the nursing staff and for clinical research, already resulting in better caption of adverse events and fewer missed and out-of-window research samples. Nursing staff education on clinical trials is not regularly prioritized. Nurses are not routinely consulted on research procedures requiring nursing care. Since the creation of this innovative and multidisciplinary team, we have leveraged the knowledge of the bedside nurses and utilized their skills set to execute

high-quality research. Committees such as this have the ability to bridge the gap between bedside nursing and research as nurses become key players in the conduction of a clinical trial. This type of collaborative effort is necessary to generate trustworthy research results, and ultimately lead to novel cancer treatment for our patients.

#### **414 TRANSFORMING NURSING EXPERTISE TO PROVIDE FOR THE GROWING ONCOLOGY POPULATION AT MASSACHUSETTS GENERAL HOSPITAL**

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Over the past two years MGH (Massachusetts General Hospital) has seen a rise in the number of oncology patients admitted to the inpatient service. From 2016 to 2017 the number of oncology inpatients increased from an average daily census of 80 patients to 100 patients. With 64 current inpatient beds at full capacity, patients were admitted across the hospital to multiple units without competent oncology nurses to care for them. Because of the continued increased oncology patient census, it was decided to convert half the beds of a general medical unit to dedicated oncology beds and train the nurses on the unit to care for the patients. The objective of this initiative was to safely prepare medical nurses to competently care for acutely ill oncology patients needing chemotherapy and immunotherapy administration. Utilizing the online resources of the Oncology Nursing Society as well as the expertise of oncology nursing experts at MGH, nursing staff from a general medical unit were educated to competently care for oncology patients needing chemotherapy and immunotherapy. In addition to above, nurse education included observation, simulation, and one on one mentoring. Staff successfully demonstrated competency in caring for acutely ill oncology patients as well as the administration of chemotherapy and immunotherapy.

#### **415 AN EDUCATION TOOL FOR NON-CLINICAL ONCOLOGY STAFF: A PROJECT TO CREATE CHEMO CARDS (CUSTOM HANDOUTS AND EDUCATION FOR MANY IN ONCOLOGY)**

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Oncology education is necessary to all staff who support and navigate patients through chemotherapy/biotherapy regimens in a clinic. Nursing staff new to oncology and non-clinical staff in our cancer clinic expressed the need for education to oncology treatment regimens. By introducing the concept of chemotherapy and biotherapy information “cards” we give all clinical and ancillary staff knowledge that would otherwise be known only to those who order and administer chemotherapy and biotherapy regimens. At Loma Linda University Cancer Center we created CHEMO Cards (Custom Handouts and Education for Many in Oncology) to empower staff interacting with patients. This allows patients to feel confident staff are knowledgeable and have basic understanding of his/her treatment plan. For example, CHEMO cards provide key information to prevent blood work from not being drawn that is needed to proceed with treatment. Additionally, CHEMO Cards provide general knowledge of a specific treatment. For example, what side effects are expected? Index cards (8 ½ inch x 5 ½ inch) were created to carry vital and relevant information to educate non-clinical staff who manage phone calls and scheduling in addition to registered nurses (RN) who administer chemotherapy and biotherapy. The information on these CHEMO cards came from the multiple questions that were being asked of the oncology RN by the staff new to oncology and non-clinical staff. Responses from the non-clinical staff that use the CHEMO cards convey confidence with basic understanding for a specific medication. The use of the cards facilitates their ability to answer questions and schedule appointments. Additionally, for the RN new to administering chemotherapy/biotherapy treatments, the CHEMO Card is a resource to provide increased safety and management with drug administration. Oncology knowledge gained through experience is nearly impossible to endow. The “tricks of the trade” may have variation due to individual styles. The use of the CHEMO Cards for staff new to oncology and non-clinical staff allows them to address questions and phone calls directly. The innovation lies in the ability to share and develop oncology knowledge in staff that is not formally trained as health care professionals. Additionally, this creates an environment with consistent communication to the patient resulting in decreased patient misunderstandings.

416

## EQUIPMENT AND SKILLS: JUST IN TIME HELP FOR NURSES

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When opening our new hospital we also obtained all new equipment. This included patient beds, lift equipment, IV pumps, PCA pumps, glucometers, and monitors to name a few. Staff were required to attend education sessions teaching them how to navigate their day in the new setting and use the new equipment properly. Two years later we began seeing events reported surrounding improper use of equipment. Staff retained just enough information about the equipment to get through the day and thus weren’t using the equipment properly. We decided to take the equipment that were the basis of the most critical and frequent event reports and re-educate staff proper use. We didn’t want to put staff through the same ineffective educational sessions that required retention of information over time. We wanted just in time (JIT) education that staff could easily access to remind them how to use the equipment. This was especially important for equipment that they may not use regularly. Working with an instructional designer and nurses we developed short videos on proper use of the equipment. One nurse narrated the video while the other demonstrated what was being taught. Next, we needed to find a place to house these videos that staff could find easily and quickly. Working with our marketing and communication team a spot on our intranet homepage was made to house the videos. With input from nurses we named the site Nursing Equipment and Skills Help. With thirteen topics posted, we are ready to go live. After go live we will survey staff on how helpful these videos are and will be able to track how many hits each video gets. We

will continue to monitor event reports that involve equipment. Staff nurse input was critical in determining what topics to include. We also included skills that are high risk and low volume. We will add topics as we continue to grow and will monitor the site to determine if there are topics that are no longer needed. This innovative project was completed through collaboration with interdisciplinary colleagues. Rather than developing an eLearning module that staff would be required to watch, we opted for a more interactive way of providing JIT education at the fingertips of staff right when they need it.

#### **417** **NURSING QI PROCESS FOR MANAGING LUNG NODULE PATIENTS: LOCAL VS. NATIONAL FINDINGS**

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The objective was to determine how the data collected in a local program following incidentally identified pulmonary nodules compares with nationally reported norms (within 1%), what data might also need to be included going forward and that the care coordination of the nurse navigator occurred 98% of the time within the expected time frames determined by the program. According to the American Thoracic Society, lung nodules can be found in 50% of adult imaging scans. Of those, less than 5% are determined to be lung cancer. These numbers do not reflect “high risk” patients being screened—these are incidental findings alone! The Fleischner Criteria were established in 2005 and updated since then (the latest in 2017) to stratify patients according to size and appearance of these nodules, along with the predicted risk of a patient having or developing lung cancer. Fleischner Criteria are utilized only for incidental nodule findings—not high-risk individuals getting low dose screening scans (LDCT). Difficulties with guideline concordance appear related to physician assessments of initial nodule size, patient risk, communications within the healthcare team and the overall management of follow up scans. This is how one healthcare system measures up to the national statistics for incidental lung nodules versus the development of lung cancers. The Nurse Coordinator/Navigator (NN) is responsible for patient follow up until the nodule is deemed benign or cancer. Once a cancer diagnosis is made, the NN does a hand off to the navigator responsible for the lung cancer patient clinic. All data collected for the Nodule Program is shared with the

cancer clinic as well as the Tumor Registry staff. The Coordinator also is responsible for reporting data to the Integrated Network Cancer Program of the Commission on Cancer (INCP) with recommendations for quality improvement activities and dissemination of information regarding the program throughout the healthcare system. These activities correlate with the ONS Competency for the Nurse Navigator Category 5. Creation of registries to capture needed follow up information is beginning to occur. However, currently each program is being created within its own silo rather than within a national forum. Standardization of a formal tracking program should be forthcoming, along with the national guidelines being created. Perhaps utilizing current NCDB data is a place to start?

#### **418** **THE ONCOLOGY INTERMEDIATE CARE ACADEMY: PROVIDING ADVANCED LEVEL ONCOLOGY NURSING EDUCATION TO OPTIMIZE HIGH ACUITY ONCOLOGY PATIENT OUTCOMES**

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Baptist Health South Florida opened The Miami Cancer Institute (MCI), a premier research/outpatient Oncology facility. In anticipation of an increased Oncology population requiring acute intermediate care, more incumbent inpatient oncology nurses needed advanced education to care for and optimize patient outcomes. This project’s purpose was to create, implement and evaluate a program providing experienced nurses advanced level oncology education, training and support promoting their growth, simultaneously, positively impacting care and results of higher acuity oncology patient. Several departments partnered, designing a comprehensive Oncology Intermediate Care Academy (OICA) for Oncology Nurses based on American Academy of Critical Care Nursing and Oncology Nursing Society competencies and guidelines. Class evaluation feedback will be utilized to improve future OICAs. A pre- and post-Learning Needs/ Skills/Knowledge Assessment will be compared to measure growth in: professionalism, knowledge, skill development, critical thinking and interprofessional communication. At OICA’s conclusion, High-Fidelity Simulation will be

incorporated, enabling nurses to demonstrate knowledge application, analysis, synthesis and evaluation. The OICA impact on patient outcomes will be measured. Academies were initially conceived to support newly licensed nurses or nurses transitioning to new specialties. The model has expanded to specialized nurses requiring advanced training within their own specialty due to a higher acuity patient influx. OICA focuses on a holistic approach to evidence-based care standards for patients at risk for life-threatening complications from cancer progression and/or treatment effects. The OICA is intended to positively impact the nurse participants, patients, and healthcare team by enabling experienced nurses to safely practice communication, decision-making, and rescue skills in a controlled human-patient simulation environment. Diverse teaching techniques are incorporated, including: simulation, didactic and experiential education. The Oncology Healthcare Team who collaborate with the nurse class participants on a daily basis will act as the Subject Matter Experts (Physicians, ARNPs, Respiratory Therapists, Pharmacists, and Nurse Educators). The Flipped Classroom will be utilized to promote an environment of interprofessional discussion, active and collaborative learning, content retention, assimilation and application; ultimately, positively impacting member's roles, team dynamics, retention, competency, professional growth, accountability, engagement, nursing skill development, trust, unit enculturation and patient outcomes.

#### **419** **HURRICANE PREPAREDNESS FOR CANCER PATIENTS**

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The Florida Hospital Central Division- North Region encompasses seven Florida Hospitals in Flagler, Lake and Volusia counties. The Florida Hospital Central Florida Division-North Region is the largest hospital system in the area, with 1,226 beds and more than 7,800 employees. We appreciate that disasters, such as hurricanes, impact cancer patients disproportionately for various reasons such as their physical, psychosocial and possibly economical limitations. Their condition could contravene their ability to adequately prepare and plan out strategies for the disaster that will meet their needs. Unplanned interruption in the delivery of the care plan could adversely impact the desired outcome of treatment. The Florida Hospital Regional Oncology Program has a comprehensive and multi-layer plan which involves the alignment to

the Adventist Health System with the governmental disaster management agency with the campus-specific and departmental disaster management plan. These were all activated with Hurricane Irma. Leadership preparation was initiated a week prior to the projected landfall of Hurricane Irma. Preparation involved daily meetings with all the leaders of every hospital which involved

#### **420** **IMPLEMENTATION OF THE TEACH-BACK TOOLKIT AT A COMPREHENSIVE CANCER CENTER**

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Cancer information is complex and difficult to retain. Comprehensive patient education is taught in a variety of clinical settings. Teach-back, a proven and effective method, is used to validate comprehension of critical education. The "Always Use Teach-back" toolkit is available to any health professional or institution at no cost. The methods of delivery used at City of Hope can be replicated, or be customized to organizations of different sizes and goals. The purpose of this project was to include the teach-back method in professional education, nursing documentation of indicating teach-back was used, and ultimately to improve patient satisfaction. The project was a collaboration between a nurse professional practice leader, a health educator, clinical librarian, and contribution from leaders and professionals throughout the hospital. Teach-back training was incorporated into existing professional training programs (Chemotherapy Skills, Hematopoietic Stem Cell Transplant, and the Registered Nurse Residency Program). The Conviction and Confidence Scale<sup>®</sup> was used to determine nurse conviction and confidence regarding use of the teach-back method for patient education and the Teach-back Observation Tool<sup>®</sup> was used to coach staff and role play an educational scenario (Teach-back Toolkit <http://www.teachbacktraining.org/using-the-teach-back-toolkit>). The direct impact of this project was increased nurse comfort with, and commitment to, the use of teach-back in daily health education of patients and families. A total of 404 pre-training and post-training surveys showed (on a scale of 1 to 10)

a mean of 9.54 that oncology nursing staff believe that teach-back is an important method for effective teaching. A mean of 8.38 regarding confidence in their ability to implement it during patient interactions. After the training, teach-back documentation in the inpatient electronic medical record showed dramatic improvement from 24.2% in 2015 to 75.7% in 2016. More data analysis is being conducted to measure the impact on patient satisfaction scores. Standardized use of the teach-back method by oncology nurses to impact the quality and value of education for patients and families, and improve patient outcomes is critical to cancer patients. The use of the teach-back method in patient education bridges a gap in communication and teaching that is common throughout the cancer care continuum. It empowers educators at all levels, as well as patients, to make their communication meaningful and clear.

#### 421

### **RADIATION ONCOLOGY NURSES UNITE TO IMPROVE CONTINUITY OF CARE: A JOURNEY THROUGH RADIATION THERAPY**

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The Radiation Oncology Unit Based Team recognized an opportunity to improve the education of the nursing team and quality of care delivered based on the most recent Radiation Oncology NDNQI results. The Unit Based Team (UBT) identified the following areas for concern: minimal written guidelines and workflows, absence of a formal program for on-boarding new staff, lack of continuity of care with patient assignments, and a need for continuing education programs. The goal was to create educational resources, improve orientation program, develop clinical care teams with providers, and identify opportunities for monthly educational programs. All Radiation Oncology Nurses collaborated to craft written guidelines and workflows for disease sites, develop and orientation program for new staff, establish care teams focusing on continuity of patient care, and increase educational opportunities. The core interventions focused on education and continuity. Leadership met with RN's and providers to build care teams. A resource binder was created by the UBT with input from the physicians. Preceptors were identified to orient new staff utilizing the newly developed resource. Physicians participated in an educational lecture series for the RN team focusing on disease sites. Daily assignments were made focusing on continuity of care. Leadership met with the RN team and providers to discuss the effectiveness of the

care teams on a quarterly basis. The RN team provided feedback to the providers about the content and effectiveness of the educational Lecture Series. The UBT evaluates the information in resource binder quarterly to update as needed. By engaging the RN's in creating a resource binder and developing care teams, continuity of care for Radiation Oncology patients was improved. The educational lecture series delivered by providers has increased the knowledge each staff member has with disease sites and demonstrates a commitment to the RN team as members of the care team. Other oncology nursing areas may consider using similar methods to increase education amongst novice RN's and provide consistency in patient care.

#### 422

### **ADDRESSING SEXUAL CHANGES AFTER A CANCER DIAGNOSIS: AN EXPERIENTIAL LEARNING APPROACH**

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With an estimated 300,000 new cases of Breast and Gynecological cancer being diagnosed each year, there is a great need for nurses to become knowledgeable and gain comfort having conversations with cancer survivors about sexuality. We discovered that our colleagues were not comfortable talking to patients about sexuality and they did not know what resources were available to patients. We developed a class series that has been integrated into our Breast Disease Specific orientation. The series is also open to any nurse or clinical staff working with female cancer survivors. The first class in the series covers changes to sexuality following a cancer diagnosis and treatment as well as resources that are available to assist patients with their adjustment. Local, regional, and national resources are discussed. The second class in the series is more experiential. Participants practice having discussions about sexuality and infertility with patients. The emphasis building comfort to best create a safe environment for the patient. We discuss various models of sexual intervention, in particular PLISSIT and BETTER Models. Participants are broken into groups of three to practice and role play; each participant is given the chance to be a patient, a nurse and an observer. Our training model allows participants to ask questions and try different ways of communicating in a judgement-free zone. Nurses and



clinical staff develop strategies to bring up the topic when seeing their own patients in the clinic. Attendee evaluations indicate staff finds this very helpful and appreciates the classes bringing to the forefront the issue of sexuality that commonly gets forgotten.

#### **423 IMPLEMENTING AND EVALUATING A NURSE- LED EDUCATIONAL INTERVENTION FOR BONE MARROW TRANSPLANT PATIENTS IN THE ACUTE CARE SETTING**

**Tia Wheatley, DNP, RN, AOCNS®, BMTCN®, City of Hope, Duarte, CA**

In order to provide coordinated care and ensure seamless transitions through each phase of transplant, it is crucial that BMT patients and their caregivers receive comprehensive education. The BMT Basics Class is a nurse-led educational program designed to prepare patients and their caregivers for the treatment outline and self-care behaviors associated with receiving a BMT. The purpose was to evaluate the effectiveness of a nurse-led BMT patient and caregiver educational intervention through a retrospective evaluation of quality indicators. In July 2016, the BMT Basics Class became standard of care at an NCI-designated academic cancer center in the southeastern United States. A retrospective evaluation of CLABSI rates, 30-day readmission rates, length of stay, and patient satisfaction scores was conducted pre- (July 2015 to November 2015) and post- (July 2016 to November 2016) intervention to determine if there were any improvements in quality indicators for the patients who attended the class compared to patients who received a transplant before the class was created. The pre-implementation group was identified as mostly Caucasian males with an average age of 56.8 years. Most received an autologous stem cell transplant (54.3%). The post-implementation group was identified as mostly Caucasian males, with an average age of 55.1 years. These patients mostly received an allogeneic stem cell transplant (60.6%). There were no significant statistical differences between the pre- and post-implementation groups for length of stay or patient experience scores. 30-day readmission rate was lower among the post-implementation group (7.69% vs. 2.56%) with fewer patients readmitted for infection. However, there was an increase in CLABSI rate in the post-implementation group. For allogeneic patients readmitted post-intervention, there were no cases due to infection/sepsis. This may suggest standardized education focused on self-care activities and how to manage care at home played a role

in preventing 30-day readmissions due to infection. An increased CLABSI rate among the post-implementation group could be attributed to more allogeneic transplant cases. It is also important to note that CLABSI rate can be influenced by a multitude of factors, such as insertion bundles and maintenance care by hospital staff. Educational interventions, such as the BMT Basics Class, could provide a patient-centered approach to improving quality of care, when implemented in addition to current evidence-based practice.

#### **424 CLINICAL TRIAL RESEARCH COMPLIANCE AND THE UNSUNG HEROES—ONCOLOGY NURSES**

**Kelly Willenberg, DBA, RN, BSN, CHRC, CHC, Kelly Willenberg & Associates, Chesnee, SC**

Research compliance is part of most oncology nurses' role, but many are not aware of all of the complexity that goes along with that. Clinical trial research is important for oncology. The legislation signed by President Franklin D. Roosevelt establishing the National Cancer Institute in 1937 started the course for the NCI's success in being the nation's leader in cancer research. Realizing the importance of that and how clinical trial treatment is paving the way for cancer care is extremely significant. Nurses are the unsung heroes in providing much of the care that is part of a protocol. Understanding the reason for that "recipe" of conventional care, the reimbursement of that care, and how the research piece intertwines can be taken lightly. This session will help all oncology nurses to understand their responsibility and role in clinical trial research.

#### **425 MEETING THE EDUCATION NEEDS OF A MULTI-SITE COMMUNITY BASED ONCOLOGY PRACTICE**

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Multi-Site outpatient oncology practices struggle with the demands of ensuring the staff are educated and trained consistently across the practice. Oncology is a fast paced and demanding specialty that requires clinical staff to have a strong foundation of knowledge to provide the best care for their patients. A thorough staff education plan encompasses: an effective orientation program, maintenance of professional skills and knowledge, providing continuing education credits,

cross training for multiple roles, and development—personal, career, and leadership. As we observed Tennessee Oncology growing to include over 30 clinics and close to a thousand employees, it became apparent a comprehensive education plan was needed. The education across the enterprise was inconsistent in content with varied results. Maintaining records for each employee on education responsibilities for the practice was deficient, disorganized and unreliable. As the practice achieved certifications in multiple quality initiatives, additional training and monitoring were required amplifying the educational needs. Purpose: To develop an education plan to provide structured and effective education on new practices, medications and initiative changes. To provide continued education in maintaining professional skills and knowledge to support on the job training for new hires. Interventions: 1. Team: A concept plan was created and presented to the Talent Development Manager. It was decided by the executives to develop the plan across the company. A team of departmental trainers was created to provide an enterprise approach to orientation and training. A comprehensive orientation program was developed by this team to provide an enterprise wide introduction to the company. The Talent Development Manager led the team discussion and provided DDI development classes for the team. 2. Development of Core Training Components: (a) Orientation Agenda and Orientation content development by various departments, (b) Training Agenda and Content for each role with training manuals, (c) Skills Competency forms developed for clinical staff and time frame requirements for each, (d) Review of Learning Management Software Program for maintaining records and providing education. Identified Steps for Future Direction: (a) Improvement in the orientation program resulting in a robust onboarding program for all departments, (b) Preceptor program for new hire onboarding and participation in other initiatives, (c) Identification and implementation of a Learning Management Software program, (d) CEU assignments by the Education Manager

## 426

### **CULTIVATING A ROBUST ONCOLOGY NURSING TEAM WITH EXTRAORDINARY VISION**

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University of Louisville Kentucky is designated as an inner city tertiary care level 1 Trauma center. Currently, our oncology designated population is

vulnerable and are at risk if they do not receive nursing care at the highest level. There is less margin of error with medication errors, hospital acquired infections, non-recognition of early warning signs of deteriorating conditions, miscommunication among healthcare providers, which all lead to greater mortality rates in immuno-compromised patients. How do you create an environment that eliminates these safety risks and empowers nursing care at the highest level? You have to build a strong, positive/critical thinking team. The purpose was to demonstrate powerful inspirational leadership techniques to achieve outstanding measurable results for the oncology patient population. Interventions: 1. Primary focus on building the team a. Taking the time to hire the “right fit”. b. Spend majority of time building critically thinking leaders. c. Set clear expectation and follow through, holding each other accountable. d. Look for every opportunity to grow a staff nurse, never using punitive approach but positive/encouraging feedback. e. Giving appreciation, including verbal and written. f. Building trust with all staff, transparent culture. g. Educating on the “why” we do things, which builds engagement and creates a link to the importance of their role as a bedside nurse. Evaluation: 1. 100% Nurse engagement/satisfaction surveys 2. Quality results – 1 Year + free of CAUTI/CLABSI infections. 3. Patient satisfaction scores - HCAHPS top box 90+ percentile. Discussion: Spending the extra time up front to work with and grow all bedside nursing staff to become critically thinking leaders, pays dividends on the care of the oncology patient and the success of a nursing unit. Innovation: Recently, we started to engage our nurses with 1:1 leadership over the period of a month per nurse. Over the course of a year, 12 nurses both days and nights were mentored personally and professionally. These nurses were highly engaged and sought a constant need for education. While working with these staff members, when 1 item was taught to one specific staff member, they would embrace it and in-return teach their peers. Not too long afterwards, the entire team was being taught in a in-direct manner from the nurse manager.

## 427

### **INCIDENCE AND EMERGING IMMUNOTHERAPY TREATMENTS FOR HPV AND EBV RELATED CANCERS**

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Both DNA and RNA viruses have been shown to cause cancer in humans. Epstein-Barr virus (EBV), human

papilloma virus(HPV), hepatitis B virus, and human herpes virus-8 are the four DNA viruses that can cause the development of human cancers. Per the CDC HPV is a very common virus; affecting nearly 80 million people. Each year, about 39,800 new cases of cancer are found in parts of the body where HPV is often found. HPV causes about 31,500 of these cancers. Cervical cancer is the most common HPV-associated cancer among women, and oropharyngeal cancers, cancers in the back of the throat, including the base of the tongue and tonsils, are the most common among men. Epstein-Barr virus (EBV), also known as human herpesvirus 4, is a member of the herpes virus family. It is one of the most common human viruses. EBV is correlated with nasopharyngeal and gastric carcinoma, squamous cell carcinoma, Hodgkin's lymphoma, and Burkitt's lymphoma. These viruses, both HPV related oropharyngeal cancer and EBV related nasopharyngeal cancer, represent a unique subtype of head and neck cancer and have distinctive molecular characteristics and clinical presentations. Historically head and neck cancers are related to smoking, but the rapid rise in the incidence of HPV-associated oropharynx cancer and its recognition as an etiological agent has prompted a re-evaluation of past trial outcomes and a call for HPV-specific studies to evaluate new prognostic factors and new treatment approaches with less morbidity. In this phase 1 cancer clinical trial unit we have treated HPV and EBV head and neck cancer patients with immunotherapies and noticed how well they are responding. The purpose of this abstract is to highlight the use of immunotherapies in this population. Despite promising results of immunotherapy in virus related cancers, only small subset of patients benefit from single agent treatment. Various combination immunotherapy clinical trials are ongoing in patients with virus related cancers. As new combinations of immunotherapy emerge, it is important for oncology nurses to be knowledgeable about these treatments and educate their patients of these treatment options. Despite serious side effects, with proper management, immunotherapies have proven to provide sustained treatment response and better quality of life.

#### 428

##### **ONS CERTIFICATION: A SHARED GOVERNANCE LEADERSHIP INITIATIVE**

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Oncology nurse certification provides validation of the specialized knowledge and experience required for

competent performance. Research suggests that certification has value in the professional development of nurses and in the care of patients but a direct link between certification and nurse sensitive patient outcomes has yet to be realized. Nevertheless, professional organizations continue to endorse nursing certification as an indicator of professional practice. For example, the ONS Scope and Standards of Oncology Nursing Practice makes it clear that obtaining professional certification is a valid indicator that nurses are meeting the standard related to education (Standard VIII) and enhancing professional credibility. At the Karmanos Cancer Center (KCC), the Nurse Practice Council (NPC) recommends, implements, and maintains clinical and professional practice consistent with ONS standards. Over the last 3 years, the NPC has repeatedly set the goal of increasing the percentage of ONS certified nurses in the institution. However, in spite of incentives and promotional campaigns, the percentage of ONS certified nurses has remained stable but low at about 12%. The reasons for this failure to increase the percentage of ONS certified nurses was not immediately apparent. The purpose of this leadership initiative was to identify barriers and facilitators to obtaining ONS certification at KCC. An author (Zechar) developed a brief self-report survey to obtain information about potential barriers and facilitators to obtaining ONS certification. The survey was approved, endorsed, and supported by nursing administration. Nurses (N = 95) completed and returned surveys. There was broad agreement among both inpatient and outpatient nurses that "not enough monetary incentive" was by far the biggest barrier to pursuing certification. With additional financial incentives, outpatient nurses reported they were 43% more likely, and inpatient nurses 61% more likely, to pursue certification within 12 months. Findings from this survey are similar to those reported in the literature. In order to advocate further for nurse certification, the NPC has proposed increasing financial incentives to nurses. Providing extrinsic rewards, for example pay increase, for obtaining ONS certification appears to be a highly valued incentive for oncology nurses. Within a shared governance framework, NPCs can take a leadership role in advocating for certification incentives.

#### 429

##### **UTILIZING ONCOLOGY CLINICAL TRIAL NURSE COMPETENCIES: AN ADDITIONAL RESOURCE FOR UNDERSTANDING THE CLINICAL TRIAL PROCESS**

Theresa Zielinski, RN, MS, OCN®, International Breast

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Oncology clinical trial nurses (OCTN's) play a vital role in coordination of care as patients navigate through the clinical trial process. The scope and sequence of responsibilities of the OCTN may not be fully understood by staff nurses on care teams, which may result in gaps in coordination of care for patients. It may be beneficial to delineate core competencies of the OCTN to serve as an additional resource for staff nurses to help navigate through clinical trial experiences. The purpose of this project is to assess staff nurses' baseline level of knowledge of OCTN's competencies and determine if increasing nurse's level of understanding would be beneficial in caring for clinical trial patients. The ADDIE Model (Analysis, Design, Development, Implementation and Evaluation) will be used to develop this project. A review of literature on the role of the OCTN will be conducted. This will be used as a guide to determine if other studies on staff nurses' understanding of this role have been examined, determine uniformity of delineating this role, and explore how this may impact staff nurses' function in assisting with clinical trials. Based on the literature review, a survey will be developed, using the 2016 OCTN competencies as the main template in question design. Development: A convenience sample will be obtained existing of approximately 10 oncology nurses from a local cancer center and ONS chapter. A SurveyGizmo® link will be emailed to participants. Goal: Assess knowledge gaps related to the role of the OCTN. Evaluation: Answer questions: What is the baseline knowledge? Do nurses perceive learning about the OCTN role as beneficial to better understanding the clinical trial process? Will it help their patients? Do survey results support development of a teaching tool of OCTN competencies? Are nurses interested in learning OCTN competencies? Assessing nurse's general knowledge of the role of the OCTN may serve as a strategy to foster collaborative relationships and provide a uniform platform in understanding the clinical trial process. The implications for nursing practice are: The staff nurse will be able to engage with the OCTN to help build a better foundation for educating patients and aid in the discussion of treatment options and therefore help facilitate navigation through complex oncology research environments.

## 430

### TRANSFORMING THE INFUSION PATIENT EXPERIENCE: THE IMPLEMENTATION OF DEDICATED INTERDISCIPLINARY TEACHING VISITS FOR FIRST TIME PATIENTS

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Patients require comprehensive education to prepare for infusion treatment. Oncology nurses play a critical role in this process. Patients at a large academic cancer center were not arriving to treatment with the appropriate expectations of the process. Press Ganey metrics for "education provided" consistently indicated an area of opportunity. Observations of infusion patient teaching indicated variability of quality and quantity of education. Cancer treatment can be stressful and the first treatment can provoke additional uncertainty. High quality education by infusion professionals can decrease anxiety, improve outcomes, and transform the patient experience. The rationale for this project was based upon literature review, benchmarking, analysis of patient satisfaction metrics, and patient interviews. This led to a recommendation of the implementation of a dedicated first time infusion teaching visit. This model consisted of an educational session occurring between an infusion nurse, clinical pharmacist, and the patient/family. These sessions were designed to emphasize what to expect during infusion treatment. The visit curriculum was developed to be standardized, yet individualized to patients attending the in-person teaching sessions. Visits include safety verifications for dual screening by the nurse and pharmacist, including assessment of regimen accuracy, venous access, insurance requirements, and consent. A "Guide to Infusion" video is shown, and comprehensive regimen education with symptom management resources and complementary alternative medicine information is provided. Guided tour, teach back, and standardized documentation are completed. To enhance care coordination, after visit follow-up by the teaching team is ensured via both patient phone calls and provider messaging. The benefit of a clinical pharmacist participating in this visit adds innovative components such as medication

reconciliation and interaction screening, health literacy assessment, and potential revenue generation. The project was evaluated by measuring post-visit surveys and Press Ganey scores related to education. A 5.5 point improvement in the “education provided” Press Ganey score was observed. Average patient satisfaction among the 208 patients who completed the visit during the 4-month pilot was 10/10. 94% of patients reported a reduction in anxiety and 97.9% of patients reported an increase in preparedness. Patient education is a crucial component of the treatment process. The implementation of interdisciplinary, dedicated teaching visits have proven to be a reliable method of standardizing the education process while providing individualized teaching that enhances the patient experience.

### 431

#### INTEGRATING RESEARCH INTO CLINICAL PRACTICE

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Research protocols can be complex and in some cases take significant time away from the bedside leader. The lack of communication and inadequate planning between the clinical research team and inpatient units proved to be ineffective in managing patients admitted for research trials. Research protocols were available to eligible inpatients but the clinical teams had not identified the potential impact on nursing care or collection of research data points. The inpatient nursing team did not have an understanding of the why behind the research, additional care needs of select patient populations, or specific protocol requirements. Although the research team was available to discuss the protocol with nursing staff, the in-services were often unscheduled just in time meetings which did not allow flexibility for the inpatient nursing staff to attend. To improve communication and collaboration between our inpatient oncology units and our clinical research department to safely integrate complex research protocols into clinical practice. A research committee was formed made up of clinical research coordinators, oncology research director, inpatient unit managers & supervisors, Vice President of oncology nursing, educators, an oncology clinical nurse specialist, and a nurse scientist. Monthly meetings were initiated to improve

communication between the clinical research department and inpatient units. During these meetings research protocols are discussed to determine which inpatient unit can accommodate the patient best based on the patient needs or protocol requirements, such as telemetry monitoring, ICU monitoring versus general nursing care. To improve educational needs and communication between the CRC and inpatient nursing staff research binders were developed and provided by the CRC for the inpatient units. The binders include 10 specific sections such as the study contact information, in-service rosters, drug administration, toxicity management, sample collection/processing, IBC, radiation safety, training documentation, research protocols and the IP brochure. In addition to binders standardization of in-service times was agreed upon amongst the research committee. In years past we had two inpatient research protocols and today we have 4 active research protocols with four additional protocols starting soon. Given our recent growth of eligible patients on such protocols our nursing staff have expressed increased satisfaction since implementing our research committee and standardizing our processes.

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#### CLINICAL PRACTICE POSTER SESSIONS—THURSDAY

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### 9

#### BUILDING A PALLIATIVE CARE PROGRAM FROM THE INSIDE OUT

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It has become accepted that palliative care is an essential part of oncology care, particularly in patients with Stage III and IV cancers, co-morbidities or advancing disease despite treatment. Palliative care in our outpatient oncology setting involves presentation at the palliative care conference for recommendations related to de-escalation of cancer-related treatments, symptom management, goals of care visits, changing code status, and timely referrals to hospice care. Much of the literature supports the value of integration of oncology and palliative care services and some cancer centers have outpatient palliative care clinics. Because palliative care resources were limited and focused on inpatients in our system, our cancer center determined a multidisciplinary palliative care conference would be the best option to identify patients who would benefit

from early palliative interventions. To support this model, we also focused on increasing palliative care knowledge and skill levels of team members by developing palliative care specialists within our center. A dedicated palliative care specialist group was created in addition to conference. The development of palliative care specialists and weekly case conference was to promote earlier goals of care discussion and palliative care interventions. Palliative case conference is a multi-disciplinary weekly team meeting, including all departments in the cancer center, where patients' overall status is discussed and recommendations are proposed, including goals of care meetings, advance care planning and symptom management. Since the implementation of this model in October 2014, providers and other treatment team members continue to refer patients for discussion and recommendations. Goals of care meetings, advance care planning discussions, and completion of advance directives and MOLST/POLST have increased. The palliative care conference provides a multidisciplinary approach that enables providers to be proactive, rather than reactive, with care management of patients with advanced disease. It provides a mechanism for the team to reflect on appropriate care options and re-evaluate the goals of the patient in light of the current status of their disease. This patient-centered model is a continuous review process that focuses on the patient's values, beliefs, and wishes for end of life care. What makes this model innovative is the utilization of existing resources. Start somewhere and don't allow limited resources to discourage early palliative care interventions in oncology care.

## 10

### **HOT TOPIC—COLD SCALP: OVERCOMING BARRIERS IN A COMMUNITY HOSPITAL SETTING**

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Seventy-seven percent of patients who undergo chemotherapy report the most feared side effect from their treatment is Chemotherapy-Induced Alopecia (CIA). Scalp cooling works by constricting the scalp's blood vessels thus protecting hair follicles to prevent alopecia. Two types of scalp cooling options include Federal Drug Administration (FDA) approved machine capping systems and manual capping. While scalp cooling can improve patients' quality of life by

preventing alopecia, barriers faced in the community hospital setting include: provider buy-in, logistics, finances, nursing resources, space and chair time. The purpose was to offer scalp cooling opportunities to breast cancer patients in the community hospital setting using a multidisciplinary approach. The organization implemented manual capping (Artic Cold Caps) to eliminate space constraints and scheduling challenges of machine capping systems. Manual caps and the cooling systems are rented, posing a financial burden to patients. To aid with financial resources the institution obtained a freezer via the Rapunzel Project; a non-profit organization dedicated to helping chemotherapy patients keep their hair during treatment. A \$50,000.00 grant was bestowed by the organizational foundation to help with the cost of the manual caps and the dry ice. Scalp cooling is introduced to the patient in multidisciplinary breast clinic (MBC) by the oncologist. If interested, the patient must designate a caregiver to accompany them to their infusions. The nurse navigator provides the patient and caregiver with the education and resources necessary to complete scalp cooling therapy. Infusion nurses support the project by lending freezer space and encouragement for the patient and caregiver during infusions. Since implemented in 2014, there have been 21 MBC patients interested in scalp cooling. Six patients declined or discontinued scalp cooling therapy. Of the 15 remaining cases, 11 patients reported hair preservation, with 6 patients experiencing no hair loss (Grade 0), and 5 patients having <50% hair loss (Grade 1). The 4 patients experiencing >50% hair loss received anthracycline containing regimens. Successful hair preservation was achieved in 73% of evaluable patients. The organization is one of seven hospitals in Pennsylvania that offer scalp cooling. Oncologists, Nurse Navigators, and RNs alike fully endorse Artic Cold Cap and are enthusiastically optimistic regarding the quality of life improvements that this therapy can offer their breast cancer patients.

## 11

### **TREATMENT-FREE REMISSION (TFR) IN CHRONIC MYELOID LEUKEMIA (CML): ROLE OF THE NURSE PRACTITIONER (NP) IN THE EDUCATION AND MANAGEMENT OF PATIENTS**

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According to the National Comprehensive Cancer Network Guidelines, selected patients with CML may be able to discontinue treatment and maintain TFR (NCCN V1.2018). This may be appealing for patients

seeking relief from tyrosine kinase inhibitor (TKI)-associated side effects, patients wishing to have children, patients with financial concerns, or for other reasons. Currently, limited resources are available on the role of NPs in the care of patients with CML in the context of TFR. Thus, our objective is to address key roles of the NP in educating and enabling patients with CML to safely attempt TFR. Clinical trials examining TFR use strict eligibility criteria and monitoring protocols, and NCCN Guidelines have incorporated similarly strict criteria. Prior to attempting TFR, patients must receive long-term TKI therapy and achieve a sustained deep molecular response (DMR; according to the NCCN, minimum criteria include  $\geq 3$  years of therapy and  $\geq 2$  years of stable DMR). Additionally, after stopping treatment, patients' BCR-ABL1 levels must be monitored closely, with monthly monitoring for the first  $\geq 6$  months. Patients whose BCR-ABL1 levels rise above a predefined threshold (ie, molecular relapse) must reinstate therapy. Data from TFR trials have demonstrated that TFR can be safe and feasible for carefully selected patients. In the STIM1 trial,  $\approx 38\%$  of patients remained in TFR at 60 months after treatment discontinuation. Similarly, the ENESTfreedom trial reported a TFR rate of 49% at 96 weeks. In both studies, patients who reinstated treatment following molecular relapse remained responsive to TKI therapy, with  $\geq 90\%$  regaining DMR. Similar data have been reported in other studies. Patient education is a critical, and often overlooked, aspect of TFR. Some patients may require a thorough explanation of TFR and molecular relapse before they can decide whether they are interested in attempting treatment discontinuation. For patients wishing to attempt TFR, NPs can help emphasize the importance of treatment adherence and routine monitoring to achieve the level of response needed to become eligible for TFR; during TFR, NPs must provide patients with guidance on the need for frequent molecular monitoring and prompt treatment reinstatement in cases of molecular relapse. Overall, NPs play an important role in addressing the patient's perspective, promoting good molecular monitoring practices, and helping patients reach and safely maintain TFR.

## 12

### DEVELOPING A BEST PRACTICE MODEL FOR BLOOD CULTURE SAMPLING

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The importance of identifying potential microorganisms in a blood culture collection in the febrile neutropenic patient cannot be overestimated. Several

studies have shown that the rate of peripheral vs central line draw contamination is higher with samples drawn from central lines. After an extensive literature review regarding blood culture sampling from central lines, we set forth to evaluate our present practice to ensure that we were adhering to best practice. The purpose of this project was to assess the oncology nursing staff's current practice and beliefs related to blood culture sampling from a central line and to review the hospital's current policies and procedures which were in place and pertained to this issue. A questionnaire based on best practices identified in the literature review was administered to registered nurses on a medical oncology unit. Each nurse was asked to answer according to their current practice. Sample questions included bottle order, cleansing procedure, volumes of blood drawn, whether to discard blood prior to sample collection, and whether to change the needless connector prior to sampling. In addition to evaluating each answer, all answers were subdivided into the nurse's level of experience ranging from less than 1 year to  $>10$  years. The results showed that scores ranged from 40–90% of the questions were answered correctly. The mean score was 56 (1–3 years of experience), 66.7 (3–10 years), 67.5 ( $< 1$  year) to 70 ( $> 10$  years). Mandatory didactic education and competency-based check off was conducted amongst all nursing staff. A major practice change in our method of collecting samples was the removal and cleansing of the needless cap prior to collecting the blood culture sample from the central line. In addition, peer review of the procedure was encouraged. Lastly, policies were modified to reflect these changes. Neutropenia and sepsis may be an unfortunate occurrence for the neutropenic oncology patient. As nurses, we should always adhere to evidence-based practice when drawing blood culture samples from central lines. Although our contamination rate was 2% prior to our assessment, we recognized that our practice was not totally evidence based and have revised our processes to ensure compliance to national standards of practice.

## 13

### “LET'S TALK ABOUT SEX!” TOOLS FOR INITIATING THE “CONVERSATION”

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Oncology patients on a clinical trial face numerous psycho-social difficulties during the course of both their diagnosis and treatments. Major issues that are

seldom discussed are the rules associated with sexual activity during chemotherapy regimens and concerns about intimacy and sexuality that can occur while on trial. Studies have shown less than two thirds of physicians routinely ask about sexual activity and less than forty percent ask about sexual dysfunction. When you compare those numbers to the seventy five percent of patients who actively have sexual problems you encounter a hefty population of patients who are underserved in this arena. Research nurses are the member of the clinical trial team that spends the most time with the patient providing care, support, and most importantly education. Education should include sex safety and concerns about intimacy and sexuality. The purpose was educating and empowering clinical research nurses to initiate communication on sexuality and offer safety guidelines for patients to follow during a clinical trial. A series of informational booklets to educate the clinical research nurse on models helpful in assessing patients' understanding of possible sexual side effects and scripts for initiating these conversations were created. The booklets were piloted on a 17 bay outpatient clinical research center at a NCI designated comprehensive cancer institute, with 11 nurses and 42 clinical research coordinators. The nurses were given the booklets prior to staff meetings to review. We relied heavily on the taboo nature of the subject to encourage discussion amongst the staff. At the staff meetings nurses were able to discuss their feelings towards the materials and introduce ideas to each other on how to approach the patients. The nurses could then role play and those not comfortable with participating in an open arena were at least able to observe their colleagues and take notes. While education gleaned from the booklets was important, bringing the subject to the forefront of the nurse's attention in the form of open discussion and role play was also important as it normalized subject matter thus making it more likely that it would be discussed, the nurse would feel satisfied in their delivery, and that the patient would leave informed and would feel comfortable instigating questions at their subsequent visits.

## 14

### **A CONCEPTUAL FRAMEWORK AND CASE STUDY TACTICS TO ADDRESS COMPASSION FATIGUE**

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It is in the best interest of oncology nursing practice that nurses understand compassion fatigue and

implement interventions to address the subject. However, there is limited literature that identifies evidence-based strategies. An exception is a phenomenological study by Perry (2008) which addressed three main themes to avoid compassion fatigue: creating moments of connection; making moments matter; and, energizing moments. This presentation discusses each of these themes. Case studies from a 30-bed medical-surgical hematology/oncology unit in an academic, community Magnet™ hospital illustrate specific tactics within each of the three themes to avoid and/or mitigate compassion fatigue. Moments of connection happen when nurses in the study connected with their patients and families, enabling them to put themselves in the position of the person with cancer; nurses gained motivation and energy to offer exceptional care because they recognized those in their care could be themselves, family members and friends. The second theme—making moments matter—began by nurses valuing opportunities to establish meaningful relationships with patients. This led to avoiding compassion fatigue by appreciating fully the significant moments of the nurse-patient relationship. Energizing moments, the third theme, relates to a “zest for life” attitude; study nurses may have discovered that a positive response in difficult circumstances may prompt better outcomes. Though they could not always control their work environment, they could control their response to the circumstances. Case study tactics associated with these themes include: daily unit coffee and tea time between patients and staff, initiated by a patient for whom this was tradition within his home setting; non-denominational, spiritual meditation for staff and patients preceding the morning safety huddle; peer visitation among patients; and, staff participation in patient cultural rituals. The hematology/oncology unit's most recent staff satisfaction scores associated with the conceptual framework themes exceed the data-base mean, including but not limited to: interprofessional relationships; organizational environment; RN-to RN teamwork and collaboration; employee autonomy; quality nursing care; incorporation of evidence-based care; and, partnering with patients/families to deliver individualized care. Compassion fatigue can prompt high nursing turnover, poor job satisfaction and compromised quality care. This conceptual framework and associated case study tactics can be adapted by oncology nurses in any setting to enhance their own resiliency through moments of connection, moments that matter and energizing moments.



## 15

### WOUND CARE CHAMPION TEAM IN HOSPICE CARE

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Wound care was not uniform and nurses lacked enough training to care for complicated wounds for patients at end of life. Due to decreased mobility, lack of nutrition to support healing, and overall disease progression, wounds are inevitable for many patients in hospice. Proper wound management increases comfort and prevents further infections. As a multidisciplinary team, we have improved patients quality of life by improving our wound care outcomes across home and inpatient care areas. The goal was to create a streamlined approach to treating all patients with wounds in our hospice care to further improve their end of life experience. The team is made up of a nurse from every care team in partnership with the Clinical Specialist. The team developed standardized first-line therapy guidelines for the management of all wounds. We build capacity for improved patient outcomes by serving as a resource to all staff nurses to provide assessment, develop care plans, and improve nurse confidence. Nurses on the team are learning new wound care techniques and applications that improve outcomes at end of life and the team provides consults for 25-40 patients per month. The team is seen as a valuable asset to the nurses throughout the organization, as evidenced by the comments made during our annual competency festival. Nurses reported that the new wound care guidelines made it easier to start wound treatments sooner and simplified training provided to families. We have expanded the team in year 2 to include hospice aides who serve as Skin Care Champions. By integrating a nurse/nursing assistant team, we hope to see improved prevention strategies and harness the talents of our hospice aides to assist with simple wound care. Because of our commitment to develop wound care guidelines for our hospice patients both patients and caregivers benefited. Patient's wounds were addressed to provide comfort and caregivers felt empowered in being able to provide that comfort at this important time. The team developed a Wound Education Tool, which is used to provide written instructions to caregivers, along with verbal demonstrations that nurses provide. This streamlined communication method has improved patient care and is most beneficial to the quality of life for the patient.

## 16

### STRUCTURED SHARED DECISION-MAKING MODEL TO GAIN PATIENT'S PARTICIPATION

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Shared-decision-making (SDM) model is a National priority, so incorporating SDM in clinical practice is necessary. In oncology, utilization of a strong SDM model is particularly relevant for evidence-based practice (EBP), where scientific evidence and patient's preference is included. However, SDM is challenged by a patient's susceptibility to cognitive disturbance related to disease process or cancer treatments. Scoring tools are often used for clinical cognitive evaluations, but clinical decisional capacity is a linear assessment, and the cut-off lines by these tools put the patient at risk of being excluded from SDM. Implementing structured support is needed in SDM, and an advanced practice nurse-driven project was implemented. The purpose of this presentation is to describe a model which advocates for a patient's autonomy in SDM, and assesses the relative effectiveness. Oncology treatment options are presented by oncologists, and patients and family are often asked to make choices, despite the information being only partially understood. Although complexity of information needs to be considered in assessment of comprehension, it is often ignored because of a lack of formal support. The inpatient setting allows us to utilize a palliative care team to support this process. Multidisciplinary palliative care consultation services are available for all admitted patients in our facility. Palliative care team members were educated on decisional competency theories and clinical evaluation. This team is equipped with knowledge about decision-making, and additional education enabled them to define the degree of a patient's involvement in SDM. This structured evaluation and intervention model made the decision-making process clearer. The outcome of this intervention was evaluated qualitatively. Documentation clearly stated the degree of patient involvement in SDM, even when cognitive impairment was present. This documentation enhanced the palliative care team's ability to communicate the SDM process and outcome. Families feel more comfortable with the decision because the patient's wishes are included. Decisional capacity is often confused with decisional competency, which is a legal term. A clear distinction between decisional capacity and competency helps clinicians gain understanding of SDM. A structured evaluation and intervention model of SDM improves patients' active involvement in decision-making.

## 17

### **DISTRESS NO MORE: THE EFFECT OF EARLY INTERVENTION PALLIATIVE CARE IN HEMATOPOIETIC STEM CELL TRANSPLANT (HSCT)**

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Palliative Care is defined as specialized, multi-disciplinary medical care for people with serious illnesses, which aims to relieve patients from symptoms and stress, while improving quality of life. On average, Hematopoietic Stem Cell Transplant (HSCT) patients spend 1 month in the hospital, suffering from social isolation, emotional concerns, and treatment-related side effects. There is limited data on palliative care in HSCT. Our nursing team recognized the need to increase palliative care's involvement in the transplant process to improve our patients' distress levels. The purpose of this study is to identify how early-intervention palliative care affects HSCT patients' distress levels on a 16-bed in-patient HSCT unit in an academic medical center. Eleven newly admitted HSCT patients participated from July–September 2017. Patients were randomized into 2 groups: control (6 patients) admitted on Mondays and Wednesdays; experimental (5 patients) admitted on Tuesdays and Thursdays. Admission day was selected to distribute resources. The validated National Cancer Center Network (NCCN) Distress Thermometer was administered to patients at the following intervals: admission, weekly, and discharge. It measures distress from 0–10: a) 0 = no distress; b) >4 = moderate distress; c) 10 = extreme distress. Distress rating >4 required intervention. Patients noted the sources of distress on the tool. On admission, the experimental group had early-intervention, weekly palliative care consults regardless of distress. If distress was >4 in the control group, it prompted an assessment of distress and referral to the HSCT team, social work, and/or palliative care. No patient was left in distress. Distress levels were self-reported and evaluated by nursing weekly. Patients with early palliative care interventions demonstrated decreased distress levels; 20% had distress during transplant compared to 100% without the intervention. Discussions with patients and nurses supported that this study promoted self-reflection and encouraged difficult conversations. Limitations are the small sample size and compliance with distribution and completion

of tools. Early palliative care consults help decrease patient's distress. HSCT nurses play a pivotal role in assessing distress level and facilitating referrals as promptly as possible, providing support and coping mechanisms. In the future, we plan to continue this study with a larger sample size and to explore other areas affected by palliative care such as quality of life.

## 18

### **APPROACHES TO MAXIMIZE ADHERENCE AND COMPLIANCE TO ELTROMBOPAG IN PATIENTS WITH ITP**

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Immune thrombocytopenia (ITP) is a rare disorder associated with an increased risk of bleeding due to reduced platelet counts. The first-line treatment of ITP is steroids or intravenous globulins (IVIg). A chronic ITP diagnosis is typically made after a patient has been managed with these therapies for many months with no stable improvement in platelet counts and therefore remains at risk of bleeding. Eltrombopag is a thrombopoietin receptor agonist (TPO-RA) indicated for the treatment of patients with chronic ITP who have had an insufficient response to a first-line treatment including corticosteroids, or immunoglobulins. In most adults and children with ITP, eltrombopag helps improve platelet counts within weeks and reduces the risk of bleeding. However, as with any medication, safe and effective use of eltrombopag requires patient adherence and compliance. After living with low platelet counts that necessitate extensive monitoring due to the risk of bleeding, patients responding to eltrombopag at some point may feel that they no longer need to visit their doctor after learning that their platelet counts are improved and risk of bleeding is reduced. Nevertheless, regular monitoring is crucial for patients on eltrombopag to enable dose adjustments in case of thrombocytosis or hepatic abnormalities. Meal timing requirements are another important point of education; administering eltrombopag with divalent-ion rich foods/supplements may reduce efficacy of the treatment. Importantly, patients should also understand that they may consume any food they wish, they simply must adjust the timing of eltrombopag dosing. Lastly, the patient must remember that any discontinuation or interruption should be done under a health care provider's supervision, as their platelet counts may drop significantly after an abrupt cessation of therapy. In our experience,

eltrombopag is very well-tolerated and reporting of adverse events that lead to discontinuation is rare. To avoid accidental interruptions in treatment, patients should be reminded to refill their prescriptions on time, and take their medication with them while travelling. Adherence can be encouraged by educating the patient on the rationale behind the instructions and by providing meal planning tips. Although the information is available on the package insert of the medication, a discussion with the patient/caregiver is helpful in ensuring the information is read and understood to maximize compliance.

## 19 SAFETY AND HAZARDOUS DRUGS: KNOWLEDGE AND PRACTICES OF NOVICE NURSES

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The dangers of hazardous drugs (antineoplastic agents) have been well known for many years. The nurses and other healthcare workers that are exposed to these drugs are at risk for various conditions when these drugs are not handled safely. Exposure to these agents has been associated with many conditions including nausea, vomiting, diarrhea, rashes, alopecia, menstrual cycle changes, infertility, miscarriages, and malignancies. Current safe handling recommendations are not consistently followed. This project was conducted on an in-patient adult oncology unit where the administration of antineoplastic agents is part of the daily routine. This unit has many novice staff nurses that have little, if any previous oncology experience. All newly hired nurses attend a four-day academy that includes safe handling practices related to hazardous drugs, specifically antineoplastic agents. But based on observations of practice and discussions with the nurses, the author felt there was a lack of both knowledge and skills that were needed to perform the job safely and effectively. In addition to understanding the side effects and nursing implications of the agents that are being administered, the nurses must understand and practice safe handling techniques that minimize surface contamination. Other staff members and visitors are placed at risk if they touch surfaces such as the side rails or call lights that have trace amounts of these agents on them. The purpose of this project was to assess the knowledge and practices of novice nurses and to assist them to increase their abilities to handle antineoplastic agents safely. The nurses were surveyed anonymously to

evaluate knowledge and compliance with the current safe handling policy. Only 30 percent of the respondents reported using the gloves and gowns correctly, even though these expectations were discussed and demonstrated in their initial oncology education. The risks and policies were reviewed individually or in small groups with the nurses. They were given a tip sheet and surveyed again one month later with 90 percent of respondents reporting correct use of gowns and gloves. To ensure that the participants continue safe handling practices, ongoing monitoring and reinforcement of expectations may be needed. Repeating this project with the experienced nurses, especially those who precept, could assist with increasing overall compliance with safe handling.

## 20 THE PATIENT IS ENROLLED, BUT WHAT ABOUT THE NURSES? INPATIENT NURSING MANAGEMENT OF TUMOR INFILTRATING LYMPHOCYTE (TIL) CLINICAL TRIAL PATIENTS

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In June 2017, an inpatient medical oncology unit at the University of Pittsburgh Medical Center was presented an overwhelming assignment: caring for patients enrolled in Tumor-Infiltrating Lymphocyte (TIL) clinical trials. These patients receive non-myeloablative (NMA) lymphodepletion, TIL cell infusion, and Interleukin-2; a protocol that our nurses had never managed. Review of policy and literature search yielded minimal guidance for nursing management, and bedside expert advice did not exist. Representatives from the clinical trial team met with some staff prior to implementation, but it was difficult to imagine the obstacles to come. As a unit new to cell infusion entirely, education was critical. The approach required collaboration, and shift in focus to the needs of the research participant rather than the typical acute patient. Prior to intervention, when caring for TIL patients, nursing assignments were designated

to a small cohort of experienced nurses in order to create TIL champions. An interdisciplinary team was then formed including champions, advanced practice nurses (APN), clinical research coordinators (CRC), and principle investigators (PI). After a tenuous few months monitoring the first patients in these protocols, education was extended to the entire staff. Prior to education, nursing staff received a pre-test to assess the level of skills, comprehension, and moral distress. An educational session for nursing staff is planned to be held in-person and recorded for online viewing. In addition, a detailed nursing handoff guide was created that includes required daily tasks, contact information, anticipated adverse effects, and suggested interventions in a checklist format. Nurses' knowledge will be reassessed using a post-test at four and ten weeks. The aim of this intervention is to increase the overall knowledge, confidence, and skill level of the nursing staff caring for patients on the TIL clinical trials while also minimizing deviations from protocol. Without established standards of nursing practice and little education, the inexperienced staff nurse develops reservations amplified by feelings of inadequacy. The ethical dilemmas faced in these situations may be addressed by educational initiatives. Using education and a nursing care guide, it is projected that these nurses will be empowered to give excellent care to the clinical trial patient.

## 21

### ACHIEVING OPERATIONAL EXCELLENCE IN THE ONCOLOGY INTENSIVE CARE UNIT

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In a high risk setting such as an oncology Intensive Care Unit (ICU), providing quality care and maintaining a culture of safety is vital to patient outcomes. Operational excellence was introduced to build a foundational operating framework in the ICU, create process reliability and connect value streams through standardization, all while systematically increasing value to patients and employees. The purpose of this retrospective investigation was

for the ICU team, along with the operational excellence team, to examine and eradicate defects. A multidisciplinary team designed and implemented a Lean Daily Management Board based on five pre-determined metrics. Five areas: Safety, Quality, Engagement, Innovation/Finance, were aligned with the unit's key performance indicators. Metrics centered on patient safety and hospital acquired infections including venous thromboembolism prophylaxis (VTE), hospital acquired pressure ulcers (HAPU), ventilator associated events (VAE's) and central line associated blood stream infections (CLABSI). These metrics became the focus of data collection and daily discussion. The team met daily at the board for a brief huddle to review a checklist confirming documentation adherence, patient outcomes, productivity, and employee engagement. Fallouts are addressed, displayed for awareness and corrective measures. Initial data collected starting in January 2014, noted medication scan rate of 75%, fall rates at 1.32/1000 patient days, VTE 77%, HAPU 1/1000 patient days, VAE's 1/1000 patient days, and CLABSI 0.3/1000 patient days. Continuing education and certifications among the oncology ICU nurse were not defined at baseline. After implementation of the Lean Daily Management Board, 2015 data revealed an increase in medication scanning to 98.9% and 99.06% in 2016. Fall rates remain consistent at 1/1000 patient days and VTE prophylaxis climbed to 100% in 2015 and through 2016. HAPU's decreased to 0.6/1000 patient days, and VAE's were reduced to 1 in 2015 and 0 in 2016. CLABSI rates decreased to 0. Nursing certifications rose from 28% to 47% in 2015 and to 57% in 2016. Journal club engagement doubled to 24 in 2015 and to 41 by 2016. The ICU nurses exceeded goal and attended two hundred and fifteen educational events. Lean daily management empowered the staff to drive quality and safety in the ICU. Deficiencies fostered accountability and implementation of evidence-based patient care practices. Process improvement, positive patient outcomes, and increasing nurse engagement were achieved utilizing operational excellence.

## 22

### CENTRAL LINE ASSOCIATED BLOOD STREAM INFECTION (CLABSI) REDUCTION IN A BLOOD AND MARROW TRANSPLANT UNIT

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Infections, such as central line associated blood stream infections (CLABSI's) remain a leading cause of morbidity and mortality in the stem cell transplant population. A variety of educational and maintenance interventions have been identified in literature that positively impact CLABSI rates. In a twenty-four universal bed unit, the Fiscal Year (FY) 2016 CLABSI rate was 3.0 per 1000 central line days. New and ongoing quality improvement initiatives were implemented throughout the year to decrease the CLABSI rate. Monthly rates were evaluated to track the progress and determine the effectiveness of interventions implemented. Some of the Interventions Implemented: Independent assessment of central line dressings and maintenance practices; Daily audits of central lines and tubing; Implementation of unit based CLABSI champions (super-user model); Revalidation of nursing staff by champions; Two nurse dressing and needless connector changes; Use of checklist to decrease variation of practice; Removal of add-one devices; TruD (UV Light treatment) of all rooms upon discharge; Chlorhexidine (CHG) gel dressing (instead of Biopatch); and CHG bathing of ambulatory patients. A combination of interventions succeeded in reducing the CLABSI rate in the BMT unit by 50% from the previous fiscal year with a more profound reduction noted the second half (with only 2 CLABSI's from November to June 2017). It is difficult to determine which interventions had the most impact, as multiple interventions were implemented in the same time frame. CLABSI prevention measures can positively impact rates in the BMT population. New interventions continue to be evaluated in an effort to reduce CLABSI rates to 0% by 2019. The interventions and methods used in this project can be universally applied to any inpatient oncology or BMT unit seeking to reduce CLABSI rates.

### 23 VINCRISTINE MINIBAG ADMINISTRATION TO MINIMIZE RISK OF MEDICAL ERRORS

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Accidental intrathecal administration of vincristine (a "medical error") can have lethal consequences for patients. At our Comprehensive Cancer Center, vincristine is routinely infused by direct IV push using a syringe. Accidental intrathecal administration of vincristine can occur if the syringe containing vincristine

for intravenous administration is mixed up with a syringe containing a drug for intrathecal administration. To minimize the risk of accidental intrathecal administration of vincristine, both policy and practice need to change. The twofold purpose of this quality improvement initiative was to: (1) introduce a new standard of care related to the preparation and administration of vincristine and (2) validate the uptake and standardization of the new standard of care across 14 infusion centers in our health care system. In collaboration with pharmacy, the practice of preparing vincristine syringes for intravenous administration was abandoned. Under new guidelines, vincristine for IV infusion is now mixed in a minibag and administered via gravity. To standardize the practice across all infusion centers, an education video and skills checklist were developed. Infusion nurses at all 14 infusion centers had one month to complete the educational video. Then each infusion nurse completed the clinical validation checklist under the direct observation of a trained evaluator. This new method of administering vincristine was met with some resistance. Some nurses felt defensive, as though their professional commitment to safe and prudent practice was being questioned. Nevertheless, through dialogue, upholding the importance of minimizing risk to patients and adhering to an unwavering and systematic approach to educating and validating infusion nurses across all sites proved successful. Over a three month period all infusion nurses had completed the educational program, were validated and had adopted the new practice Patient safety is a priority for all health care providers. Nurses play a special role in promoting patient safety and minimizing the risk of "medical errors" by questioning routine practices and introducing new, safer practices. Practice change can be difficult. However, our experience suggests that education with clinical validation of the uptake of new knowledge can facilitate adoption of new practices.

### 24 IDENTIFYING BARRIERS TO ORAL CHEMOTHERAPY: A NURSE QUALITATIVE REVIEW PROCESS TO IMPROVE INITIATING THERAPY, PATIENT ADHERENCE, AND NURSE SATISFACTION

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More chemo/immunotherapies are being offered to patients in oral formulations. However, many delays in initiation of therapy may occur, including: insurance,

preauthorization, specialty pharmacy requests, high co-pays. In a community out-patient infusion center, responsibilities for identifying these issues fall to the nurse. Therefore, having a systematic process to streamline drug acquisition may have significant impacts in therapy initiation and reduction of nursing efforts. The purpose was to develop and implement a systematic process to streamline drug acquisition as a means to facilitate drug initiation, reduce delays in treatment, improve patient satisfaction, increase nursing satisfaction, and reduce nurse workload. Clinic nurses identified a multitude of issues that transpired prior to oral chemo/immunotherapy acquisition: provider lack of awareness, prescriptions to non-specialty pharmacies, need for insurance prior authorization, no awareness of when medication is received or initiated. A quality improvement process was begun to systematically identify all the barriers that pertain to each step towards drug acquisition. First we identified provider prescription patterns with change to all prescriptions handed to triage nurse to implement next steps. Next, we identified which insurances and specialty pharmacies aligned and built rapport with company representatives to facilitate processes. We learned to anticipate prior authorization as a necessity, leading to the development of our standard process, including possible appeals. The financial burdens are explored. Last is assuring drug shipment and receipt to the patient. The multidisciplinary team was educated to the full flow process and we initiated our audit to identify additional barriers or tweaks that are required. The process was initiated in 2015 with 100 patient audits performed. The top four barriers were identified and mitigated as we were not able to eliminate them. An essential component is educating patients to the timeline upfront and keeping them informed throughout. Although we were not able to eliminate the barriers that lead to delay in patients receiving their oral therapy. We have created a standardized process for obtaining the medication that has led to less staff frustration, workload and better tracking of status for each case. Our next steps is to improve identifying when patients receive their medication and re-educating them on drug administration, expected side effects, their management, and required follow-up.

## 25

### **STANDARDIZATION OF INPATIENT EDUCATION FOR LEUKEMIA/LYMPHOMA PATIENTS: A QUALITY IMPROVEMENT PROJECT**

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On an inpatient hematology/oncology unit that specializes in the treatment of leukemia and lymphoma patients, a problem was found related to inconsistency in education of patients. Prior practice was to begin patient education on day of admission or when a new diagnosis is received and chemotherapy is initiated. Length of stay for these patients may be up to 4–6 weeks. Patient education includes but is not limited to: understanding disease process, chemotherapy, symptom management, and risk factors. Before this project there was no standardized method of education across the trajectory of care for these patients. The question was asked: In the newly diagnosed and relapsed leukemia/lymphoma adult patients, does standardization of education increase nurse satisfaction related to patient education when compared to current educational practices? Nurses identified a gap in the leukemia and lymphoma education; a workgroup was formed. A literature review was conducted to evaluate current standards of care. A survey was sent to clinical nurses regarding satisfaction with the current patient education process. Survey results led to the development of a leukemia/lymphoma education folder. This folder includes an education checklist with the following topics: support system, expectations of patient, plan of care, disease, treatment, side effects/management and supportive care available. The checklist and packet is designed for use throughout the care trajectory and is patient directed. All nurses were educated about the new process in January 2017, with a role out date on February 1, 2017. A survey conducted eight months after implementation revealed the following: satisfaction in current practice for providing education increased from 51% to 94%, agreement that the nurses had consistent practice in education patients increased from 39% to 88%, satisfaction in the resources available on the unit increased from 73% to 94%. Through standardization of education, nursing satisfaction regarding patient education of leukemia and lymphoma improved. By providing improved resources and consistency in nursing practice, the patient benefits by receiving high quality, evidence based care.

## 26

### EFFECTS OF PROFESSION DIRECTED RESEARCH ORDER GENERATION ON CLINICAL TRIAL MEASURES

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Accurate care delivery and data collection is a clinical trial imperative. Specifically, phase one clinical trials require extensive vital sign monitoring, ECGs, blood sampling and detailed treatment guidelines. Protocols provide schedules of events and drug administration details that need to be translated into a functional order set for nurses. Research order creation is a critical part of clinical trial implementation and requires multidisciplinary collaboration. At Winship Cancer Institute of Emory University, nurses led a process change and are now essential to the development and creation of research orders, ensuring accurate patient care and quality data collection. Prior to the initiation of the Research Order Committee in January 2014, pharmacists were responsible for all aspects of research order creation. Often, order creation was delayed due to pharmacist workload, preventing timely study enrollment for potential patients. The Research Order Committee was designed to enhance collaboration, improve the efficiency of this process, and has been implemented and utilized with great success. Following the establishment of the committee, clinical trials infusion nurses began creating the tables that outline patient care tasks and data collection time points as specified in research protocols. Nurses collaborate with pharmacists, coordinators and principle investigators to effectively translate all aspects of required care. A nurse representative attends each meeting ensuring consistent nurse input on each order set reviewed. In 2016, to further refine the order creation process and increase efficiency, the research order was split into two working documents: pharmacy order and nursing considerations. This substantially improved formatting and provided additional space for pertinent nursing care guidelines. With the new process in place, the time from Scientific Review Committee approval and committee

notification to first draft creation decreased by 18 days (46%) and total time required for order completion and approval decreased by 52 days (45%) by 2017. Integrative and collaborative patient care is essential in clinical research but a challenge many large institutions struggle with in practice. At Winship Cancer Institute of Emory University, research infusion nurses have played an integral role in protocol order development, strengthening the multidisciplinary approach to clinical trials conduct. This new process of developing and managing all research nursing consideration documents has greatly improved quality and efficiency, ensuring trials open faster allowing patients more timely access to clinical trials.

## 27

### ONCOLOGY NURSE INFORMATICIST: DRIVING EVIDENCE-BASED PRACTICE THROUGH DOCUMENTATION

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Documentation is essential in healthcare to ensure safety, quality, and standardization. The electronic health record (EHR) is a valuable documentation tool that allows for evidence-based interventions through order sets, algorithms, reference texts, and protocols. The Oncology Nurse Informaticist plays a critical role in developing documentation that ultimately drives practice. By working closely with providers, nursing staff and leadership, informaticists incorporate evidence-based practices (EBP) into workflow processes for adoption of documentation standards. The purpose of this presentation is to describe the unique role of the Oncology Nurse Informaticist in implementing two EBP examples at a fully-integrated cancer center. Post-transplant patients require specific immunizations at monthly intervals over several years which often leads to tracking difficulties. The informaticist led an interdisciplinary team to design multi-phased EBP orders, and incorporate patients' follow-up appointments. These new orders resulted in practitioners adhering to current immunization guidelines while increasing efficiency in tracking the administration. Secondly, cerebellar toxicity assessment for patients receiving high-dose cytarabine was inconsistent and not documented by nursing. To standardize assessment and documentation across the inpatient and ambulatory setting, a new evidence-based assessment tool was created along with an algorithm to track details of findings over time.

Positive clinical outcomes resulted from both project implementations. The post-transplant immunizations plans decreased time for provider order entry and clarified where patients were in the re-immunization process over a span of five years. Delayed and missed doses of immunizations decreased significantly. The cerebellar toxicity assessment tool reduced variability in nursing assessments. Additionally, the tool now allows nurses to monitor critical changes and trends in a flowsheet-format, thus improving the nursing assessment in a high-risk population. The Oncology Nurse Informaticist role facilitates successful implementation of EBP initiatives. As guidelines change based on new research, the informaticist actively updates documentation measures by meeting national guidelines and accreditation standards. Oncology settings utilizing EHRs may benefit from this position to drive documentation through evidence-based practice changes. The nurse informaticist's knowledge of nursing workflow and oncology practice can greatly enhance success of these projects.

## 28

### IT'S ALL ABOUT COMMUNICATION

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Currently there is an increased focus on communication at all levels. There have been many articles written regarding successful peer communication and most recently there has been a great focus on effective communication with patients. The purpose of our program was to improve communication both within the cancer center and the inpatient unit to improve both continuity of care and quality of care for our cancer patient population. We opted to use portions of the COMFORT Communication modules to educate physicians, the management team, nurses, medical assistants and receptionist/secretarial staff regarding effective communication techniques. We conducted a pre-program survey to assess each individual's perception of their ability to communicate effectively both with their peers and with patients. The Program was presented with the mandate that all staff was required to attend. A post program survey was conducted to assess learning and the staff was also required to complete a program evaluation. To encourage attendance CNEs and CMEs were obtained. The program was evaluated through pre and post-surveys and staff evaluations. Over time we will

be further assessing the program effectiveness based on surveys assessing increased staff communication. We will also be looking at patient satisfaction scores which we are predicting will improve due to improved communication. We also expect to see improvements in quality of care due to improved communication. Communication is a major issue that is receiving a great deal of attention in the current literature. Effective communication can improve staff satisfaction and therefore retention of staff. Patient satisfaction and quality of care are also improved through the use of effective communication skills. Our perception is that beginning with one session using the COMFORT communication module we can begin to promote the use of effective communication and create an environment in which we can continue this improvement through the presentation of further programming using the modules. Through the use of this educational initiative we are attempting to create a caring, understanding and supportive environment for both staff and patients. Using this initiative to open communication pathways we feel that we can improve on the compassionate care that we currently provide. Plans for the future include sharing this program throughout the facility.

## 29

### RESILIENCY PROGRAM FOR NURSES TO DECREASE BURNOUT AND INCREASE RETENTION

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The Stem Cell Transplant (SCT) unit has experienced a nurse turnover rate of 66% in the fiscal year (FY) of 2015. Nursing staff has expressed intermittent feelings of anxiety, sleep disturbances, physical exhaustion, insomnia and headaches, which are all behavioral signs of compassion fatigue. SCT nurses focused on multiple methods of self-care including journaling, yoga and mindfulness training. This program was given to the nurses in FY 16. For FY 17, we continued with monthly practices at the unit-based council meeting, talking about various areas of self care and compassion fatigue. Also, a monthly support group was developed to continue to offer support for the nurses. Each nurse was administered the Professional Quality of Life ("ProQOL") Scale Version 5 (2009) to measure his/her degree of compassion satisfaction,



burnout and secondary traumatic stress. The ProQOL was re-administered at three and six month intervals post program completion to determine if the self-care methods were effective. Post program satisfaction surveys were obtained. Study results expressed high nurse compassion satisfaction, low burnout, and low secondary trauma. SCT nursing turnover rate has decreased from 40% to 32% over for FY 16. RN Turnover decreased to 15% during FY 17. During this program, we realized that self-care practices differ from one person to another and participation is optional. We hope to continue to incorporate nursing input and offer diverse self-care methods.

### 30

#### **DEVELOPMENT AND IMPLEMENTATION OF AN EVIDENCE BASED INTRAVENOUS IMMUNOGLOBULIN ADMINISTRATION POLICY**

**Gina Bolander, MN, RN, OCN<sup>®</sup>, Swedish Cancer Institute, Edmonds, WA**

Our outpatient oncology nursing practice committee reviewed our facility's current policy for IVIG administration when one of our members mentioned that nurses were not following the policy regarding frequency of vital signs. The majority of the nurses in the outpatient oncology infusion setting were checking vitals with every rate change. The policy stated that vital signs needed to be checked 5 minutes after each time the rate of infusion was changed. For a typical IVIG infusion, this would mean additional 6-8 trips in the patient room. After contacting the policy author which was one the pharmacists at the main campus, we found there was no evidence supporting the frequency of vital sign checks. A literature review was conducted to research the frequency of reactions with IVIG infusions, influence of vital sign frequency on infusion reactions, and to review other facilities procedures for IVIG administration. The literature showed that IVIG was well tolerated with a low rate of infusion reactions and that vital sign frequency had no effect on the frequency or ability to detect a reaction. Policies were reviewed from other cancer centers to determine local community and national practices. A draft policy was developed that included other institutional policies, but was unique as well. The new vital signs administration section included guidelines for first time infusions and previously well tolerated infusions. For first time infusions, the vital signs would be checked every 15 minutes for the first hour, every 30 minutes for the next hour, and then hourly. If the first infusion was well tolerated, vitals would be checked pre infusion, 30 minutes after

starting and then upon completion of infusion. The new policy was reviewed by our institutions therapeutics and pharmacy committee, clinical nurse specialists from areas that administered IVIG, and by our standards committee. The policy was approved by the standards committee and was implemented. Staff was educated about the changes at staff meetings and huddles. Implementation of the new policy resulted in decreased nursing time and increased patient satisfaction. No adverse events related to IVIG administration have been reported after policy implementation. This project demonstrates the importance and value of having shared nursing leadership groups. These groups review institutional policies and practices and implement evidence based improvements to nursing practice.

### 31

#### **SPREADING THE WEALTH: DIVIDING PATIENT ASSIGNMENTS USING ONCOLOGY-SPECIFIC ACUITY TOOL**

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Hematology/oncology nurses expressed concerns about fairness and equitability of patient assignments. Patient assignments were distributed based on subjective input and geographic location. A standard measure of acuity did not exist leading to concern over team member burnout, low morale, and patient satisfaction. In an effort to standardize the assignment making process and reduce feelings over unfairness, a population specific tool was created to objectively distribute workload. An acuity tool was created to standardize the process in which patient assignments were created. The purpose of the project was to demonstrate the effectiveness of the tool on team member's perceptions of fair workload distribution. An internet search for existing oncology acuity tools was conducted and were adapted for the specific needs of the unit. All nurses were educated on the use of the tool. Charge nurses received additional education on how to use an acuity score when creating assignments. Nurses were surveyed at approximately monthly intervals using the following question: How frequently do you find that your assignment's acuity is more acute than another nurse's assignment? At baseline, nurses were diversified in their perception of assignment fairness. The majority reported "sometimes" having a more acute assignment than another nurse. After each implementation of the tool, feedback was collected from nurses to identify areas for improvement. Based on the feedback, modifications

were implemented. The acuity tool went through 3 phases of modifications and improvements. After the first and second versions of the acuity tool, nurses remained varied on their perceptions of assignment acuity from “sometimes”, “frequently”, and “always” having a more acute patient. After the third version of the tool, all nurses reported “sometimes” having a more acute assignment than a colleague. Implementation of a standardized tool had a positive impact on nurses’ perception of fairness and equitability as it relates to workload. Buy in from team members, demonstrated effectiveness, and practicality were critical to the success of the acuity tool implementation. Limitations include time required for each RN to complete the tool and anticipating changes in a patient’s condition. This tool and process could be tailored to other patient populations. A new unit specific acuity tool was created to standardize patient assignments in an objective, fair, and unbiased manner.

### 32

#### **PROMOTING A QUIET ENVIRONMENT: THE IMPACT OF NOISE AWARENESS ON AN INPATIENT ONCOLOGY UNIT**

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Unit-based Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores for patient satisfaction regarding environmental noise were consistently below average for the national benchmark of like-facilities. Noise has been associated with sleep disturbances, impacting healing process, length of stay, quality of life, and increased risk for safety issues. The purpose was to explore contributors of unit noise, raise noise awareness, and implement strategies to reduce unit noise. Unit-based Clinical Practice Committee developed a Noise Reduction (NR) workgroup. A literature review was performed and the workgroup researched lessons learned from other units and facilities regarding NR efforts. Interdisciplinary staff (medical team, nursing, and support staff) were surveyed for their perceptions regarding unit noise, its impact on patient care, and identify potential barriers in implementing NR strategies. Baseline decibel readings were obtained at unit workstations, ice machine area, and family room. Patients were interviewed for their perceptions on unit noise and its contributors. NR strategies included: posters developed and placed around key areas for noise awareness; YackerTracker™ at workstations as a noise alarm; ear plugs and sleep masks provided to

patients. Interdisciplinary staff education was performed. Since intervention initiation, NR diligence has been required to sustain noise awareness and strategies. Measurements obtained: 1-year post-NRS (post1) intervention staff and patient surveys, decibel readings, HCAHPS scores; 2-year post-NRS (post2) decibel readings and HCAHPS scores. Changes in scores were examined for success of intervention. Global unit decibel readings were significantly lower (pre=42.3, post1=34.2, post2=27.4; both  $p<.005$ ). Overall noise levels reported by patients trended to reflect a quieter environment (pre=3.0, post1=2.6) with intercom factoring as the greatest noise contributor. HCAHPS trended towards improvement (pre=54.2, post1=68.13;  $p=.09$ ), and has significantly improved over two years since initial intervention, post2=76.7 ( $p=.004$ ). Nurses indicated noise improvements (pre=5.5, post1=4.3) but were hesitant about the YackerTracker™ effectiveness. Most interventions for NR were well received by patients and staff. While noise improvement requires vigilance to reduce practice drift (e.g. use of intercom, continued engagement in NRS, and delivery of new staff education), sustained unit culture changes have occurred. NRS beneficial for patients and staff and are easily replicated in other areas. Next steps include transition to staff phones instead of intercom, NR suggestion box, and patient-centered NR awareness letter for admission packets.

### 33

#### **PORT LABS FROM CHECK-IN TO CHART IN LESS THAN 60 MINUTES**

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With the opening of a new cancer center, a dedicated port nurse area was established in the lab to consolidate the care of oncology patients with venous access devices (VADs). Historically, VADs were accessed by staff in a variety of locations. Data revealed significant patient wait and lab turnaround time that did not meet patient/staff/provider expectations. Identified key issues included errors in scheduling, overbooking, staffing, and electronic health record (EHR) issues including absence of lab orders linked to patient appointment. The purpose was to reduce lab turnaround time from check-in to final lab results in less than 60 minutes preventing subsequent

appointment delays, decrease patient wait times, and improve patient/staff compliance with scheduled appointments. A multidisciplinary team (physician/clinical/clerical/lab leadership, data managers, port nurse) convened biweekly to review data for strategy development. Real-time data was utilized to evaluate specific time stamps during the port lab encounter. Appointment times were not being honored by staff or patients due to system failures that were identified at peak times. The following strategies were developed and implemented: (a) Increased full-time equivalent (FTE) base; identified appropriate skill mix with addition of a nursing care assistant (NCA); adjusted hours of operation. (b) Center-wide initiative to educate schedulers as a means to reduce frequency of overbooks and errors. (c) EHR optimization including a worklist/process to verify that lab orders are linked to the appointment and institution of a standing protocol for a walk-in port flush clinic during non-peak times. Exceeding our goal in the first year, turnaround times decreased from 74 to 48 minutes, representing 35% overall reduction. The NCA role addition demonstrated an unexpected positive outcome of 33% time improvement from draw to received in lab. Patient wait times were reduced by 50%. Appointment vs. arrival time normalized as flow improved. These improvements have been sustained to date. These interventions had an overall positive effect on the patient experience by decreasing lab turnaround and patient wait times. Subsequently, this contributed to more seamless movement for oncology patients with multiple encounters in the same day, by reducing the wait time for lab results at other scheduled appointments.

### **34 INTERDISCIPLINARY APPROACH TO MAINTAINING PATIENT'S PERFORMANCE STATUS DURING HOSPITALIZATION**

**Anna Bowers, MSN, RN, OCN®**, CNL, Texas Health Resources Harris Methodist Hospital, Fort Worth, TX  
Cancer-related fatigue (CRF) is the most commonly reported side effect of cancer treatment, with reports of CRF affecting 60–100% of patients undergoing cancer treatment and at least 75% of patients stating an increase in fatigue levels with each subsequent cycle. Research indicates patient's levels of CRF are a result of a combination of factors including the natural progression of disease, treatment side effects, and advanced age and can be influenced by the patient's activity level and nutritional status. The impact of CRF correlates

with a decline in a patient's performance status. A decrease in a patient's performance status poses a significant risk to the patient such as falls, delays in treatments, and longer length of stays in hospitals. A decline in performance status causes a more significant potential of acquiring hospital-acquired infections and loss of independence that affects a patient's quality of life. Research has demonstrated a positive impact from early nutritional and exercise intervention in the acute care setting on improving a patient's CRF and performance status. An interdisciplinary team, led by the Clinical Nurse Leader (CNL) of an inpatient acute-care oncology unit, formed with the purpose of developing a process for evaluation and early intervention to maintain the oncology patient's performance status while hospitalized. Upon admission to the inpatient unit, the nursing staff will conduct and assess the patient's sit-to-stand assessment at 3-day intervals to identify early signs of deconditioning. Physical therapy services will be consulted should the patient's sit-to-stand assessment indicate. Furthermore, the unit dietician will round daily with the interdisciplinary team and address each oncology patient's nutritional status and need for supplemental intervention. The goal of the evaluation process is to provide oncology patients with early activity intervention and nutritional support in effort to maintain their performance status. The anticipated effect of this intervention is a demonstration of the patient's performance status at discharge equal or improved to the initial admission assessment. Implications are significant for oncology patients in that intervention designed to maintain a patient's performance status contributes to patient safety, treatment compliance, and quality of life.

### **35 ONCOLOGY NURSE 'RAPID FIRE REPORT': 15 BEST PRACTICES IN 15 MINUTES**

**Deborah Boyle, MSN, RN, AOCNS®**, FAAN, Advanced Oncology Nursing Resources, Huntington Beach, CA  
Bedside staff nurses, the majority of nurses who render cancer care, are compromised by competing demands on their time. This includes but is not limited to, long work hours, multiple family responsibilities, and keeping apprised of specialty trends, data, and new evidence effecting their practice. The ability to accommodate all these expectations can be formidable. Additionally, staffing constraints and heavy patient caseloads may preclude staff attending educational offerings in the work setting. Brief, practical

solutions are frequently sought by staff nurses that foster continued learning and the integration of novel patient care enhancements. The purpose was to augment bedside staff nurses knowledge of novel interventions by sharing both evidence-based and 'Best Practice' interventions that address common clinical dilemmas. Synthesis of findings from an experienced oncology clinical nurse specialist exposed to trends nationally and internationally via decades of speaking and consultation. Ongoing literature surveillance of unique interventions from oncology nursing and interdisciplinary team sources. Eight areas of specific intervention options characterize fifteen 'Best Practices' for potential replication and assimilation into oncology settings. These opportunities have particular relevance for bedside staff. Examples from the eight themes include: 1.) Teamwork (i.e., unit houses-staff orientation brochure); 2.) Family Education (i.e., mounted/portable iPADS); 3.) End-of-Life Care (i.e., Family Grief Cart); 4.) Therapy Adherence (i.e., role of the 'Medication Partner'); 5.) Absence of Interpreters (i.e., portable translation tablet); 6.) Nurse Stress (i.e., 'Code White' following patient death); 7.) Night shift (i.e., dedicated nurse educator for new graduates); and 8.) Symptom Distress (i.e., post-operative gum chewing). Multiple examples within each of these eight categories will be shared in an abbreviated 'Problem/Solution' rapid fire format. By identifying these potential options for consideration into clinical practice, nurses at the bedside will be encouraged to implement novel interventions. The 'Rapid Fire' paradigm offers session attendees a unique format for learning about novel practice possibilities.

### 36 PRIMARY NURSES PROVIDING LEADERSHIP AT THE BEDSIDE: IMPROVING THE CARE OF PATIENTS ON CLINICAL TRIALS THROUGH THE DEVELOPMENT OF BEDSIDE CLINICAL TRIAL REFERENCE SHEETS

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Our 43-bed hematology oncology unit provides comprehensive cancer care to patients with leukemia, lymphoma, and multiple myeloma. Care includes administration of both standard therapies and clinical

trial medications for acutely ill patients. The documentation provided about these trials is complex and lengthy to navigate through the pertinent information needed for bedside care. While upfront education was provided to nursing staff prior to the initiation of each clinical trial, there was a knowledge gap recognized by the Primary Nurses. Access to relevant information was time consuming, and began to feel burdensome when caring for both acutely ill hematology patients and Phase 1 clinical trial patients in tandem. Primary Nurses who work on the model of knowledge, accountability, and advocacy as guiding tenets, found this to be barriers in their care. The purpose is to demonstrate how Primary Nurses lead the charge to improve care of their patients with the development of clinical trial reference sheets at the bedside, patient care conferences, and the creation of a unit-based Clinical Trials Reading group. A pre-survey was developed and disseminated by the unit-based Clinical Trials Reading group to determine what information would help streamline care. Fourty-nine nurses participated and the following themes emerged: genetics, common side effects, pertinent labs/tests, protocol schedule, appropriate documentation, discharge education, and contraindications. Bedside reference sheets were created to reflect the requested information and were reviewed by the clinical trial team for accuracy. These reference sheets were uploaded to a shared drive for ease of access. Primary RNs were encouraged to notify the charge nurse if their patient was enrolled on a clinical trial for discussion in a patient care conference format at daily huddle. Of the 43 nurses who participated in the post survey, 80% confirmed they utilized bedside reference sheets to care for their patients and 100% stated they would like to participate in the Clinical Trials Reading Group. The emergence of multiple clinical trials in cancer research, endorse nurses expanding knowledge base. Primary Nurses play a pivotal role in the coordination of patient education and care. Patient outcomes are optimized when Nursing Leadership supports Primary Nurses' clinical judgment, autonomy and practice.

### 37 DEMISTIFYING DELIRIUM: MANIFESTATIONS UNIQUE TO CANCER CARE

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Delirium is widely prevalent in hospitalized patients; it is estimated that 10-30% of medical patients have

delirium during hospitalization. Delirium is often missed or misdiagnosed, potentially leading to negative patient outcomes such as increased risk of mortality. This has led to the use of screening tools such as CAM (Confusion Assessment Method) and NuDesc (Nursing Delirium Screening Scale). Background: Oncology patients are at risk for delirium due to factors such as the toxic effects of therapy, medications, nutritional deficiencies, disease, and hepatic/renal impairment. It is surmised that on admission the incidence of delirium is 16.5–18%. At Froedtert Hospital, a large academic medical center, the CAM screening tool was utilized as a delirium screening tool on all inpatients. The CAM tool, with a high specificity (100%), had a low sensitivity (11.5%). The NuDesc tool was found to have both high specificity (83.3%) and high sensitivity (74.1%). Froedtert Hospital transitioned from CAM to NuDesc to promote better patient outcomes by identifying and treating more patients with delirium. After the NuDesc tool was implemented, audits indicated that the positive delirium screening rate for oncology patients was much lower (4.1%) than the literature projections. When discussing the incidence, peers verbalized uncertainty on scoring their patients with this tool. Based on staff feedback, targeted education was provided to all staff regarding delirium and specific considerations for oncology patients. This training provided basic education on delirium and described risk factors for oncology patients. The NuDesc tool was then dissected into the five assessment questions with examples of scores for each component. This specified education proved effective, as after intervention positive delirium scores increased to 14.8%. The NuDesc tool is an effective and easy to utilize tool that should be considered by outside organizations.

### 38 MIRVETUXIMAB SORAVTANSINE IMG853, A PROMISING NEW DRUG FOR OVARIAN CANCER: NEW OPPORTUNITIES IN ONCOLOGY NURSING

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Progress in cancer therapies brings new challenges and opportunities for oncology nurses. To provide optimal nursing care, oncology nurses must possess a thorough understanding of management and follow up care for patients being treated with IMG853, or Mirvetuximab Soravtansine. This project's purpose is to review the mechanisms of action, safety profiles, and clinical applications of the breakthrough therapy, IMG853.

According to the American Cancer Society, ovarian cancer ranks fifth in cancer deaths among women. It accounts for more deaths than any other cancer of the female reproductive system. CDC statistics show that, in the United States, about 20,000 women get ovarian cancer, and about 14,000 die from the disease annually. The standard therapy for ovarian cancer is cisplatin or carboplatin, and a taxane. Patients may receive a single-agent therapy once they become platinum-resistant and the response rates in second- or third-line settings are 15–20%. The standard of care agents currently used as monotherapy in patients with platinum-resistant ovarian cancer, have low response rates and progression-free survival of 3–4 months. The folate receptor  $\alpha$  (FR $\alpha$ ) is highly expressed on most epithelial ovarian cancer. It is overexpressed in endometrial cancer and some non-small cell lung cancers as well. IMG853 is a breakthrough therapy being assessed for the treatment of FR $\alpha$ -positive, platinum-resistant ovarian cancer and endometrial cancer. It is a FR $\alpha$ -targeting antibody-drug conjugate (ADC), made up of a Monoclonal Humanized Antibody for targeted delivery of maytansinoid, DM4, into FR $\alpha$ -positive cells. DM4 induces cell-cycle arrest and cell death by targeting microtubules. IMG853 is the first FR $\alpha$ -targeting ADC to enter clinical testing. In a phase 1 clinical trial unit dedicated to targeted therapy research, the team has treated many patients with IMG853. Compared with standard chemotherapy alone, IMG853 supports higher response rates, with a median of about seven months, and reveals a well-tolerated side effect profile as well. IMG853 is fast tracked by the FDA, and will soon become a widely-used treatment option. Therefore, oncology nurses should be well versed in its benefits.

### 39 PROVIDING SUPPORTIVE SERVICES TO BONE MARROW TRANSPLANT PATIENTS

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Patients who receive supportive services have been shown to demonstrate improvement in outcomes when these services are utilized prior to and during treatment. We know that supportive services are under-utilized with the Bone Marrow Transplant (BMT) patients with our institution. A preliminary

review of data revealed that in 2015 there were 44 BMT patients, but only 11 (23%) patients utilized one or more supportive services available to them. 47% received a formal education session prior to admission. Results were similar for 2016. The objective of this project was to standardize the education and screening process to ensure all BMT patients are seen by a Nurse Navigator (NN) and a Social Worker (SW). The goal was to increase BMT patient education and screening by a NN and SW to 100% and to increase the number of supportive services referrals based on identification of patient needs by April 2017. BMT patients are a high risk population for psychosocial disorders, especially depression and anxiety. With thorough education and screening the team would identify high risk patients and make the proper referrals. The NN and SW completed the initial education process and the psychosocial screening form. A process for rescreening post admission and prior to discharge was developed. The patient will be seen in the heme office by the NN and SW. There will be a formal handoff to the inpatient team. The NN will then set up a time for the patient to meet the inpatient BMT nurse and tour the unit. The education process will be continued by the BMT inpatient nurse. A review of data from 2017 showed that 100% of BMT patients met with a NN and received a formal education. 100% were seen by a SW at least once and 70% had follow up visits with a SW. 37% met with a psychologist. A telephone survey was conducted to evaluate the education process. 6 of the 13 patients returned our call. One patient did not remember the education. 4 felt it was beneficial. All 6 patients stated education should have more emphasis on the isolation process.

#### 40

### **DO PATIENTS WHO RECEIVE MYELOSUPPRESSIVE CHEMOTHERAPY REGIMENS FOLLOWING A NEUTROPENIC DIET HAVE LOWER INFECTION RATES THAN THOSE WHO DO NOT?**

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The objective was to compare patient's rate of infection who followed a neutropenic diet to those who did not. Chemotherapy has had a major impact on the survival rates of patients with cancer; particularly those with hematologic malignancies. Neutropenia

due to chemotherapy is the major risk factor for infection. The neutropenic diet can be very restrictive to a population that is already prone to cachexia. There is great variability in how a neutropenic diet is defined and different institutions vary on when to implement the diet. The purpose was to evaluate the effectiveness of the neutropenic diet. Methods: Reviewed the literature on neutropenic diets in the online databases of PubMed, CINAHL, and Cochrane Library. Findings: 27 articles were found and reviewed. 15 of those articles were critically appraised. Gardner et al. (2008) was a randomized control trial comparing cooked and noncooked diets in patients undergoing remission induction therapy for acute myeloid leukemia (AML). Gardner et al. (2008) demonstrated that there was no clinical significance for utilization of a cooked versus noncooked diet ( $P=0.60$ ) in patients undergoing remission induction therapy for newly diagnosed AML or high-risk MDS. Van Tiel et al. (2007) Normal hospital and low-bacterial diet in patients with cytopenia after intensive chemotherapy for hematological malignancy: A study of safety demonstrated that there was no clinical significance ( $P=0.48$ ) between a low bacterial diet, and a normal diet. As oncology care is becoming more complex there is increased pressure to follow evidenced based practice. While results vary from study to study, there has been no consistent evidence to support the use of neutropenic diet resulting in reduced infection rates. There is a large amount of research that proves that neutropenic diets are no better than regular diets to reduce infection. Therefore, there is no evidence to support the use of the neutropenic diet to reduce infection rates. Of note, in order to definitively prove this, further research would need to be done with a nationally defined "neutropenic diet" before more studies can be conducted comparing its effectiveness on patient outcomes.

#### 41

### **PSYCHOSOCIAL DISTRESS SCREENING IN THE PATIENT WITH CANCER USING AN INNOVATIVE TABLET ASSESSMENT TOOL**

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The journey across the cancer trajectory brings distress for patients due to the threat of mortality and the unforeseen treatments that ensue. Distress in the context of cancer has been defined by the National Comprehensive Cancer Network (NCCN) as an unpleasant emotional experience of a psychological, social and/or spiritual nature that may interfere with the ability to cope effectively with cancer, its physical

symptoms, and its treatment. The Institute of Medicine (IOM) recommends that psychosocial services such as identification of patient distress be integrated into routine cancer care. Using the Plan, Do, Study, Act (PDSA) framework, the purpose of this pilot project was to institute screening for psychosocial distress for patients with cancer being interviewed to join the Cancer Support Community (CSC). The tool administered was the CancerSupportSource® (CSS) distress screening instrument developed by the CSC National Headquarter research department in Washington, D.C. Tested for validity and reliability, the CSS examines psychosocial issues ranging from disease and treatment symptoms, psychosocial concerns, to practical needs. The CSS is an innovative 15-item tool on a tablet utilized as part of an intake interview. Application of the CSS provided assessment of the patient for risk of depression, assignment to support services, and referral to individual therapy if needed. A Patient Support Care Plan based upon patient concerns identified in the CSS provided psycho-educational resources and referral sites. The CSS was found to be a reliable, user-friendly tool that can be used in the clinical setting to identify distress and risk for depression in the patient experiencing cancer. A significant number of the 21 participants screened at risk for depression supporting the need for distress screening and referral. Forty-four patients were successfully screened over a year's period. Assessing for emotional distress in the patient with cancer should be carried out across all oncology settings at major transitional points across the disease trajectory. Nurses should be aware of distress screening tools available, the requirements for oncology practice settings, and the positive benefits of screening for identifying the emotional needs of each patient thus individualizing care. The CSS is an innovative, tablet-based, distress-screening tool that provides a valid and reliable means to assess for depression and distress in the patient experiencing cancer.

## 42

### TELEHEALTH SURVIVORSHIP VISITS FOR PATIENTS IN RURAL COMMUNITIES

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With improved cancer survival rates, survivorship care is increasingly important. Surviving cancer doesn't mean the emotional struggles or physical side effects end when treatment is complete. Survivorship visits help patients by providing education on long-term effects of cancer treatment and healthy lifestyle choices

to prevent cancer recurrence. Meeting with patients to discuss their survivorship care plan can be challenging when the patient lives in a rural community. Telehealth technology offers an innovative solution for survivorship visits. A telehealth pilot was done at a small oncology office located in a rural Tennessee community. There was no nurse practitioner available on site at this office to complete survivorship care plan visits. Instead a Tennessee Oncology nurse practitioner located in a different region met with patients via computer for survivorship care planning. Use of telehealth technology supported face to face provider: patient engagement in an efficient way that allowed rural patients to receive care close to home instead of making long and stressful drives into the city. This intervention was low-cost, using a computer stationed on a mobile stand that could quickly be moved into exam rooms for privacy. The patients can see the nurse practitioner on the computer monitor and interact with them through a secure portal. The initial pilot was a success. Telehealth survivorship appointments enhanced patient satisfaction, patient engagement, and reduced patients travel times and wait times. The option of telehealth helps Tennessee Oncology meet its goal of providing quality oncology patient care in the patient's community. One area of improvement was helping patients better understand billing of telehealth services since they did not see this as an "office" visit. Survivorship appointments help patients adjust to life changes after treatment. With the increasing number of cancer survivors, additional resources are needed to provide this care. Telehealth is a viable option for patients and providers. Tennessee Oncology plans to expand use of this technology to other clinic locations within the practice.

## 43

### FATIGUE ASSESSMENT OF OCCURRENCE RELATED TO CHEMOTHERAPY IN WOMEN WITH BREAST CANCER

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There are currently several treatment options for breast cancer. Among them, chemotherapy drugs can cause haematological toxicity, gastrointestinal toxicity, cardiotoxicity, hepatotoxicity, pulmonary toxicity, neurotoxicity, reproductive dysfunction, bladder and renal toxicity, metabolic alterations, dermatological toxicity, allergic reactions, anaphylaxis and fatigue, among others. Fatigue is defined as a persistent symptom, a subjective sense of physical, emotional and

cognitive fatigue or exhaustion, related to cancer or its treatment, not proportional to the activity recently performed, which could interfere with functional capacity; is a complex, multidimensional and progressive syndrome that involves the physical, cognitive, emotional, social, and spiritual aspects of individuals. Identifying fatigued patients is a challenge because it is a complex, multidimensional and subjective symptom. The importance of this identification in clinical practice, which constitutes a nursing diagnosis found in the taxonomy of Nanda International, 8 and as such, should generate nursing interventions that may help the cancer patient to face this suffering. The objective was to verify the occurrence of fatigue in patients with breast cancer undergoing chemotherapy. Method: a cross-sectional and descriptive study, with a quantitative approach, including 48 women with breast cancer undergoing chemotherapy during the period of October 2015 and January 2016. The diagnosis of fatigue was obtained through the evaluation flowchart and the intensity of the symptom was evaluated using the Piper Scale. Fatigue was identified in 27 participants (56.1%). The majority (n = 20, 74.1%) used the chemotherapy regimen Doxorubicin + Cyclophosphamide and presented moderate / intense intensity fatigue (n = 23, 85.1%). The symptom was associated with the use of CA (n = 20, 74%, p = 0.0004 - Fisher's exact test), and the relative risk (RR) of fatigue was 2.85 times higher in this group compared to other drugs. Fatigue was identified in the majority of participants, especially in the group receiving anthracyclins. It is hoped that these results will provide a better understanding of the importance of identification and the subjectivities involved in the evaluation and management of fatigue, contributing to qualified assistance and stimulating research of greater scope and depth in this area.

#### 44

### ENHANCED RECOVERY PROGRAM IN GYNECOLOGY ONCOLOGY SETTING: GETTING ALL TEAM MEMBERS ON SAME PAGE

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Recovery from surgery is critical in patients with gynecologic malignancies to prevent delay of adjuvant treatment. In ovarian cancer, delay of adjuvant chemotherapy greater than 25 days has been associated with worse patient outcomes. Thus, it is imperative to focus on strategies to improve surgical outcomes and to enhance surgical recovery, in order to prevent delays in adjuvant care. The importance of

modifying perioperative care in surgical patients was first described by Kehlet and Wilmore in 2002. Kehlet and Wilmore evaluated the impact of perioperative interventions aimed at reducing the perioperative stress response, such as improved pain control, and found that these interventions reduced both morbidity and mortality in surgical patients. These findings led to the reorganization of perioperative teams and the development of multimodality “fast-track” surgical regimens based on evidenced-based principles of care aimed at optimizing postoperative outcomes. In light of their favorable perioperative outcomes, Enhanced Recovery After Surgery (ERAS) programs are being considered the standard of care at a growing number of institutions. In order to ensure that we are optimizing surgical care in our gynecologic cancer patients, a well-designed randomized clinical trial (RCT) with a standardized ERAS program has been designed to first determine the impact of ERAS on these patients. After considerable collaboration between perioperative, operative, inpatient and outpatient teams, Northwestern has approved a RCT comparing a protocol-driven ERAS program to that of standard practice in patients undergoing laparotomy for gynecologic cancer or suspected gynecologic cancer. ERAS is a program of evidenced-based care pathways designed to accelerate the recovery process after surgery. Core principles of the ERAS program include perioperative stress reduction, effective multimodal non-opioid pain relief, strict perioperative fluid therapy, optimization of nutrition, early ambulation as well as minimization of additional surgical interventions, such as drains, bowel preparations, or catheters. Our presentation will include the development, collaboration and education with all teams to develop a RCT specifically designed to optimize surgical care including minimizing opioid use. Getting all teams involved in the development is a key step in the successful implementation. Included in the trial is the use of Lidocaine infusions to decrease pain which is new to the Northwestern Surgical Services. In addition, we will have preliminary data on the pilot group.

#### 45

### POWER TO THE NURSES: IMPLEMENTING A COMPETENCY FOR USING A POWER INJECTABLE PORT NEEDLE

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Power injectable ports have given cancer patients a venous access that is compatible with contrast media



injectors. The timely access of power injectable ports with power injectable needles is essential for patient safety in acutely ill oncology patients. While oncology unit nurses have demonstrated competency of port access during orientation, current departmental practice limits the use of power injectable needles to nursing supervisors and vascular access team members. This can delay patient care, impact patient safety, and require placement of unnecessary peripheral intravenous catheters causing additional patient discomfort. The purpose of this project was to update the current competency for inpatient oncology nurses to include accessing power injectable ports with power injectable needles. A pre-survey was electronically sent to unit nursing staff (32) to assess need for this skill, obtain baseline knowledge, and to understand effects on care delivery created by current practice. Pre-survey response rate was 90.6% with 86% (n=25) of nurses reporting that they cared for at least one patient in the last six months who needed a power injectable needle. 69% (n=20) of nurses reported that they experienced delays in patient care waiting for a qualified staff member to place the power needle. A checklist was developed to verify competency of the unique characteristics and required documentation of a power injectable port to ensure power injectable needles are used with compatible devices. Nurses' competencies were validated by successful demonstration of power port recognition and teach-back methods. A post-survey evaluated nurses' confidence in power port recognition and the competency process. After education and competency validation, the nurses are more independent in managing their patients' vascular access devices, reducing nursing supervisors' and vascular access team's workload. Additionally, patients no longer receive unnecessary peripheral intravenous access for testing. Oncology nurses demonstrate through daily practice the safe care and management of implantable ports. Assessing the need for this skill and providing the opportunity to obtain the skill, with a comprehensive competency, is a safe and effective way of educating oncology nurses.

## 46

### IMPROVING THE PERCEPTION OF PROCEDURAL PAIN IN HEMATOLOGY/ONCOLOGY PATIENTS

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Oncology patients receiving lumbar punctures and bone marrow biopsies suffer physical pain and emotional anxiety. Patients undergo these procedures

as part of initial diagnosis when they present to the oncologist and on a frequent basis for treatment and monitoring once diagnosed with a blood cancer. These procedures increase stress, anxiety, and fear of the unknown. Through analysis of patient satisfaction scores for January to June 2017, it was noted that there were areas for improvement in pain management on two hematology/oncology units at a large, urban academic medical center. The purpose of this project is to examine whether non-pharmacologic interventions can decrease the perception of anxiety and post-procedure pain related to lumbar punctures or bone marrow biopsies in hematology/oncology patients. A literature review was performed to identify best practices for utilizing non-pharmacologic interventions to decrease procedural pain. Based on findings, the nursing group created a toolkit of non-pharmacologic interventions that nurses can administer to the patient before and during a procedure. The toolkit will consist of aromatherapy, heat or ice therapy, and music. Pre-procedure, the nurse will ask the patient questions and educate the patient on pain they may experience during and after the procedure. The nurse will provide pharmacologic interventions if ordered and also offer the patient a non-pharmacologic intervention from the toolkit. Following the procedure, the nurse will ask the patient post-procedure questions. The workgroup will monitor patient satisfaction scores related to pain management in order to track impact. Pre- and post-surveys will be collected and evaluated on an ongoing basis to continue to identify trends. Audits will be completed to ensure documentation of pre- and post-procedure pain is present in the medical record. Use of non-pharmacologic interventions prior to lumbar punctures or bone marrow biopsies may reduce a patient's perception of pain or anxiety during and post-procedure, and may relieve emotional stress caused by the procedure. The use of a toolkit can help empower oncology nurses to have more thorough conversations with their patients on pain management techniques. The oncology nurse has the ability to impact a patient's perception of pain during procedures by serving as a resource for non-pharmacologic interventions.

## 47

### PROGRAM IMPLEMENTATION OF AN EVIDENCE-BASED ORAL CARE PROTOCOL IN THE HEMATOLOGY MALIGNANCY PATIENT UNDERGOING CANCER TREATMENT

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A Blood Cancer Unit (BCU) within a large acute care hospital located in South Texas reported a Mucosal Barrier Injury-Laboratory Confirmed Bloodstream Infection (MBI-LCBI) rate of 5.076 for quarter 1 and 3.412 for quarter 2 per 1,000 line days with temporary central lines per 1,000 line days compared to a benchmark of 1/1000 line days. There are no evidence based (EB) practices published to reduced MBI-LCBI. Yet, it is agreed that oral mucositis (OM) creates a portal of entry for microorganisms to cause an MBI-LCBI. OM is one of the most debilitating occurrence associated with treatment, which may lead to dose delays and interruptions of cancer therapies, additional morbidities, severe pain, and an increase of resource utilization. Experts advise that oral care protocols are important as they may reduce the risk and severity of OM, a potential link to MBI-LCBI. A standardized EB comprehensive oral care protocol had not been adopted in the BCU. This project is purposed to improve oral hygiene through the development, implementation, and evaluation of an EB standardized oral care protocol in hematology malignancy patients undergoing cancer treatment. Pre and post intervention measurement model was used to determine improvement in oral care. The intervention is an EB oral care protocol that includes an oral hygiene routine, OM grading tool, and patient education. An organizational assessment was conducted to predict the success of proposed intervention. A stakeholder analysis identified patrons, their influence and interests related to the intervention. Measurements including a nurse knowledge survey, a checklist of observation of nursing oral assessment, patient semi-structured interviews, and chart audits to describe practices were evaluated pre and post intervention to identify impact of protocol. The Consolidated Framework for Intervention Research (CFIR) guided the implementation of the oral care protocol through the examination of four constructs: intervention characteristics, outer and inner setting, and individual characteristics. Changes in pre and post intervention measurements of oral care will be evaluated to determine impact of interventions on the processes and outcomes including nurse knowledge and practice, patient knowledge and satisfaction, and utility of an OM grading scale.

## 48 NURSE IMPLEMENTATION OF AN ELECTRONIC INTERACTIVE TRACKING BOARD IN AN OUTPATIENT INFUSION UNIT

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In a busy outpatient chemotherapy infusion unit in a major cancer center, high levels of distractions in the form of phone calls contribute to stress and errors. Our goal was to decrease distractions through the use of the electronic tracking board. An electronic tracking board, that requires manual data entry, exists at this center. The team customized the electronic tracking board to fit the needs of the unit. The following columns were added to the board: treatment type, room number, nurse name, covering nurse name, delay reason, order verification, drug delivery, lab results and estimated room out time. A workflow describing expectations for data entry by role was created. When the patient checks in, the information populates on the board. The administrative assistant brings the patients to the treatment room and enters the room number on the board. The charge nurse assigns the patient to a treating nurse and enters the nurse's name. The treating nurse enters the estimated room out time. The room out time is used as a tool to estimate the next available chair. The nurses and administrative assistant provide updates to waiting patients. When the treating nurse goes on break, they enter the covering nurse's initials. Pharmacy scans the medication. The status of the medication: in queue, mixing, pending delivery, or delivered, then populates on the board. When the patient is discharged, the nurse or administrative assistant will remove the patient from the board. The status of patient treatments is visible to all users from any location. Education for the users was provided. Early adopters championed the implementation. The system was implemented in March of 2016. There is high utilization of the board. Information regarding unit operations in real time is now being communicated through one central information system thereby reducing interruptions by phone. It is estimated that this eliminated at least one telephone call per patient. The unit treats 70 patients

on average daily. The electronic tracking board is used to communicate in real time to decrease distractions by eliminating unnecessary interruptions. Secondary benefits that were found were increased communication and improved patient flow.

#### 49 **FACING A DEADLY HIGH: INVASIVE PULMONARY INFECTIONS WITH IMMUNE DYSFUNCTION**

Melanie Carrow, RN, OCN®, ACRN, Memorial Sloan Kettering Cancer Center, New York, NY

Pulmonary infection is the most common form of invasive infection. As of March, 2017 twenty six states have legalized marijuana; some for non-smokable only. Aspergillus growth is described in tobacco and Marijuana. Colonization can occur prior to immune insult and lead to invasive infection and death. Researchers emphasize the importance of control over the growing and processing of vaporized or smoked marijuana preventing contamination from infected soil and water. Nursing plays a key role in the education and guidance of the use of medical and recreational marijuana preventing a deadly invasive infection. Increasing nursing knowledge is required to acknowledge the etiology of pulmonary infections, importance of early diagnosis and treatment and the impact on the immunocompromised patient. The potential pathogens known to cause pulmonary infections in immunocompromised individuals have increased due to intensified immunosuppression, the emergence of antimicrobial-resistant pathogens, improved diagnostic assays and prolonged patient survival. Risk increases with immune dysfunction. Community acquired, nosocomial, reactivation, and environmental patterns of infection are associated with bacterial, fungal, viral and parasitic contagions. Vaccination against Influenza and streptococcus pneumoniae can lessen the burden of viral infection. Respiratory reactivated infections can occur long after the initial exposure including: Cytomegalovirus, Mycobacterial, Cryptococcus, Strongyloidiasis, and Toxoplasmosis. The risk for reactivation of latent or chronic infections among immunocompromised individuals justifies screening and prophylaxis. Invasive procedures such as bronchoscopy and biopsy, as well as imaging and specimen exams are used to determine the diagnosis and antimicrobial susceptibility. Invasive pulmonary aspergillosis is emerging as a significant cause of morbidity. To reduce morbidity and mortality, early diagnosis is essential. Prolonged hospitalizations,

delay of cancer treatment and decline in performance status can result. Nursing knowledge of the cancer, treatment, expected immune insult and patient history is critical. Nursing role includes identifying patients at risk, education including removal of risk factors and maintaining social, cultural and legal understanding. Prophylaxis, observation and education during periods of compromised immune function are imperative for survival.

#### 50 **A QUASI-EXPERIMENTAL TRIAL EVALUATING THE POTENTIAL EFFECTIVENESS OF COMPLEX NURSING INTERVENTION FOCUSED ON QUALITY OF LIFE ASSESSMENT ON ADVANCED CANCER PATIENTS WITH PALLIATIVE CARE NEEDS**

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Palliative Care is an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness. There is a paucity of evidence on the implementation of a complex nursing intervention focused on quality of life assessment in palliative care practice. This study aimed to determine the potential effectiveness of the INFO-QoL intervention: a nursing complex intervention focused on quality of life assessment in palliative care practice. A prospective quasi-experimental non-equivalent comparison group before-after study design using a purposive sampling was used. The INFO-QoL intervention was developed according to the Medical Research Council Framework and included the following components: the Palliative Care Outcome Scale, staff education and training in the use of the measure, agree on a time-frame, identify a nurse leader of the project, patients' results discussed during unit staff briefing. The Ethics Committee approved the study. Descriptive statistics and repeated-measures analysis to determine within-subjects effects were performed using SPSS 21.0. The study setting took place in 2 inpatient hospice units in Italy. Patients were eligible if they were

adults, gave informed consent, and had advanced cancer disease. The outcome was assessed within day three from admittance and one week later using the Palliative Care Outcome Scale. A total of 83 palliative patients were included, 49 pre-intervention and 34 post-intervention. One group received the INFO-QoL intervention (n=15) and the other standard care (n=19). This study generated information to address the implementation of quality of life measurement in palliative care practice. Overall, the patients included had a mean age of 73 years (SD=12) and consisted of 46 (55%) women and 37 (45%) men. Most patients (53%) had a Karnofsky's Performance Scale of 40. The majority of the patients had gastro-enteric (33%), genito-urinary (22%) or lung cancer (17%). Repeated-measures analysis of variance showed a significant statistical difference in the overall mean quality of life scores in both groups ( $F=5.35$   $p=0.023$ ). The results indicate that quality of life assessment in palliative care may have a positive impact on patient outcomes. The preliminary findings of this study are significant to inform a phase III trial according to the Medical Research Council Framework.

## 51

### ADVANCE DIRECTIVES: INCREASING PATIENT AWARENESS AND PARTICIPATION IN END OF LIFE ISSUES

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According to the National Institute of Health in 2012, 5% of terminal Americans accounted for approximately 50% of healthcare spending. Most costs incurred within the last year of life. Based on national data 25–30% of Americans have executed advance directives (AD). Researchers tracked 1231 patients' with terminal cancer. End of life (EOL) discussion in the final month of life resulted in 65% receiving aggressive treatment versus only 30% if the discussion occurred three months prior to EOL. Nurses educating and coaching patients and families, having discussions about patients' EOL plan and promoting making AD decisions when the patient is not incapacitated, can lead to completion of AD. AD honors the patient preferences, ensures quality care, and relieves the emotional and financial burden. Increase nursing

knowledge and confidence in discussing AD, consequently increasing patient knowledge and readiness to complete an AD. Nurses were surveyed about their knowledge of AD and then educated by the palliative care team on how to engage in AD dialogue with patients. Nurses became active participants in the education and coaching process by surveying patients about their knowledge and willingness, engaging in conversations, encouraging patient participation, and providing the materials and assistance to patients and families to complete an AD. Staff wore buttons promoting AD. A banner was displayed encouraging AD participation. An educational tool was developed and is accessible in the patients' electronic medical records. Patients were surveyed regarding their knowledge, willingness to complete, satisfaction with education, and difficulty of completing an AD. The results post implementation showed an increase in every question, an average increase of 27%, 15%, 46%, 21% respectively. Of 100 patients that were surveyed, 23.35% had an AD. After the implementation of nursing education and coaching, 56.4% of the patients had an AD. Encouraging dialogue while patients have the ability to make EOL decisions, nurses can cultivate an environment for patient engagement and completion of an AD, ease the emotional burden from family members, improve quality of life and decrease healthcare costs. Nurses can be the frontier in educating and coaching patients about AD. Authentic dialogue enhances the nursing assessment of willingness and level of understanding, increasing participation, reducing caregiver burden, improving QOL and promoting a mutual understanding between patients and healthcare professionals.

## 52

### FEBRILE NEUTROPENIA: A COLLABORATION ACROSS DEPARTMENTS

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The mortality rate of patients admitted to the Emergency Room (ER) with Febrile Neutropenia (FN) is 45%. This patient population is low volume, high risk as FN is an oncologic emergency. The American Society of Clinical Oncology's (ASCO) Clinical Practice Guideline (CPG) states that FN patients should receive initial doses of antibacterial therapy within one hour of empiric data. Empiric data is defined as an Absolute Neutrophil Count (ANC)  $< 1000$   $10^3/uL$  and a documented or stated fever  $> 100.5^{\circ}F$  ( $38^{\circ}C$ ). From May 2016 through May 2017, 30% of FN patients

were not meeting ASCO's clinical practice guideline when admitted through the ER and of those 30% of patients, there was a 55% mortality rate. The purpose of this quality improvement project was to decrease the mortality rate of FN patients to less than 5% by increasing the number of FN patients who receive initial doses of antibacterial therapy within one hour of empiric data to 90%. Starting in January 2017, we collaborated with ER physicians and nurses to develop algorithms on how to treat these patients. Through involving bedside nurses, we realized that the FN Order Set in our Electronic Medical Record (EMR) was not conducive to meeting ASCO's CPG as X-Ray was automatically checked as in-person and there was no option to culture the patient's subcutaneous port. The physician entering the order needed to rely on memory to place an additional order to culture the patient's port. By not having portable X-ray checked, the patient would be transported to imaging, delaying culture draws, delaying antibiotic administration. We worked with our Clinical Informatics team to update the order set to include these changes. From January through May 2017, we educated every ER nurse and physician on the new algorithm as well as inpatient oncology nurses and physicians. Education has continued throughout the year by providing education at the new physician orientation, the ER Quarterly Education Day, and Clinical Practice Grand Rounds. Since implementation of the algorithms, education, and changes to the order set in May 2017 through YTD, there has only been one Febrile Neutropenia patient who has not received initial doses of antibacterial therapy within one hour of empiric data, exceeding our goal at 92% and 0% mortality.

### 53

#### REVIEW MEASUREMENT TOOLS OF CHRONIC ORAL GRAFT-VERSUS-HOST DISEASE

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The chronic graft-versus-host disease (cGVHD) commonly occurs between 100 days after the transplantation and often happens in the mouth. The incidence of oral cGVHD is about 45%–83%. Signs and symptoms include oral mucosa atrophy, edema, erythema, xerostomia, pain, and ulceration. In the late stage, oral fibrosis may happen and decrease the range of oral activity. Oral ulceration and pain may cause the decreasing of food intake. In addition, it is possible to cause malnutrition and decrease patient's quality of life. There is no biomarker and blood test

for the diagnosis of oral cGVHD. Patients with severe oral cGVHD are needed to admit to hospital for treatment. It is a requirement for nurses to be trained to screening the oral cGVHD in its early stage; in case to prevent its degradation. There are four measurement tools for oral cGVHD included Oral Mucosa Rating Scale (OMRS), Lee Symptom Scale, The National Institutes of Health Oral Mucosal Score (NIH OMS), and NIH oral Chronic GVHD Scoring Instrument Criteria in the clinical practice and research. After comprehensive reading and assessing the content, scoring scheme, and psychometric property of the tools, we suggest nurses to utilize of NIH OMS to screen the incidence of oral cGVHD. Furthermore, three items of Lee symptom scale (need to avoid certain foods due to mouth pain, ulcers in mouth, receiving nutrition from an intravenous line or feeding tube) are recommended to nurses to educate patients or their family for self-assessment of oral cGVHD after discharge.

### 54

#### NUTRITIONAL STATE ASSOCIATED FACTORS AMONG ESOPHAGEAL CANCER PATIENTS RECEIVING CONCURRENT CHEMORADIOTHERAPY

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This study was designed for a longitudinal study designed to Nutritional state associated factors among esophageal cancer patients receiving concurrent chemoradiotherapy. A total of 100 patients were admitted to the Department of Hematology and Radiation Oncology in the Southern Medical Center. Each patient must have three questionnaires for the first time: after the diagnosis, before the treatment has not yet received; the second time: after taking the radiation treatment between the third week to the fourth week (radiation therapy dose of about 3000cGy ± 250) And at least one chemotherapy during radiotherapy; third time: one month after radiotherapy or before surgery. 97 of which were valid questionnaires. The questionnaire was collected from the questionnaire. The contents of the questionnaire included personal basic information, medical variables, nutrition assessment and so on, and analyzed the data using SPSS 19 / Windows statistical software. From the univariate analysis, it was found that the absence of a nutrition note prior to the first questionnaires would significantly affect the weight change during the entire study period, and the percentage of weight loss during the

entire study period would be higher than that of the untreated. The number of participants is about 50% (-3.03% versus -6.83%), showing the importance of pre-nutrition note. The study also found that the way of eating during the treatment of nasogastric tube or gastrostomy to study the object, weight changes will drop more. This may be due to the need to accept the pipeline feed the severity of the disease than the mouth by eating a serious, when the completion of the gastrostomy or nasogastric tube, can not accept the integrity and individual nutritional intervention and guidance, resulting in eating less than The body needs, so the nutritional status is relatively poor. We recommend that patients receive at least one nutrient note prior to receiving concurrent radiotherapy and chemotherapy, which is significantly helpful in avoiding subsequent weight loss during concurrent radiotherapy and chemotherapy.

## 55 NURSE NAVIGATION: AN IMPORTANT ASPECT OF MULTIDISCIPLINARY CARE FOR HEPATOPANCREATICOBILIARY CANCER PATIENTS

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An estimated 106,120 new Hepatopancreaticobiliary (HPB) cancers will be diagnosed in 2017, and these patients are likely to undergo trimodality therapy including chemotherapy, radiation, and radical surgical resection in pursuit of a cure. While the multidisciplinary aspect of treating these patients allows them to receive care from very specialized and skilled practitioners, it can also make understanding the care they are receiving very confusing and stressful, which can negatively affect patient satisfaction, timeliness of care, and compliance with ordered regimens. This study aims to promote the development and use of Oncology Nurse Navigators (ONN) in the care of HPB cancer patients to provide education, eliminate barriers to quality care, and guide patients through the multidisciplinary care they will receive. A subcommittee of the Methodist Richardson Medical Center Cancer Committee was formed to assure best practice was utilized when caring for HPB patients based on Commission on Cancer standards, with a focus on outpatient nurse navigation services. An experienced

oncology nurse was assigned to care for patients with HPB malignancies and assure complete, quality care through addressing educational, psychosocial, and clinical needs. For each patient, the ONN was tasked with ensuring complete staging workup and multidisciplinary consults prior to first line therapy utilizing a standard checklist, developing and providing patient education regarding complex surgical procedures and chemotherapy regimens, addressing barriers to care including cost of care and testing, side effect identification and management, and early utilization of palliative care services. Disease specific navigation services have been available to patients with more common malignant sites for years, but resources for patients with HPB cancers are extremely limited. By working to establish a disease specific ONN to care for patients with liver, pancreas, and bile duct cancers, Methodist Richardson Medical Center can provide additional focused services to patients and members of the multidisciplinary team to improve patient satisfaction, time from diagnosis to treatment, education, and tracking of quality measures.

## 56 TO REDUCE INCIDENCES OF PREVENTABLE CYTOTOXIC DRUG EXTRAVASATION IN AMBULATORY TREATMENT UNIT

Peggy Lay See Cheng, National Cancer Centre Singapore; Yick Ching Justina Lam, National Cancer Centre Singapore; Li Feng Jane Guo, National Cancer Centre Singapore; Ai Hui Ivy Goh, National Cancer Centre Singapore; Han Keng Alex Ong, National Cancer Centre Singapore

Extravasation of certain cytotoxic agents during peripheral intravenous administration will cause severe local injuries. Most extravasation can be prevented with implementation of careful administration process. Cytotoxic extravasation can impact treatment outcome, give rise to psychological distress, unnecessary hospital stay and significant financial burden. Ambulatory Treatment Unit (ATU) of an outpatient Oncology unit has witnessed increasing incidences of cytotoxic extravasation and aims to identify the risk factors of cytotoxic extravasation and develop preventive strategies to reduce the incidence of preventable cytotoxic extravasation in ATU by 33% from 3 cases/month to 2 cases/month within 6 months. 101 preventable extravasation cases were identified from Jan 2014 to Dec 2016 Risk factors of extravasation were categorized with reference to CPG "Management of chemotherapy extravasation – ESMO – EONS Clinical Practice Guidelines". Plan-Do-Study-Act

(PDSA) Methodology was used to carry out interventions. PDSA 1, 2 and 3 cycles were implemented in Jan 17, Feb 17 and May 17 respectively to reduce the incidence of preventable cytotoxic extravasation in ATU. PDSA 1: Active education of patient on the use of CVAD PDSA 2: Creation of chemotherapy nurse educator Usage of larger bore cannula for large volume infusate (more than 500ml/hr) PDSA 3: Infusion to be stopped prior to toilet. Reassess by nurse after toileting is done before resuming infusion. Preventive strategies were implemented through 3 PDSA cycles from January 2017 to June 2017; the number of preventable cytotoxic extravasation was successfully reduced by 67% from 3 case/month to 1 case/month. We have sustained 0 cases of cytotoxic extravasation from Jun to Sep 2017. With recognition of risk factors and active implementation of interventions, the incidences of preventable cytotoxic extravasation is significantly being reduced. The introduction of new innovations: 1. chemotherapy nurse educator to provide comprehensive teaching to patient, 2. usage of large bore cannula and to stop infusion prior to toileting and to check before resuming infusion had positively address the risk factors identified, leading to enhanced patient safety and outcome.

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## CLINICAL PRACTICE POSTER SESSIONS—FRIDAY

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57

### TELEPHONE TRIAGE TOOL FOR PAIN ASSESSMENT IN SICKLE CELL PATIENTS AND EARLY DETECTION OF ACUTE CHEST SYNDROME

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Management of sickle cell disease (SCD) in the outpatient setting can be inconsistent; with patients presenting to ER's with pain crises and poorly managed acute and chronic medical issues. In a large SCD clinical service, this patient population is managed by a team of 2 APP's and a specialized nurse to provide consistent assessment and care across the trajectory of the SCD patient experience. A tool was developed for a comprehensive telephone triage pain assessment of acute pain crises. The Telephone Triage Pain Assessment Tool (TT-PAT) facilitates early assessment of pain crises, outpatient management with pain protocols and decreased ER visits/hospitalizations for SCD patients. A specific assessment to rule out Acute Chest syndrome (ACS) is incorporated in the Telephone Triage Pain

Assessment Tool (TT-PAT). ACS is a leading cause of death for patients with sickle cell disease (SCD). It is accompanied by fever and/or respiratory symptoms. ACS in SCD requires prompt management to prevent clinical deterioration and death. The purpose was to create systems for SCD clinical pain assessment and early detection and treatment of ACS and so implement quality improvement for SCD patient outcomes. Telephone Triage utilizing a standardized assessment tool performed by the SCD nurse to evaluate acuity and, with the provider, determine patient plan of care and also rule-out ACS. Appropriate patient disposition is streamlined for immediate SCD patient treatment. Creation of a dedicated SCD clinic team gave foundational structure for comprehensive pain assessment for expedited scheduling of pain protocols. Streamlined SCD patient care and optimal utilization of infusion/clinic resources have reduced ER/hospital visits. Early detection of possible ACS through telephone triage and standardized assessment tool with direct admit to hospital, facilitates earlier treatment of this complication and improves clinical outcomes. Consistency in SCD patient care with a dedicated team allows for clinical familiarity with cases and best ongoing support for assessment for pain, and complications. In this way patient scheduling for pain protocols can be prioritized. Prompt, thorough and methodical assessment per standardized telephone tool was implemented to determine need for pain protocol thereby ensuring that patients were able to achieve pain control in an outpatient setting with early detection and intervention for ACS.

58

### SPIRITUALITY IN HEALTHCARE: HOW DO WE BEGIN?

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Spirituality is an integral component of a patient's health and well-being. Research has shown that spiritual concerns are prevalent among patients with cancer and spiritual well-being may be related to improved quality of life, decrease in anxiety and depression, and better adjustment to dealing with a cancer diagnosis. The lack of spirituality has been associated with depressive symptoms, hopelessness and inability to cope with the illness. At an ambulatory care NCI-designated Comprehensive Cancer Center, nurses identified the need to improve their assessment and documentation of spiritual well-being. Teaching members of the healthcare team how to address and assess spiritual

needs may lead to improved interventions and positive patient outcomes. The purpose was to improve assessment and documentation of spiritual well-being to ensure quality oncology nursing care by using the strongest level of evidence on which to base nursing practice intervention. Integrated were the results of a comprehensive literature review into the decision of an assessment tool, patient education document and revisions to nursing documentation. Interventions include development of staff educational course on spiritual well-being via Health Stream; lecture from expert in the field to increase staff comfort level when addressing spirituality issues; and implementation of the FICA Spiritual History Tool® to address spiritual issues with patients. Brainstorming sessions are planned regarding opportunities of incorporating the spiritual assessment into patient care. Modifications to our electronic nursing documentation tool that prompts the nurse to complete an in-depth assessment and provide evidence-based interventions will be developed with staff input as well the development a patient education document. Formal evaluations are planned to survey nurses on comfort level of spiritual well-being assessment. Chart audits scheduled to ensure documentation is complete and standards of oncology nursing practice are met. Perform patient surveys to assess impact of change in practice. It is important for nurses to understand the importance of screening and documentation of spiritual well-being in patients with cancer. The implementation of the FICA Spiritual History Tool®, the patient education document and the modified nursing documentation tool may be adapted for use by all nurses nationally to ensure evidence-based practice with the goal of improving patient outcomes.

## 59

### **RADIATION ONCOLOGY IN TRACKING ORAL CHEMOTHERAPY ADHERENCE: A MULTIDISCIPLINARY QUALITY IMPROVEMENT PROJECT**

Jennifer Clark, RN, MSN, OCN®, CNRN, Laura and Isaac Perlmutter Cancer Center, New York University Langone Health, New York, NY; Jessica Wang, RN, BSN, Laura and Isaac Perlmutter Cancer Center, New York University Langone Health, New York, NY

The dramatic increase in number and complexity of oral chemotherapy regimens necessitates creative solutions to promote patient adherence, which may alter treatment success. Radiation oncology's daily patient encounters offer a unique opportunity to promote patient adherence through assessment, education, timely intervention, and streamlined multidisciplinary communication. The purpose of this

project was to implement a novel electronic health record (EHR) tracking program in radiation oncology that is designed to assess patient oral chemotherapy adherence. We started with conducting a needs assessment based on patient volume at our large urban academic center. Next, we identified a gap in oral chemotherapy knowledge among registered nurses, which formed the basis of an educational intervention by our center's clinical nurse specialist. Through multidisciplinary meetings with nursing informatics, we adapted the existing EHR adherence tracking workflow to meet the specific needs of our radiation oncology practice. Nurses, residents, and attending physicians received education about the new EHR workflow prior to implementation. Nursing assessment drives the project's clinical workflow once the physician EHR order template alerts nurses to enroll a patient in oral adherence monitoring. The EHR tracking program includes adherence screening, toxicity grading, and a free-text log to record dose alterations. Nurses use the EHR tracking program to assess patients on their first day of radiation and weekly throughout treatment. Since implementation on 07/06/17, we enrolled 23 patients in adherence monitoring; 13 of whom completed radiation. Of these 13 patients, 12 (92%) reported no missed doses, 1 missed a single dose, and 3 patients had a 1–2 day hold in their oral chemotherapy regimen. The EHR program tracks reasons for missed doses and enables evaluation for patient adherence promotion interventions. Chart reviews are used to measure documentation compliance: 69% for physicians, 77% for nurses. As staff members become familiar with the new process, we expect documentation compliance to increase. We found that assessment and EHR patient adherence tracking during radiation oncology encounters increased communication between the medical and radiation oncology care teams regarding oral chemotherapy regimens. Our next step is to expand EHR oral adherence tracking beyond cytotoxic chemotherapies to include immunotherapy agents. This project provides a framework for a multidisciplinary team approach to improving treatment success by utilizing radiation oncology nurses to assess and support oral chemotherapy adherence.

## 60

### **REDUCING MORAL DISTRESS IN ONCOLOGY NURSES: UNBENEFICIAL CARE ADDRESSED THROUGH NURSE-DRIVEN ETHICS INITIATIVE**

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nie Smith, BSN, RN, OCN®, Anne Arundel Medical Center, Annapolis, MD; Heather Hyland, BSN, RN, OCN®, Anne Arundel Medical Center, Annapolis, MD

Moral distress is a known problem within the health-care profession. Moral distress is associated with the dilemma of individual values in conflict with professional practice, often leading to personal and professional stress for nurses. In 2016, oncology unit nurses at Anne Arundel Medical Center identified an increasing trend in the number of clinical practice situations resulting in nursing staff moral distress. Oncology nurses felt pressured to provide unbeneficial, medically ineffective, and/or ethically inappropriate treatment near the end of life. In joint effort between the oncology unit and the clinical bioethicist, a clinical ethics quality improvement initiative was formulated for early identification of ethical care issues in a three step process. The three step initiative included: implementation of nurse performed patient/family ethical assessment tool within the patient's electronic medical record; initiation of nurse-ordered ethics consultations; and performance of weekly interdisciplinary ethics rounding on the oncology unit. The intent of this quality improvement plan was to empower nurses to share their ethical practice concerns that may be overlooked by the patient, family, or providers. To test the viability and effectiveness of the nurse-driven ethics initiative, an evidence-based nursing moral distress assessment tool was given to oncology nurses during shift huddles. This assessment tool was performed pre-intervention and at monthly post-intervention times for a total of three months. Nurse moral distress trends, throughout this evaluation period, reported a decrease in both the frequency of morally distressing situations and the level of distress in oncology nurses. By identifying early ethical cases, initiating nurse-driven ethics consults, and having an environment open to ethical discussions, nursing staff can demonstrate clinical nursing autonomy. This autonomy can foster nurses to be pro-active in addressing ethical issues in order to provide virtuous care to patients; simply put, nursing "doing the right thing" for patients, families, and the health care team.

## 61

### **RESTRUCTURING THE NURSING ORIENTATION PROGRAM IN AN ONCOLOGY SETTING: ONE SIZE DOES NOT FIT ALL**

Tonya Jenkins, RN, National Institutes of Health, Bethesda, MD; Tyhis Coates, RN, MSN, National Institutes of Health, Bethesda, MD

The orientation program on our adult Hematology/Oncology/Transplant unit was re-designed to ensure

nurses were equipped with the necessary skills, experiences, and support to safely practice. Prior to these adjustments, nurses found the orientation process challenging; moreover, the retention rate for our nursing residency cohorts was fifty percent. Orientation included 480 clinical hours for nurse residents and 240 clinical hours for experienced nurses. Preceptors conveyed that they did not feel they had enough time to adequately orient the preceptees. Preceptors and preceptees were often frustrated with complex assignments that seemed to focus more on daily tasks rather than having the time to understand the rationale behind the nursing plan of care. The process for changing the orientation program started with focus groups conducted by the nurse manager involving previous nurse resident cohorts, preceptors and leadership. One of the major changes was developing two tracks, one for the experienced nurse and another for the nurse resident. At the beginning of both tracks, the preceptee was given a comprehensive binder outlining the orientation process, including articles, resources and competency requirements to complete orientation. Scheduled non-patient care workdays and bi-weekly orientation meetings with management and educational teams were added. Overall clinical hours were increased to 360 for the experienced nurse and 600 for the nurse resident. This was tailored to guide the preceptee from caring for 1 patient initially and eventually 2-3 patients. Non-patient care workdays allowed the preceptees to complete protocol and disease modules, and read articles specific to the population. Preceptor selection was a challenge because of preceptor fatigue. To address this, more nurses were trained to serve as preceptors. Preceptees were matched with 2-3 preceptors initially, then based on learning styles, they self-selected a primary preceptor. The secondary preceptors filled in as well to provide a variety of perspective. In summary, developing two orientation tracks, increasing clinical hours, creating the orientation binder, and incorporating workdays produced a confident nurse who was equipped to identify available resources and provide patient care for our complex patients. These changes greatly increased satisfaction for both the preceptor and preceptees, and through support by staff and leadership were successful in retaining competent nurses.

## 62

### **HIGH DOSE RADIATION TASK FORCE FOR AFTER HOURS PROCEDURE REDUCTION**

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High Dose Rate (HDR) radiation treatments are a modality of Radiation Therapy where patients receive a greater dose of radiation to a more precise location. The precision can minimize side effects and improve survival. A device is placed in the Operating Room (OR) while the patient is under anesthesia. After recovery, the patient is transferred to Radiation Oncology to complete their treatment which takes 3 to 6 hours. Prior to process improvement, HDR patients were commonly discharged after hours. Due to limited after hour's resources, this practice created safety concerns and decreased employee satisfaction. The purpose of the task force was to reduce after hours discharges. After hours discharges create patient safety concerns related to resources such as: the code team, transport, and administrative personnel. They also create staff safety concerns. The RN was regularly left to clean up, document and leave the building alone. A task force was created. Barriers identified included limited physician availability, resistance of OR to schedule patients at requested time, lack of collaboration between nursing, physics, and physician teams, and inadequate OR scheduling training. We created an email group and calendar to communicate upcoming patients, challenges, staffing needs, and training plans. The physician conducted in-services with OR staff to explain the necessity of early start times. The nursing leader communicated the safety risk of having patients in the clinic without appropriate resources. The administrative team appointed one person to negotiate OR scheduling and provided her with additional training. The HDR physician consolidated his clinic practice to one location to improve scheduling availability. Prior to task force initiation, treatment ended after 4pm on ten of 27 procedure days, nine of those ended after 5pm. In the seven months after task force initiation, treatment ended after 4pm on 15 of 59 procedure days ( $p=0.0102$ ) and only 6 ended after 5pm ( $p=0.0042$ ). In the occasional situation where a procedure runs late, administrators have approved over-time for the RN plus one clinical support person. The MD has agreed to stay in clinic until the patient is discharged and RN is ready to leave. The HDR task force continues to work through complicated situations as they arise. Data collection is ongoing and will be presented at conference.

## 63

### ADVERSE EVENT MANAGEMENT DURING TREATMENT WITH ALPELISIB FOR

### HORMONE RECEPTOR-POSITIVE, HUMAN EPIDERMAL GROWTH FACTOR RECEPTOR 2-NEGATIVE ADVANCED BREAST CANCER

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The phosphatidylinositol 3-kinase (PI3K)/AKT/mammalian target of rapamycin (mTOR) signaling pathway is frequently activated in breast cancer and can promote tumor growth, progression, and resistance to anticancer therapies such as endocrine therapy (ET). Mutation or amplification of the *PIK3CA* gene, which encodes the catalytic subunit of the  $\alpha$ -isoform of class I PI3K (PI3K $\alpha$ ), is a common mechanism of PI3K/AKT/mTOR pathway activation. Alpelisib (BYL719) is an oral inhibitor that selectively targets PI3K $\alpha$  and is under investigation in combination with letrozole or fulvestrant for hormone receptor-positive (HR+), human epidermal growth factor receptor 2-negative (HER2-) advanced breast cancer (ABC). The objective of this presentation is to provide information on common adverse events (AEs) observed with alpelisib to help optimize management and improve patient outcomes. Two phase 1 trials of alpelisib alone or in combination with ET have been completed, and currently published safety results will be summarized, along with management recommendations for key AEs. In advanced solid tumors (N=132; NCT01219699), the most common all-grade AEs ( $\geq 30\%$ ) suspected to be related to single-agent alpelisib were hyperglycemia (47%), nausea (46%), diarrhea (38%), and decreased appetite (37%). The only grade 3/4 AE occurring in  $>3\%$  of patients was hyperglycemia (24%); dose-limiting toxicities comprised grade 3/4 hyperglycemia (n=6), grade 3 nausea (n=2), and grade 3 hypophosphatemia with grade 3 hyperglycemia (n=1). When alpelisib was used in combination with fulvestrant (N=87; NCT01219699) or letrozole (N=17; NCT01872260) in patients with estrogen receptor-positive, HER2- ABC, the most common grade 3/4 AEs were hyperglycemia and rash. Hyperglycemia, rash, and gastrointestinal toxicities are all on-target effects of PI3K inhibition. Management of cancer treatment-related hyperglycemia can include monitoring of blood glucose and hemoglobin A1c, patient self-monitoring of blood glucose, treatment per American Diabetes Association guidelines, and anticancer therapy dose adjustments, depending

on the AE severity. Additionally, educating patients on the symptoms of on-target AEs can aid in early identification and intervention, which can help reduce AE severity. Additional management and screening guidelines will be discussed in the presentation. In conclusion, the most common grade 3/4 AEs of alpelisib alone or in combination with letrozole or fulvestrant are on-target effects of PI3K inhibition, including hyperglycemia and rash. Physician and patient awareness of possible symptoms along with monitoring to enable early intervention are critical for successful management.

## 64

### AIMING FOR ZERO: EVALUATING THE IMPACT OF BIOPATCH® USE ON TUNNELED CENTRAL VENOUS CATHETERS

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Early studies evaluating effectiveness of a chlorhexidine (CHG) impregnated sponge (Biopatch®) dressing to reduce central line associated blood stream infection (CLABSI) focused primarily on patients with non-tunneled central venous access devices (CVADs). Based on the previous evidence, nursing policy at our institution limits Biopatch® application to non-tunneled CVADs, peripherally inserted central catheters, and implanted vascular access devices accessed greater than 24 hours. Emerging evidence supports including a CHG dressing to ongoing CLABSI reduction strategies, particularly in high risk patient populations. Due to longer catheter dwell time, immunosuppression, impaired healing, and higher level of catheter use, patients undergoing treatment for cancer are high risk. This project evaluated the impact of Biopatch® on CLABSI incidence in hospitalized adult oncology patients with tunneled CVADs. Nursing staff on the bone marrow transplant and leukemia units were educated and given in-service training about including application of Biopatch® for tunneled CVADs upon admission, routine dressing changes, and with first dressing change following catheter placement. Due to anticipated healing of the catheter tunnel and improved immunity, patients were informed ongoing use of Biopatch® following discharge was not necessary. Following the practice change, correct Biopatch® placement and catheter site assessment for skin sensitivities and other possible contraindications for use was audited periodically. Any patient with a tunneled CVAD exhibiting a bloodstream infection not meeting

the mucosal barrier injury criteria as defined by the National Healthcare Safety Network was assessed for Biopatch® presence via chart review. In 2016, six months prior to the intervention, there were 11 tunneled CVAD CLABSIs. In the six months following the intervention, there were eight CLABSIs. In the first six months of 2017, there were five CLABSIs. Since then, our nursing units continue to experience a decrease in CLABSIs. At our institution, CVAD care and maintenance is a nursing responsibility. When CLABSIs are identified, nursing practice is scrutinized for alignment with organizational policies. Even if policies are evidence-based, CVAD dressings are often evaluated in non-oncology, non-tunneled CVAD patient populations. Although tunneled CVADs are considered lower risk for CLABSI in comparison to non-tunneled CVADs, patients undergoing treatment for cancer are at higher risk and should be included in trialing new products aimed at reducing CLABSI.

## 65

### A PERFORMANCE IMPROVEMENT INITIATIVE: TSH MONITORING FOR POST-TREATMENT HEAD AND NECK CANCER PATIENTS

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Patients with head and neck cancer undergoing chemoradiation/radiation and/or surgery frequently present with locally advanced disease to adjacent structures such as the thyroid gland that are affected by the radiation/cancer treatment. Hypothyroidism is when the thyroid gland becomes underactive and does not produce enough thyroid hormone altering the body's natural function; it can be a long-term effect of radiation therapy to the neck and post treatment monitoring of patients is necessary. One NCCN recommendation is for routine screening, every 6–12 months for hypothyroidism, if the patient's neck is irradiated. Multiple studies have demonstrated relatively high prevalence of hypothyroidism and this intervention can be valuable to the care process. An increased incidence of head and neck cancer potentiates development of hypothyroidism post treatment. One quality of life measure and evidenced-based NCCN recommendation that is not well studied is the need to monitor patients' post-radiation therapy to the neck for hypothyroidism. Interventions A team of NPs, surgeons, radiation and medical oncologists created a performance improvement initiative to

educate patients about hypothyroidism. The healthcare providers surveillance patients' TSH levels post radiation treatment to the neck, notify patients of the TSH blood level, and provided a referral for patients to receive a prescribed thyroid hormone supplement if blood TSH level was abnormal. Obtaining TSH levels yearly post-radiation therapy and EHR technology assist healthcare providers with monitoring thyroid functioning. It is important for the interdisciplinary team to monitor and follow the NCCN evidence based practice recommendation. The value of ordering the necessary labs and when it is deemed necessary supplement the patients with thyroid hormone supports quality patient post treatment care coordination. Quality improvement monitoring of patients' TSH levels will promote better outcomes. Close clinical monitoring, identification, and proactive management of patients post radiation therapy to the neck with TSH testing, and thyroid hormone treatment can improve patients' quality of life, and performance status. Healthcare providers need to utilize evidenced-based practice to improve head and neck cancer patient outcomes and survivorship care. This quality improvement initiative demonstrated positive findings with an increased compliance from 67% to 96%.

## 66 IMPROVING OUTCOMES FOR CHEMOTHERAPY INDUCED ALOPECIA: IMPLEMENTATION OF A SCALP COOLING SERVICE WITH FDA APPROVED DEVICES

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Chemotherapy induced alopecia (CIA) is one of the most common and distressing side effects of cancer chemotherapy treatment. Approximately 50% of patients consider hair loss the most traumatic aspect of chemotherapy and approximately 8% would decline treatment because of this concern. CIA is identified as a CTCAE adverse event yet there are no national guidelines for CIA management. Recently a randomized trial demonstrated safety and efficacy and led to FDA approval of two scalp cooling systems in the United States. Significant site differences in the RCT outcomes indicated the crucial need to put rigorous processes in place to assure implementation success.

The purpose was to develop a sustainable scalp cooling service at an NCI designated cancer center using current FDA approved devices. A multidisciplinary committee convened to implement scalp cooling that included nursing, medicine, pharmacy, finance, infection control, and scheduling (epic). Vendors presented their product and services and a device was chosen by the team. A process was implemented by both Clinical leadership and the vendor to educate nursing and provider staff about scalp cooling. Prescription and scheduling processes were incorporated into the EMR. An internal volunteer organization was trained to fit the caps and manage billing to the vendor. Nursing policy and procedure was established and a patient teaching sheet developed. Scalp cooling implementation began on consented patients within the infusion setting. The successful implementation of a newly FDA approved scalp cooling device occurred through a complicated, systematic, multifaceted team approach. Future evaluation metrics should measure the impact on staff and patient outcomes. The success of scalp cooling is largely dependent on the rigor of implementation and staff training. Patients need nursing advocacy to assist in offering scalp cooling as a service and encourage insurers to recognize it as a reimbursable treatment. Scalp cooling has been approved by the FDA for use in the US since 2015. Scalp cooling is demonstrated as safe, well tolerated and effective. Nurses can help dispel myths and advocate for advances in management of CIA by exploring implementing a scalp cooling service.

## 67 UNIT-ACQUIRED PRESSURE INJURY PREVENTION IN HEMATOLOGY/ONCOLOGY INPATIENTS

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Literature research reveals Hematology/Oncology patients are high risk for developing Unit-Acquired Pressure Injuries (UAPIs) in an inpatient setting. Monitoring 6B at Christiana Hospital, it was noted that UAPIs occurred at 4.35%, above national averages for medical Hematology/Oncology units. This unit is a 46 bed Hematology/Oncology inpatient unit. Project goal was to reduce the number of UAPIs occurring on the unit by 10% in three months. This project began with educating staff on UAPI prevention and conducting weekly rounding on all patient's with a Braden Score  $\leq 64,000$ . Moving forward will include advanced training for the project leaders and to continue staff and

patient education. The goal is to maintain zero UAPIs. This project is being taken hospital-wide by utilizing each unit's skin specialists. Lessons learned include patients' involvement in UAPI prevention and nurse education is paramount.

**68**

### **STEM CELL INFUSION: GUIDELINES AND PRACTICES**

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Hematopoietic Progenitor Cell (HPC) Infusion is a complex and essential part of the autologous transplant process. Standardization of practice, competency, and safety is essential throughout the infusion. The oncology RN plays a unique role in the safe handling, documentation, and infusion of HPCs. DMSO is added to the blood or bone marrow to keep water in the cells from forming crystals that would damage the cells, but prolonged exposure of HPCs to dimethyl sulfoxide (DMSO) a cryoprotectant, has been shown to decrease colony formation of the cells. Bolus methods of infusing cells results in shorter exposure time to DMSO but can increase DMSO toxicity. Yet, the drip method, is less emetogenic, produces less cardiac arrhythmias, but can result in more cell breakdown related to longer exposure to DMSO. Little research exists regarding best methods of HPC infusion and the effect on engraftment; significant variability exists across the country. The purpose was to provide a review of standards of practice and safety guidelines for HPC infusion. The Foundation for the Accreditation of Cellular Therapy (FACT) and ONS' Hematopoietic Stem Cell Transplantation, A Manual for Nursing Practice were reviewed to examine recommended HPC infusion. Research needs to be evaluated to determine if the bolus or infusion method for best practice. Literature states for the HPC to be thawed to a semi-slushy state. Further guidelines are needed for the exact temperature or specifications of the HPC cells. Evaluating current practice provides opportunities for improvement in best practice and implementation of guidelines; a lack of standards of practice exists for HPC infusion. The proper handling of the HPCs determines their viability and possibly the overall patient outcome. This evidence provides further incite and education to Oncology nurses in the complex practice of HPC infusion, and prepares them to observe for possible complications and employ interventions to prevent

these complications. Oncology nurses should understand the importance of proper HPC handling and infusion as well as to be aware of possible side effects and toxicity management. Many toxicities can occur in patients undergoing a HPC transplant. While the majority are thought to be related to high dose chemotherapy, studies are needed to determine if any of these adverse effects are related to the infusion process of the HPCs.

**69**

### **THE UNIT PRACTICE COUNCIL: EMPOWERING ONCOLOGY NURSES TO IMPLEMENT CHANGE**

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Nursing practice is influenced by changes in oncology medicine, organizational policies and other factors. Rather than follow the approach of "top down" changes, the nurses at the bedside are empowered to implement change. The ambulatory oncology infusion nurses have created an official forum to bring these matters to the forefront of their practice. The purpose of the unit practice council was to bring practice changes back to the bedside, where the most practical ideas are presented and implemented. The unit practice council is run by the infusion nurses. Nursing leadership is available for support and guidance. Meetings are held monthly, with documented minutes. It is the responsibility of the members of each sub-committee to provide updates on the progress of their projects, and any nurse can add agenda items. Projects that have been put through by the unit practice council include: self-scheduling process, charge RN sub-committee, central venous access device education, etc. The central venous access device education project will have a direct impact on nursing-sensitive patient outcomes. We will analyze our CLABSI rate pre and post implementation. In addition, a pre-survey was sent out to the nurses September 2017 and we will send out a post-survey after the education has been performed to evaluate effectiveness of the program. In October 2017 the nurse satisfaction survey was sent out to all registered nurses. We will be able

to filter out certain questions, which can be directly correlated to the effectiveness of the unit practice council. The unit practice council brings their recommendations and project updates to the service-wide oncology nursing practice council, which includes members from all of the inpatient and outpatient oncology areas. The members of the oncology nursing practice council then participate in the hospital wide nurse practice council where institution wide change is discussed and implemented among nurses from all patient care areas. This forum is especially effective because this council reaches nurses throughout the entire organization, not just the oncology specialty. The nurses have provided positive feedback at staff meetings and ad hoc 1:1 meetings with management. The goal of the unit practice council is to educate, motivate and promote teamwork among the nurses. Next steps would be to evaluate the effectiveness of the projects that have been implemented.

## **70 IMPLEMENTATION OF CONTINUED PEER SUPPORT PROGRAM ON AMBULATORY ONCOLOGY UNITS**

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Oncology nurses are often exposed to high levels of stress as they try to meet the increased demands of cancer patients. Many oncology nurses new to the ambulatory setting lack experience in coordinating the care of cancer patients with complex needs. Nurses are particularly at high risk for burnout when they transition to the ambulatory setting and may suffer from decreased job satisfaction early on. Support from colleagues can play an important role in preventing burnout. There is an absence of research on formal peer support programs following unit orientation of newly hired oncology nurses in the ambulatory setting. The purpose was to provide continued peer support for newly hired ambulatory oncology nurses following completion of unit orientation as they are challenged with caring for cancer patients with increased demands and complex needs. The goal of the program is to provide support, enhance job satisfaction and increase nurse retention of new nurses in the ambulatory oncology setting. A continued peer support program was implemented in November 2015 on the ambulatory leukemia, benign hematology, chemotherapy infusion and bone marrow transplant units at Memorial Sloan Kettering Cancer

Center. Experienced clinical nurses in the ambulatory units are paired with newly hired nurses to provide ongoing support for a year after they complete unit orientation. During monthly 15 minute meetings, peer supporters encourage the new nurses to reflect on their practice, job satisfaction and professional goals. They provide support for the nurses in their new role as they continue to gain expertise and increase their knowledge in care of patients with hematologic conditions. A post-program quantitative survey will be administered to the nurses to evaluate their experience on the program. Nurse retention rates will also be evaluated and reported. A continued peer support program in an ambulatory oncology setting is a promising endeavor that can potentially make an impact on other cancer institutions. This presentation will inspire experienced oncology nurses to provide continued support to newly hired peers as they embark on their new roles in the ambulatory setting and meet the complex demands of oncology nursing.

## **71 COLLABORATIVE APPROACH TO REDUCE MUCOSITIS-RELATED COMPLICATIONS WITH STANDARDIZED ORAL CARE**

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Oncology patients receiving cancer treatment have a high incidence of Oral Mucositis (OM). OM is caused by injury to the mucosal epithelial cells and in immune compromised patients increases the risk for bacteremia and sepsis. Literature supports the use of evidence based protocols for care of patients with OM to decrease the severity and improve patient outcomes. VA Puget Sound Health Care Systems Cancer Care Center identified a need to implement OM care consistently for all Oncology patients. The purpose was to standardize oral care for patients undergoing cancer treatment, utilizing a grading scale, order sets, and patient/provider education to manage OM symptoms. An interdisciplinary team was developed, to design standard OM guidelines. Patient teaching material, a Prevention/treatment order set, and Skill Checklist were created. An OM documentation NCI grading scale was added to nursing Progress Note and Chemotherapy Clinical Pathway templates. Patient teaching

materials, provider education and treatment order set for OM were reviewed in conferences. Physician follow up for OM prevention was addressed during daily rounds. Team members emphasized the importance of using OM treatment orders upon patient admission. Outcomes both in incidence of OM and associated morbidity of pneumonia and systemic infection were decreased with the implementation of a consistent standardized care for management of OM. A decrease in incidence and severity of OM was established for Oncology patient care. Physicians, clinicians, nurses, and patients were integral to the standardized protocol development for all Oncological patients in treatment. Periodic provider education regarding OM prevention, treatment, and diagnosis codes helped reinforce awareness and standards for management of OM and related complications. Annual nursing competency checks regarding OM treatment were instituted and the implementations of OM templates in CPRS (explain CPRS) were incorporated. Patient education was systematically provided for prevention of OM and aspiration pneumonia. Evaluation of program efforts continues to focus on multidisciplinary approach in the guidelines for OM care of cancer patients and improvement of standardized documentation. Utilizing an interdisciplinary core team, a standard set of guidelines and protocol was created to improve Oncology patients' clinical outcomes relative to OM.

## 72

### CHECKING IN AFTER CHECKING OUT: THE IMPACT OF DISCHARGE PHONE CALLS ON AN ONCOLOGY/HEMATOLOGY UNIT

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Discharge can be a very stressful and difficult time for patients and caregivers. Cancer patients are especially difficult to transition from an inpatient to outpatient setting due to the complexity of their care and diverse needs. The day of discharge leaves a lasting impression on the overall hospital experience. In September 2016, HCAHP scores indicated a decline in the following areas on 6B, the Hematology/Oncology unit: Communication with Nurses, The Discharge Process, and Overall Experience. As a result of the decline in scores, an interprofessional team met to evaluate causes and implement strategies to improve the HCAHP scores and patient experience. Consequently the Patient Care Facilitators chose to implement Discharge Phone Calls (DPC's) to improve the patient's experience and

provide continuity of care. As a team we collaborated with Nursing Management and Nursing Informatics to develop a standardized script for DPC's and a questionnaire to document them in the iRound tool. Patients to be called were those discharged from the hospital unit to home. The project goal was to increase the HCAHP scores in the three affected areas by 10% by the end of the 2017 fiscal year. After a review of the evidence of discharge phone calls on patient transition from the hospital to home, the following was implemented in December 2016: 1) All patients discharged home were called the following day, 2) Answers to the questions on the DPC form were documented in the iRound app, 3) Issues that arose during the call were addressed (symptom management, home care needs, medication education) immediately with the appropriate personnel, 4) Service Recovery was provided if necessary. As of April 2017, DPC's have been well received by patients and caregivers. Feedback on hospital stay has been received and reviewed. HCAHP scores showed improvement in all three areas of focus. Communication with Nurses increased by 25%, The Discharge Process scores increased by 12%, and overall Exceptional Experience increased by 17%. The project goal was exceeded. The lesson learned from the DPC project is that discharge planning and education is ongoing after the patient has left the hospital. Going forward we will continue to seek new knowledge and feedback from DPC's as we strive to provide exceptional and compassionate care for our patients.

## 73

### IMPROVED UTILIZATION OF INFUSION ROOM CHAIRS

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Improved detection, increase in patients diagnosed, and improved modalities of treatment have all contributed to an increasing demand for infusion space. At Dana Farber, South Shore, our hematology/oncology unit holds 23 infusion chairs and sees patients from 7:30am-6pm. In 2016 sixty-five to seventy percent of our patients were seen between 10am-2pm, with 20-25% inconsistencies between daily chair utilization. Inconsistencies led to patient's waiting, pharmacy backlog, potential safety issues and staff dissatisfaction. Seeing the demand for infusion room space as a problem and wanting to improve the workflow, the topic was brought to Partners Clinical Process Improvement Leadership Program or "CPIP" which was a four-month program from January 2016 through May 2016. The purpose was to

share the process, strategies, and outcomes of a quality improvement project to maximize the capacity of the infusion area for patient care. A multidisciplinary working group, including nursing, scheduling, operations, and medicine was established to evaluate and develop a process map to identify opportunities for improvement in both scheduling, and infusion room process. Outcomes from the process map led to the removal of most of blood draws from the infusion area. A “fast track” chair and chemotherapy teaching prior to infusion start date were implemented. Provider templates were created and chemotherapy schedulers were moved to be in the clinical area. No changes in utilization were observed during the four-month span of CPIP in 2016. 2017 data suggests a marked improvement with ongoing interventions. Patients are now more evenly distributed throughout the day as well as throughout the week. Spring 2016 brought many challenges with staffing, both provider and nursing. Due to this, some of the interventions were initiated immediately while others took longer. Once all interventions were put into place and utilized over time, we have a more consistent patient volume between 9am–3pm with minimal inconsistencies by day. We have reduced patient delays, improved communication with scheduling and improved patient and staff satisfaction. We continue to focus on opportunities to best utilize the entirety of infusion time. We used a systematic and interdisciplinary approach to tackle a problem that affected patients and staff. Developed interventions tailored to our unique infusion area and could be a model for improvement in other infusion suites.

#### **74** **COMPREHENSIVE HDR/BRACHYTHERAPY** **IN A SINGLE OUTPATIENT RADIATION** **ONCOLOGY SETTING**

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High acuity gynecology HDR/Brachytherapy patients historically presented to radiation clinic and were then transported to multiple areas of hospital or admitted for inpatient stay for treatment procedures. This led to increased hospitalization with risk of re-admission or injury, multiple treatment locations, transport, and decreased patient satisfaction. Primary goal was to establish a comprehensive outpatient model to provide HDR/Brachytherapy procedures within a single specialized setting. This would subsequently eliminate need

for lengthy hospitalization, transporting of patient and decrease risk of harm. A secondary goal was to increase patient satisfaction with continuity of care. The Radiation outpatient clinic constructed a surgical room equipped with anesthesia, CT/MRI imaging, radiation delivery capability and control/monitor area. An adjacent 5 bay recovery suite was also established for post-anesthesia recovery following instrument placement and radiation. A staffing model was implemented to include primary providers, anesthesiologist/CRNAs, nurses, radiation therapists and clinical technicians. Nurses received education and training for moderation sedation, airway management, pain, and anesthesia best practices. Within one year of implementation, HDR/GYN procedures increased 58%. A second provider was added and the procedural area operates 5 days a week with a full staff. Visits average 6 hours and patients did not need to be admitted or transported out of the clinic. A lead nurse FTE was added to assist with patient scheduling and coordination of care. There was a significant increased patient satisfaction with both external and internal radiation treatment in one location. Patients became comfortable knowing that their needs would be met and there was a greater incidence of treatment compliance. Staff felt satisfaction in being a part of this multidisciplinary team and increased their skill with specialized training specific to this area. They are able to provide high acuity procedural care as if they were working in an OR or PACU. This has allowed us to use high-tech imaging and treatment in a procedural setting within the Radiation outpatient clinic. It has eliminated the need for the hospital stays, transport and multiple treatment locations. It has increased the team staffing approach and RN skill level. How can we further grow our population? Possibilities include additional providers and increasing this service for new treatment modalities with breast, endobronch and Sarcoma patients and other disease entities.

#### **75** **IMPROVING DISCHARGE PLANNING AND** **COMMUNICATION THROUGH STANDARDIZED** **WEEKLY ROUNDS**

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Analysis of weekly discharge rounds at a comprehensive cancer hospital identified varying compliance, participation, and structure. The rounds were performed with minimal personnel in attendance and led to poor utilization of time and resources. Patients were presented



by the direct care RN while also managing a complex patient assignment and attempting to investigate discharge needs. Some units reported rounds taking up to 2 hours per 12-patient pod. The purpose was to develop a Clinical Nurse Leader (CNL) led weekly care conference to improve discharge planning, inter-professional communication and collaboration and improve patient outcomes through better utilization of resources. A CNL on a 12 patient pod of the adult stem cell transplant unit developed a new structure for the weekly interdisciplinary care conference (ICC) rounds. The CNL would complete a review of each patient's problem list, consulting services, possible discharge needs and planned discharge date. As the CNL is responsible for monitoring outcomes for each patient in their microsystem, the management of this information is in line with their direct responsibilities. After reconciling the information with the assigned RN, the CNL would then present the information to the attendees of the ICC. The CNL-led ICC improved the quality of the rounds and drastically decreased the amount of time it took to complete a high quality ICC. After implementation, completion time decreased to 1 hour for 48 beds as compared to the previous 7 hours. As a result, disciplines previously unable to attend due to time concerns were now routinely in attendance including: Case Management, Social Work, Ethics, Physical Therapy, Occupational Therapy, Nutrition, and Chaplaincy. A representative from each department now participates in a dialogue about every patient's plan, goals, and discharge needs each week. The implementation was so successful on the demonstration unit that it was quickly disseminated throughout the institution. By facilitating an ICC that allowed for active participation from multiple disciplines, this process has contributed to implementation of high quality discharge planning, a heightened awareness of barriers to early discharge, and improved communication with all stakeholders, including the patient. High quality discharge planning may also contribute to decreased length of stay, increased utilization of resources, and an overall improved patient experience.

## 76

### **CHANGING THE PARADIGM: FROM DISCHARGE TO TRANSITIONAL CARE**

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With the ever changing healthcare environment and changes in reimbursement, the care of the oncology

patient must transform to adapt to these changes. Care needs to assure that we respond to the IHI's "triple aim" specifically for oncology by improving the health of the oncology population, enhancing the cancer patient's experience with the care they receive, and reducing the per capita cost of care. This care must align with the CMS Oncology Care Model which aims to provide higher quality, highly coordinated cancer care at the same or lower cost to Medicare. This transformation should occur by no longer providing fragmented care but transitional care from all sites. Oncology nurses, at an academic institution, embarked on a journey to transform delivery of care. The initial aim was to educate the nursing staff on the concepts of care coordination and transition and the changes in the healthcare environment. This process, beginning with the in-patient nurses, began with an intensive project to certify nurses in Care Coordination and Transition Management through the American Academy of Ambulatory Care Nurses. The process involved on-line and didactic education about generic care transition and coordination followed cancer specific education by the CNS. The unit goal is to have all eligible RN staff certified by year's end. The CNS worked closely with all nursing staff involved in cancer care throughout the cancer center. The evaluation addresses three targeted areas, specifically 30 day readmissions, ED visits and HCAHPS scores relative to transitions of care. The staff sought to no longer see the hospitalization as an acute event the ends, but the beginning or continuation of care through transitions. Through education and discussion, the nursing staff developed the skill set to explore the needs of the patient through transition. Using various methods, the in-patient oncology unit established methods to improved communication to the out-patient team. The staff identified patients who would benefit from 24-48 hour telehealth visits from one of the out-patient oncology nurse practitioners. This innovative project used the success of ambulatory processes for care coordination and transitions and applied it to the in-patient area. This session will describe the process involved in changing culture to improve care, successes and challenges of the process, outcomes of the project and future direction.

## 77

### **INFUSION ROOM SCHEDULING: A COMMITMENT TO IMPROVING PATIENT EXPERIENCE BY DECREASING WAIT TIMES**

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The objective was to focus structured efforts in response to patient reported Press Ganey scores below the peer group mean for wait times in the outpatient chemotherapy suite. Adaptation of a new algorithm-based scheduling application was implemented in the Infusion Room applying treatment-based schedule templates to directly respond to patient-reported Press Ganey results. The goal was to establish an interdisciplinary process improvement team, in an attempt to improve scheduling practices, decrease wait times, meet patient expectations, and improve the overall patient experience. Wait times for infusion have been an area of deficiency and focus in many outpatient oncology infusion centers. Patient acuity, projected infusion time vs. actual chair time, and coupled appointments have made it extremely challenging to streamline a process that can consistently provide positive results in reducing wait times for oncology patients. These factors can make it difficult to control delays and can leave patients feeling angry, powerless, and impersonalized, and contribute to decreased patient satisfaction. In order to tackle this complex issue, an intraprofessional committee was formed to identify key stakeholders and coordinate process improvement efforts to ensure success. The committee brought forth a proposal to senior leadership to implement an innovative scheduling application called iQueue®. This application would consider historical infusion data, RN staffing schedules, hours of operation, and chair capacity, to provide templates for optimization of scheduling in an infusion room for each day of the week. Upon approval of purchase, preparations began for all nursing and support staff involved in clinical operations. Strategies included educational presentations, on the job training, scripting for RNs, defining medical staff chemotherapy order parameters, and patient communication materials. Press Ganey data was collected prior to the start of the campaign and evaluated post-implementation to determine effectiveness of coordinated efforts from the patient perspective. Leadership and management staff performed daily huddles reviewing prior day chair utilization to determine effectiveness of the new program. Huddles with infusion staff were held during daily rounds to promote staff engagement and satisfaction. Data reflected patient wait times had positive trends in targeted peer group rankings and has significantly improved the patient experience.

## 78

### THROMBOCYTOPENIA PRECAUTIONS: A NEW PARADIGM

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Diagnosis of cancer confers a 15–20% greater risk of falls. Platelet count is the most significant factor for predicting bleeding in patients with cancer. Patient with AML and platelet count of 8000uL suffered an intracranial hemorrhage after a fall and died. Standard thrombocytopenia and fall precautions were followed per hospital policy. What else could nurses proactively do to help prevent injury, promote safe care of patients, and increase staff's ability to mitigate risk? Extensive literature search to find best EBP guidelines as well as discussion on All ONS Membership Community Digest. Only Level 5 evidence available, consisting of expert opinion and organizational experience suggesting helmets to be effective in patients at risk of head bleeds from low platelet counts due to oncologic therapies. Thrombocytopenia policy was revised to include additional precautions to better protect patients. A patient educational sheet was created by bedside nurses. Patient signature indicates knowledge of risk and interventions that will decrease risk of injury. A thrombocytopenia precaution sign for patient's door was created to alert all staff that patient is at high risk for injury. Additionally, use of helmets when out of bed, bedside commode for toileting, and out of bed with staff assistance were interventions implemented for patients with platelet value of 50,000uL or less. Helmet samples were obtained for healthcare team to evaluate and a lightweight helmet that could be fitted in 1 day by an orthotic specialist was chosen so that nurses would not be liable for poor fitting helmets. Nurses consulted information technology (IT) department to build an order set and nursing care plan that would automatically populate into the EHR when patient's platelet values went below 50,000uL. IT also built a section in the EHR for bedside staff to document interventions and education to patients and families. Formal education was given to all staff including RNs, nursing assistants, therapists, transporters, etc. A pilot is being conducted to evaluate process before it goes hospital wide. Patients with thrombocytopenia

are being monitored for compliance with new interventions. Success of the changes will be determined by reduction of patient injuries. Information gained from safety assessments to implement a quality improvement project to transform our practice and strengthen our commitment to patient safety.

## 79

### **BONE MARROW BIOPSY: PREPARING THE PATIENT**

**Christine Demaio, RN, OCN<sup>®</sup>, Bristol Hospital, Bristol, CT; Lynn Turner, BSN, RN, Bristol Hospital, Bristol, CT**

A bone marrow biopsy is a diagnostic procedure that is often used to diagnose hematologic diseases and cancers. It became evident at our center that despite verbal instructions, patients were arriving unsure of instructions, anxious, and without having taken their medications correctly; specifically not withholding their anticoagulants. Some patients arrived without eating, or often without transportation home after the procedure. A nurse-driven goal was created to improve patient readiness for bone marrow biopsies. The objective is that the learner would have a greater understanding of the procedure through patient education which would help to alleviate anxiety. Through the use of evidence-based research, the need was identified to develop an instructional take-home “Bone Marrow Teaching Tool” that would ensure patients can review what to expect on the day of the procedure. This teaching tool includes: a very clear explanation of the procedure, the risks associated with the procedure, how to prepare for a bone marrow biopsy, medication instructions, as well as preparation specifics around eating, activity, and transportation needs for the day of procedure. In order to improve communication, in addition to verbal review of the “Bone Marrow Teaching Tool” on the day of scheduling, a pre-procedure phone call would be made by a nurse to reinforce teaching, reminding the patient about instructions around medication, withholding aspirin or anticoagulants, and addressing any questions or concerns the patient may have. This phone call also allows the nurse to assess patient readiness and comprehension prior to the procedure. Clear communication is critical in order to meet the nurse’s teaching objectives for the learner. Ineffective communication skills can increase patient anxiety, decrease patient disclosure and lead to decreased patient satisfaction. When preparing a patient for such a procedure, it is important to consider the lack of knowledge in conjunction with emotional readiness. Nursing identified a problem and reviewed evidence-based research in order to

improve patient outcomes. A plan was then developed for process improvement and education. Change was implemented resulting in >90% of patients coming prepared with reduced levels of anxiety for their bone marrow biopsy.

## 80

### **NURSING BEDSIDE SHIFT REPORT TO IMPROVE PATIENT SAFETY AND NURSE ACCOUNTABILITY**

**Priyanka Devgan, RN, NIH CC Nursing Dept., Bethesda, MD; Patricia McDonald, RN, NIH CC Nursing Dept., Bethesda, MD; Diane Aker, MBA, BSN, RN, NIH CC Nursing Dept., Bethesda, MD**

Nurse shift changes require the successful transfer of information between nurses to ensue continuous high quality patient care. Traditionally, change-of-shift report has been done at the nurses’ station, away from patients. However, research shows that when patients are engaged in their health care, it can lead to measurable improvements in safety and quality. To create a patient-centered system, hospitals have begun Nurse Bedside Shift Report (NBSR). In this presentation, we describe the process of implementation for NBSR on an adult Hematology Oncology Transplant unit at the largest research hospital in the country. Our self-governing Unit Practice Council adapted Agency for Healthcare Research and Quality recommendations for NBSR and specifically tailored them for the Hematology Oncology Unit. Briefly, we used a three-prong approach for the implementation. First, the traditional shift report format was modified to design a New Huddle Report format for quick (within five minutes) and precise communication of important information. For smooth transition Huddle Report was started two weeks prior to implementing NBSR. Secondly, nurses and patients were educated on the new NBSR process. Nurses were trained using demonstration videos and educational tutorials. For patients, an educational flyer was designed per AHRQI guidelines and one-to-one education sessions were offered. Finally, a phased approach was used for NBSR rollout. Two highest acuity patients on the unit were identified for a pilot. After an uneventful pilot for two weeks, four more patients were enrolled for NBSR. An evaluation was then done and all six patients reported a great sense of participation. Nurses provided feedback and suggestions to achieve the goal of Patient safety, Quality of care and staff satisfaction. Finally, after initial hesitation from nurses about the feasibility of this intervention, additional education sessions were provided. This was followed by another feedback

session from nurses which showed positive changes and participation. NBSR was then implemented on all the patients on the unit and is now a part of clinical practice routine on the unit.

## **81 PREPARING FOR IMPACT, OR NOT: COLON ENHANCED RECOVERY AFTER SURGERY (CERAS)**

**Stephanie Dolan, RN, CNP, The Ohio State University Wexner Medical Center–James Cancer Hospital and Solove Research Institute, Columbus, OH**

Colectomys are a routine part of colorectal surgery practices. They have been performed for decades and typically require long hospital stays. They can possess high readmission rates and infection. The initiation of the Colon Enhanced Recovery After Surgery (CERAS) provides a protocol that is aimed to decrease the length of stay for colectomy patients, as well as decrease the readmission rates and increase the speed of recovery for colectomy patients. The purpose of the Colon Enhanced Recovery After Surgery (CERAS) protocol is to decrease length of stay, decrease readmission rates, and increase the speed of recovery time for colectomy patients. Interventions: Initiated the Colon Enhanced Recovery After Surgery (CERAS) protocol into practice at The Ohio State University Wexner Medical Center–James Cancer Hospital and Solove Research Institute. Gathered data and statistics to display improvement in all areas involved. Reviewed literature in online databases of CINHAL. Prior to the CERAS protocol patients experienced increased length of stay varying from 7–10 days. Patients also experienced increased levels of pain as well as increased length of time for wound healing prior to initiation of the protocol. Data now shows decreased length of stay ranging from 3–5 days and decreased pain levels related to the use of preoperative pain medication regimens as well as epidurals. Wound healing has also improved due to increase in nutrition prior to surgery with the initiation of a carbohydrate drink as well as increased movement and recovery for patients post operatively. Readmission rates have decreased and patient satisfaction has increased with the enhanced recovery period after surgery. There is increased pressure for shortened hospital stays and increased surgical recovery to overall reduce healthcare cost as well as patient satisfaction. It is imperative that a protocol be universalized in the surgical setting to address decreased length of stay, increased recovery, and decrease readmission rate. The CERAS protocol is a trailblazer in this realm. This

protocol provides patients with proper expectations and positive outcomes to enhance recovery. In the end it is a win-win for both the surgical team and the patient. This protocol will provide great change in improving and revamping pre-operative and post-operative care with its significant impact on decreased length of stay and increased recovery rate.

## **82 INCREASING PATIENT'S PAIN MANAGEMENT SATISFACTION**

**Kathryn Dowling, RN, NYU Langone Health, New York, NY; Stacey Lim, RN, NYU Langone Health, New York, NY**

On the inpatient hematology/oncology unit, pain management is common concern among patients. Inconsistent communications between clinical care teams and patients, regarding pain assessment and reassessment negatively impact a patient's health-care experience. Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores from 2016–2017 fluctuated greatly between quarters on the topic “staff do everything to help with pain” highlighting an area for staff improvement. The purpose was to provide patients with a tool they can utilize to become more involved with their own pain management, to standardize a pain assessment script for nursing assessments and daily rounds, and to involve patient care technicians (PCTs) in assessing pain. A Patient Pain Management Chart was developed that could be filled out with the patients with their ordered pain medication, the dose and type of medication and the last date/time they received it. The chart was distributed to any patient that was experiencing pain. The nurse first explained and filled out the chart with the patient, who was reminded to update chart with each pain medication administration. PCTs were educated on pain assessment, how to incorporate pain assessment when taking vital signs, and to inform the nurse when a patient has pain. The HCAHPS scores for the inpatient hematology oncology unit for “staff do everything to help with pain” went from the 40th percentile in quarter 1 of 2017 to the 80th percentile in quarter 2 of 2017. Furthermore, this significant improvement has been able to be maintained over multiple quarters. Many patients gave positive feedback in terms of the chart, stating that they felt that they were “more in control” and “aware” of their pain medication, how it works and what their medication schedule was. The unit's success was recognized by the medical center with a “Best in Class Pain Management Award” for quarter

3 of 2017. Patients, PCTs and nurses can benefit from using pain management charts and scripted pain assessments. Standardization establishes consistency and reaffirms trust. While patients may not have complete pain relief, if they feel that staff is doing everything they can to help, they have a better hospital experience. Continued research will be done to implement more interventions, in order to continue improving patient pain satisfaction.

## 83

### FIGHTING FALLS IN CANCER PATIENTS

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Cancer patients, particularly those undergoing blood and marrow transplant (BMT), are more likely to fall than those without a cancer diagnosis. According to one source, BMT patients had a 172% odds increase of falling versus patients with solid tumor cancers. Over one-third of patients who fall suffer an injury, hospital stay increases by up to six days, and costs increase \$14,000 per incident. On an inpatient Hematology/BMT unit, length of stay is routinely three weeks; fall rates have remained elevated despite bundled prevention interventions (early 2016 rates reached 4.79 per 1000 patient days). The purpose was to identify a strategy to evaluate fall risk (and therefore appropriately implement the prevention bundle) in cancer patients over an extended hospitalization. For cancer populations, evidence supports patient/family engagement and individualized fall prevention education. A nursing workgroup assembled to oversee the project. The Fall Risk Questionnaire was selected as a new way to assess risk, and directly involve staff, patients, and family members. Although it was designed for community-dwelling seniors, the screening questions are completed by the patient, and results are compared over time. Obtaining author permission, the form was adjusted to capture fall risk on admission, and days 3, 9, and 15 of hospitalization. As fall risk was identified, the fall prevention bundle was implemented. The Fall Risk Questionnaire was implemented June 2016, and data from observation forms were compiled for one year. A total of 296 forms were received; many patients discharged prior to day 15, leaving incomplete data. Ninety-seven patients (33%) completed all fields on the form; for these patients, mean scores increased from 1.95 on day of admission to 2.67 on day 15 (indicating consistent increase in fall risk over time). From January-June 2016 the unit experienced 17 patient falls, compared with nine falls from June-December

2016, and seven falls January-June 2017. In 2017, the unit went 90 days with no patient falls. Unit fall rates are posted quarterly (expressed per 1000-patient-days); from early 2016, rates are as follows: 4.79, 2.3, 3.07, 1.43, and 0.42. The safety of cancer patients is reliant on accurate risk assessment and timely institution of prevention interventions. Adding a patient/family centered screening tool increased patient, family, and staff engagement in falls prevention.

## 84

### NURSING CARE AND EDUCATION FOR PATIENTS WITH BILIARY STENTS AND DRAINS: AN ON-GOING MULTI-CENTER QUALITY IMPROVEMENT PROJECT

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Members of the nursing advisory board for The Cholangiocarcinoma Foundation discovered a lack of consistent instruction and education for procedures related to the care and management of biliary stents and drains. Patients who have external biliary drainage, internal-external drainage, or internal biliary stents are at risk for sepsis secondary to ascending cholangitis, and decreased quality of life due to drain management issues. Consistency and improvement in patient education and teaching is therefore necessary. The purpose was to improve crucial information provided to patients by nurses in oncology and related specialties, through the development of standardized instructions for management of biliary drainage and stents. Available patient education for biliary stents and drains was obtained via healthcare organization public website repositories, and personal facility contacts from ten university hospital systems from across the United States. A questionnaire using Survey Monkey was produced based on the teaching instructions obtained. This questionnaire will be distributed via members of the National Comprehensive Cancer Network (NCCN) Hepatobiliary Practice Guidelines Panel to the appropriate staff member(s) who provide biliary stent and drainage patient teaching within the 27 National Comprehensive Cancer Network (NCCN) institutions. Specific instructions were

categorized into sections including: (a) overview of the biliary system and purpose of biliary stents and drains; (b) diet, (c) medications, (d) bathing/showing, (e) dressing changes, (f) care of the external drainage bag, (g) flushing, (h) symptoms to report, (i) drain or stent exchange, and (j) troubleshooting. Questionnaires will be distributed via email and remain open for two months to promote collection of an adequate sample size. Data collected from each NCCN cancer center via the questionnaire will be developed into a standardized format. A systematic literature review was conducted using Ovid, CINAHL, MILO, PubMed, WorldCat, and the bibliographies of retrieved books and articles to discover current nursing best practices for biliary stent and drain care in addition to patient education. Search terms included: biliary interventions, biliary drainage, nursing, interventional radiology, percutaneous transhepatic biliary drainage, ERCP, and patient teaching. A lack of evidence-based nursing literature for biliary stent and drain care has been revealed, therefore consistent nursing care for these devices as well as patient education must be established.

## 85

### INNOVATIVE TECHNOLOGY COMES TO THE RESCUE WITH AFTER-HOUR CALLS

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An innovative technology is revolutionizing the way after hour calls are managed. Reaching physicians after hours is a known challenge for a variety of patient care settings. Challenges include: incorrect notifications to physicians, increased hold times for callers, human error and notification delays. Tennessee Oncology adopted a new “answering service” system that reduces these types of situations while improving patient care, satisfaction, efficiency, and reducing the liability of undocumented calls. A web based App was chosen to replace our traditional answering service. The App was uploaded on the cell phones of all providers and nurses who take call. (a) Calls received after hours are automatically routed to the App (b) The caller selects options from an automated menu. This ensures the request is sent to the right provider. (c) The caller next records a message detailing their needs and flagging it as urgent or non-urgent (d) The person on-call receives a text, email, or phone call notifying them of the incoming

call and voicemail. (e) The person on-call logs into the App to hear the recorded and/or read the dictated message. (f) The on-call nurse, physician, or psychologist responds to the patient via phone call, text or recorded message. Non-urgent messages can be flagged for follow up by clinic staff during normal business hours. (g) The person managing the call documents instructions given to the patient and details of the call through the App. In the moment recording of this information reduces liability from undocumented calls and patient care decisions / instructions. Use of this App has improved the efficiency of managing after hour calls for patients, physicians, hospitals, and managers. This system provides an online dashboard for clinic managers to access all urgent and non-urgent calls received, physician notes, and the on-call schedule. The manager(s) can easily make revisions to on-call schedules and On-Call Team contact information in real time. The App provides the physician, or on-call nurses, convenient access to urgent after hour calls from any location. Use of the after-hours call App has been successfully rolled out to 60+ providers and the Tennessee Oncology On-Call Team. There are no plans to return to use of a traditional answering service.

## 86

### JOURNEY TO SUSTAINABILITY: BUILDING A COLLABORATIVE RELATIONSHIP BETWEEN NURSES, NURSE LEADERS AND INFECTION CONTROL NURSE TO MAINTAIN CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTION RATES BELOW THE NATIONAL HEALTH-CARE SAFETY NETWORK BENCHMARK

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A high central line-associated bloodstream infection (CLABSI) rate was noticed from July–December 2009 on a 42-bed Adult Hematology/Oncology/Bone Marrow Transplant Unit putting patients at higher risk of life-threatening complications. This led to ongoing CLABSI surveillance and a quality improvement project with collaboration between nurses, Infection Control Nurse (ICN) and nurse leadership to reduce CLABSI rate. In 2010, education on central venous catheter (CVC) maintenance and return demonstration competency were initiated with significant reduction in CLABSI rate. Unfortunately,

this success was temporary. In 2011, the CLABSI rate increased once the focus shifted away from the initiative. The challenge was to continuously engage the nurses in the process to sustain low CLABSI rates once the initial focus was over. In 2012, nurses gave feedback: CVC supplies were stocked in patient rooms; CVC dressing change kits were re-evaluated and modified; new needless connectors and disinfecting port protectors were introduced. Weekly CVC maintenance rounds were implemented with nursing leadership and ICN. Real-time corrective action occurred to continue engaging nurses in the process. In 2015, nurses, ICN and nurse leadership started huddles and staff meetings included discussion of CLABSI rates; possible causes of CLABSI and ways to prevent them; CVC maintenance rounding results; and barriers to success. Games, such as trivia, were used to reinforce knowledge. Recognition and celebrations of milestones were done along the way. A notable, sustainable decrease in CLABSI was seen. The CLABSI rate was calculated from 1/7/2009 to 6/30/17 using National Healthcare Safety Network (NHSN) definition. Cases that met Mucosal Barrier Injury Laboratory-Confirmed Bloodstream Infection definition were excluded. The CLABSI rate from July–December 2009 was 3.62 (CVC infections per 1000 CVC-days). Compared with January–December 2010, the CLABSI rate decreased significantly (3.62 vs. 1.58,  $p=0.03$ ). In 2011, the CLABSI rate increased but was not significantly higher than 2010 (2.76 vs. 1.58,  $p=0.11$ ). From 2012 to 2017, the CLABSI rates were respectively 0.94, 1.43, 0.99, 0.74, 0.76, 0.92. The Standardized Infection Ratio calculated by NHSN has been consistently lower than one since July 2015. Since July 2015, CLABSI rates have stayed below the NHSN benchmark. Collaboration and commitment of all stakeholders through taking ownership of their role in the process and continuously engaging the nurses are necessary to sustain CLABSI rates below the benchmark.

## 87

### THE ROLE OF LOW-VOLUME IV TUBING FOR OUTPATIENT INFUSIONS AND CLINICAL RESEARCH

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While syringe pumps and microbore tubing can be used to administer some antineoplastic drugs, particularly in the pediatric setting, most FDA-approved chemotherapy and investigational agents for adults

are intended to be administered using IV bags. Tubing for IV bags is designed with an inside diameter (ID) large enough to facilitate easy priming and to prevent triggering distal pressure pump alarms. Infusion pumps were originally used in the inpatient setting where priming volume was not a concern. However, increased priming volume requires more chair time in outpatient infusion settings where time is a valuable commodity. In addition, phase I and II studies require accurate infusion start and stop times, particularly for protocols requiring pharmacokinetics. The infusion duration is influenced by the priming volume of the tubing, and depending on the study, can potentially introduce significant research deviations. To remedy these problems, the Infusion Department at an NCI-Designated Cancer Center made two significant changes. First, the primary pump tubing was switched from the standard 25mL volume set to one requiring only 12mL. This change effectively reduced the primary flush time by 50%. Next, an innovative custom secondary set was designed by one of the nurses. The standard 15mL secondary set was replaced by a tubing which eliminated the drip chamber (saving 5mL), and had a significantly smaller ID. The set was also built with permanently bonded Closed System Transfer Devices on both ends for hazardous drug safety. The result was a 30-inch tubing displacing only 1.8mL, reducing the volume required to clear the neutral solution by an additional 87%. Combined, these two changes reduced the total flush time by 66%. For a 100ml bag of medication infusing at 100mL/hr., the flush time decreased from 24 minutes to 8 minutes. Prior to this change, the drug would have required a rate of 140mL/hr. to complete within 60 minutes, or 84 minutes at the 100mL/hr. rate. On average, this saves the department between 1,080 and 2,880 minutes per day based on 180 patients. The use of a low volume primary set and nurse-designed ultra-low volume secondary tubing significantly enhances outpatient efficiency by decreasing chair time, and helps reduce research errors related to priming volume.

## 88

### IMPROVING PATIENT OUTCOMES WITH THE IMPLEMENTATION OF THE “BUDDY SYSTEM”

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NY; Melanie McCormick, BSN, RN, OCN®, Memorial Sloan Kettering Cancer Center, New York, NY; Donna Miale-Mayer, MSN, RN, CNML, Memorial Sloan Kettering Cancer Center, New York, NY

Central line associated blood stream infections, urinary tract infections, pressure ulcer injury, and falls can be fatal in patients with a hematologic malignancy. These complications lead to increases in healthcare costs and prolonged hospitalization. There was growing concern about poor patient outcomes on the inpatient hematology unit at an urban cancer center. The unit consistently failed to meet external nurse sensitive indicator (NSI) benchmarks. As result, a quality improvement project was implemented to improve patient outcomes by creating a culture of clinical excellence, teamwork, and accountability. The purpose was to demonstrate how the implementation of the “Buddy System” improves patient outcomes. In January 2017, a unit based workgroup comprised of the unit Nurse Leader, Clinical Nurse Specialist, and members of the shared governance structure convened to review NSI data, perform root cause analysis, and discuss how shared staff accountability impacts clinical outcomes. Findings from the group led to the development of evidence based strategies to improve nursing practice. Findings were presented to the nursing staff with unit-wide education on NSIs and the implementation of a new workflow. At the start of each shift, the charge nurse obtains report from each nurse to gather unit level NSI data. They then buddied tenured with novice nurses to ensure the experienced staff member can act as a resource and provide guidance for safe practice. The buddies call on each other for tasks such as central line dressing changes, Foley insertions, chemotherapy/blood transfusion verifications, call bell response, toileting rounds, and various tasks. The patient care technicians also work as “buddies” in all aspects of care such as bathing, dressing, weights, toileting, and companion coverage. Finally, with the new workflow, real time feedback is encouraged so active discussion regarding patient care practices occur. Fall with injury scores decreased from an average of 1.41 in 2016 to 0.25 per 1,000 patient days in 2017. CLABSI rates have declined from 2.35 per 1000 central line days in first quarter 2017 to 1.65 second quarter. Call bell response time increased from 86% 4th quarter 2016 to 89% 1st quarter 2017. CAUTI utilization has significantly decreased compared to 2016. Through teamwork and accountability, measurable improvements in patient outcomes can be achieved.

## 89

### CARDIAC DISEASE AND CANCER: RECOGNIZING SHARED RISKS

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Cancer and cardiovascular disease have traditionally been thought of as two separate disease processes, with each contributing to high levels of morbidity and mortality. Cardiac disease has recognized modifiable and non-modifiable risk factors. This at-risk patient population is also at increased risk for malignancy, which independently increases risk for coagulopathies, frailty, anemias, and overall ischemic risk. This presentation examines this growing cancer and cardiac disease patient population, which presents many challenges in meeting complex healthcare needs. Literature review on cancer and cardiac disease prevalence, professional guidelines for cardiac care, and patient care considerations. Both disease processes share a pathophysiology based in inflammation with many shared risk factors including modifiable (eg. smoking, diet, physical activity, and obesity), non-modifiable (eg. race/ethnicity, gender, and age) as well as traditional cardiac risks like hypertension, hyperlipidemia, and diabetes mellitus. Iatrogenic or treatment-related risks(eg. chemotherapy, radiation, and surgery) and malignancy-related risks (eg. anemia, coagulopathy, and frailty) further compound the disease progression. All of these factors represent challenges in providing cardiac care from presentation differences to recognizing deviations from standards of care. This presentation emphasizes that with increasing numbers of cancer survivors, either with cure and remission or under chronic treatment, the nurse and nurse practitioner must be aware of the unique shared risk factors in this population as well as considerations in care. Currently, there is an unmet need for more precise and evidence-based care for this unique patient population with increased cardiovascular morbidity and mortality secondary to cancer; this care can be provided by cardio-oncology specialists like nurses and nurse practitioners.

## 90

### INTEGRATING BEST EVIDENCE TO SOLVE THE PUZZLE OF MANAGING HYPERSENSITIVITY REACTIONS

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Oncology patients receive many medications at high risk for causing hypersensitivity reactions. Through direct observations, chart audits, and verbalized feedback it was clear nurses were not sure what medications to give and how to manage reactions. Current hypersensitivity management protocols were outdated and lacked nursing autonomy in post-reaction management. This project included a literature review and synthesis for best practices in hypersensitivity reaction management. After identifying practice gaps the goal was to align with best evidence through protocol updates, education, and regular auditing. A literature review was conducted in regards to what medications should be given for which symptoms and in what order during a reaction. Best practices were identified for documentation of a reaction. Evidence did not support our current hypersensitivity reaction order set. Electronic health record documentation flowsheet rows and processes also needed to be updated. An interprofessional taskforce, led by the CNS, developed new hypersensitivity management protocols and documentation expectations, including a validated scale. Education was shared with nursing staff and oncologists about: infusion reactions, appropriate medications, documentation expectations, and post-reaction management. Staff were mishandling the reactions 10% of the time prior to implementation but had no instances of mishandling after implementation. Prior to implementation patients were being coded or sent to the ER a couple of times a month but since implementation there have been no codes or ER visits as nurses recognize and efficiently handle reactions. Hypersensitivity reactions occur with many medications administered in the hospital and outpatient centers. Using this success, organizations can work to improve the safe handling of reactions in other areas as well. This project improved safety in patient care by using the latest evidence and improved nursing confidence in reaction management.

## 91

### FACES, FACETS, AND FACTS OF THE UNFAMILIAR HEPATOCELLULAR CANCER

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Hepatocellular carcinoma is rapidly increasing globally. Hepatocellular Carcinoma, (HCC) or liver cancer, has doubled its occurrence rate since the 1970's. The SEER (Surveillance, Epidemiology and

End Results) data program estimates liver cancer cases to be 40,710. Estimated deaths for 2017 are almost 29,000 per the American Cancer Society. The prognosis for patients with HCC is poor. The faces, facets and facts of hepatocellular cancer need to be on the forefront for nurses to keep their clinical practice up to date. Patients with HCC often have multiple co-morbid conditions that need to be considered during their oncology treatment. Other liver diseases such as cirrhosis, hepatitis, and fatty liver disease place these patients at an increased risk for developing HCC, making this disease a multifaceted complex cancer to treat. SEER data, epidemiology, risk factors, treatment strategies and the psychological support needed for liver cancer patients will be highlighted. Nurses need to be aware of these nuances in caring for the HCC patient. Treatment for HCC has a wide range of options. Nurses need to be able to educate themselves and their patients on various treatment options available. Several tools are available to providers to assist in determining the type of treatment. The range of treatments vary from liver transplant, surgery, interventional radiology procedures to systemic treatment. Until recently, only one drug was FDA approved for systemic care, Sorafenib. The evolution of HCC treatments has tripled in the recent months with two new medications being FDA approved. Clinical trials are now underway looking at immunotherapy as a promising future option as well. On the horizon are new treatments and care strategies for this diverse population of oncology patients. HCC patients are a subgroup of patients that are underserved and under-recognized. The faces are from communities and countries around the world. The facets of care have so many unique dimensions. The facts need to be shared with the oncology community, as HCC is on the rise. Now is the time for educating providers on the best way to care for these patients, who have a chance for a longer life span with improved quality of life.

## 92

### DECREASING "TIME-TO-TREAT" THROUGH CLINIC FLOW REDESIGN

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Decreasing the time-to-treat in chemotherapy infusion centers is a recurring universal concern. In our small hospital-based infusion center, the patient satisfaction

scores were low and inflexibility in our approach left little room for same day treatment additions and unexpected changes in treatment plans. Our team's goal was to transition from a schedule-focused approach to a patient-focused approach by redesigning clinic flow. The purpose of this project was to decrease the time from patient arrival at chemotherapy infusion center to the beginning of treatment. In addition, to increase staff engagement in clinic processes and ultimately raise patient satisfaction scores. Using a magnet approach, a team of infusion center staff and leadership was formed. After a review of literature and a visit to an academic center, the following barriers to timely patient treatment were identified: ill-defined staff roles, inefficient communication patterns both internally and with external multidisciplinary team, lack of equipment, underuse of available clinic spaces and technology and the inefficiency of making RN assignments prior to patient arrival that contributed to the inability to accommodate treatment plan changes and same day add-on patients. In response to these identified opportunities, staff roles were redefined, brief appointments lasting less than 30 minutes were segregated from infusion into a fast track, multidisciplinary partnerships were strengthened, communication patterns were optimized using available technology, equipment and spaces were re-appropriated to be more conducive to clinical practice. Prior to implementing, the plan was presented to prepare and engage staff. Patient satisfaction improved measurably. Time to treatment decreased significantly. Staff voiced appreciation for changes, stating decreased frustration with care delays and inability to accommodate last minute patient needs. Multidisciplinary team members noted greater ease in mitigating delays. This process engaged staff in ownership of clinic operations and clinic outcomes. Changes were implemented with little resistance and re-evaluated daily with staff. There was immediate positive feedback from patients, nurses, and other members of oncology service line. In addition, there were measurable positive outcomes in time to treatment and patient satisfaction. This process included magnet principles of empowering the nurses at the chairside and focused on patient outcomes. The improvements experienced can be easily replicated by others by duplicating the steps outlined in this project.

### 93

#### **CHEMOTHERAPY CADDY TO PREVENT OCCUPATIONAL EXPOSURES**

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RN-BC, AOCN®, LNC, Sarasota Memorial Health Care, Sarasota, FL; Aimee Miller, RN, MS, MBA, Sarasota Memorial Health Care, Sarasota, FL; Benny Kruger, MSN, CCRN, CNN, Sarasota Memorial Health Care, Sarasota, FL; Diane Alder, BSN, OCN®, Sarasota Memorial Health Care, Sarasota, FL; Barbara Poropat, BSN, OCN®, Sarasota Memorial Hospital, Sarasota, FL Patient admitted to ICU, had received chemotherapy in an outpatient office during the last 48 hours. ICU nurses unknowingly were exposed to hazardous drug excreta. Additionally, Emergency Care Center (ECC) nurses report exposure to chemotherapy due to incomplete assessment of patients. Oncology patients may present to non-oncology units. Non-oncology staff is often assigned patients that are receiving or have received chemotherapy within 48 hours. However, nurses outside of oncology units often have not been educated on chemotherapy precautions or have not been provided proper hand-off communication and as a result are not aware of their risk of exposure. The purpose was to prevent occupational exposures to hazardous drugs in the health care setting with an emphasis of non-oncology unit staff. An interprofessional team consisting of oncology nurses, ICU nurses, ECC nurses, environment services, central supply, information technology, educators, and leadership met. Result was the creation of chemotherapy caddy containing all the personal protective equipment (PPE) needed to protect staff handling hazardous drug and excreta. Included with the caddy is a yellow bin for hazardous waste and signage for door which serves multiple purposes: alerts staff patient has received chemotherapy, states when precautions begin and end, and instructs staff on necessary PPE. A chemotherapy precaution order set was created in the EHR, when this is initiated the chemotherapy caddy is automatically delivered to the patient unit. A patient order for chemotherapy will automatically trigger the precaution order. Also, a new question was added to the Emergency Care Center's triage assessment: "Have you received chemotherapy in the last 48 hours?" A "Yes" will also trigger the automatic order and delivery of the chemotherapy caddy. There has been 100% compliance with chemotherapy precautions being ordered on these patients. No incident reports of occupational exposures to chemotherapy have been reported since the creation of this process. This process supports staffs' needs and mitigates risk from harmful exposure to hazardous drugs and waste.

### 94

#### **NAVIGATING HOMELESS PEOPLE TO PROVIDE EFFECTIVE COLORECTAL CANCER**

## SCREENING AND IMPROVED HEALTHCARE ACCESS

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This community outreach project was designed to facilitate colorectal cancer screening and improve access to healthcare for homeless people in Portland, Maine, through patient navigation. The project lasted six weeks during November and December 2016. Approximately 422 adults are housed in homeless shelters each night in Portland, Maine. This population has an increased prevalence of most risk factors for cancer and faces significant barriers to healthcare and preventative health services. These barriers include the following: difficulty managing daily life; inconsistent connection with the health care system, limited focus on cancer screening, and logistical difficulties in completing the screening test or bowel prep for patients needing a colonoscopy. Navigation facilitated access, support, and coaching for patients to participate in colon cancer screening using the Fecal Immunochemical Test (FIT). Ten-dollar food cards were provided to screening participants as an incentive. Navigation monitored test results and navigated patients testing positive to colonoscopy. Navigation also supported the critical collaboration among community partners including the local homeless shelter, hospital, colorectal surgery and GI practice, laboratory, health access program for low-income people, case management services and community education. Navigation, in concert with community partners, created a detailed protocol to be used to overcome barriers and facilitate screening. 39 participants with average risk ages of 50–74 were screened. 20% (8 participants) tested positive. 3 participants completed colonoscopy. Outcomes for incomplete colonoscopy included participant refusal, relocation out of state, lost to follow up, and substance abuse. 70% (28 participants) reported never having a provider conversation about colon cancer screening. The project demonstrated that patient navigation can identify and reduce barriers and make a positive impact on the health of homeless people. Patient navigation was an integral part of the project. The collaborative approach that navigation provided was an effective strategy. Homelessness creates significant barriers to healthcare access. Still, homeless people are deeply concerned about cancer and are interested in colorectal cancer screening. This project showed how patient navigation provides barrier identification, community partnerships, education, and test monitoring to

improve the health of homeless people and better serve the less fortunate members of our community.

## 95

### PRIMARY NURSING INCREASES COMPETENCY AND DECREASES STRESS FOR INFUSION NURSES CARING FOR PATIENTS ON CLINICAL TRIALS

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Primary Nursing (PN) provides increased autonomy and supports collaborative interdisciplinary practice through communication and coordination. When implemented, staff perceived increased productivity, and decreased redundancy in care. PN was implemented in a high-volume ambulatory chemotherapy unit in an effort to enhance competency and decrease work stress for the nurses caring for patients on clinical trials (CT). The goal was to increase oncology infusion nurses knowledge about protocols specific to their PN team, in order to enhance competency and decrease stress for nurses when caring for patients on CT. The PN model for patients on CT used disease specific teams. Nurses are assigned to disease groups based on complexity of protocols and volume of patients on a CT for that specific disease. Nurses review protocols and assign patients to their PN teams. Project outcomes included PN self-report of sense of competency for the nurses, and decreased stress in caring for patients on CTs. This was measured pre-implementation, 3 months post-implementation and 6 months post-implementation. The pre-implementation results showed that 37.5% of nurses reported feeling confident in navigating through a protocol without causing deviation or violation. At 3 months post-implementation, confidence increased to 81%. Furthermore, 85% of the nurses were confident at the 6-month post-implementation mark. In regards to educating patients on a CT, 37.5% of nurses were confident at pre-implementation. Confidence increased to 53% at the 3 months post-implementation phase and 57% at 6 months post-implementation. The implementation of PN for patients on research studies promotes competency and decreases stress for infusion nurses. Infusion nurses are frontline staff caring for patients on CT. Increasing the knowledge base for these crucial team members can help strengthen practice for oncology nursing. PN for patients on CT provides a plan to increase satisfaction and competency of nurses who are practicing in these roles.

96

### **IMPACT OF A TELEPHONE CALL ON PATIENT SATISFACTION IN ADULT ONCOLOGY PATIENTS**

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Patient satisfaction is an ongoing action in which hospitals and health care providers are constantly seeking strategies to improve their satisfaction ratings. In the ambulatory oncology infusion setting, patient satisfaction is also a key metric that is being monitored, but actual patient satisfaction is unknown. Guided by Lewin's change theory and King's theory of goal attainment, the aim of this project was to use a strategy of conducting follow-up telephone calls to determine if patient satisfaction improved in an ambulatory oncology setting. A descriptive comparative approach was used to evaluate patient satisfaction before and after a telephone follow-up intervention. Participants who were starting an initial or new chemotherapy protocol were randomized into the telephone follow-up (TFU) group or the control group. A TFU script was used to guide the telephone conversation with patients about their experience with the first chemotherapy visit. All participants (N = 62) completed the OUT-PATSAT 35 questionnaire before starting their chemotherapy and 72 hours after the chemotherapy. Demographic characteristics of participants did not differ from the general cancer population. T tests were used to determine whether satisfaction differed between the two groups and revealed that participants receiving the TFU had significantly greater satisfaction in all domains post treatment, compared to those who did not ( $t = 2.90$ ,  $df = 15$ ,  $p = .01$ ), suggesting the TFU had a positive effect on patient satisfaction. Incorporating follow-up telephone calls as a standard of practice to persons receiving an initial or new chemotherapy protocol may contribute to improved patient satisfaction scores and positive social change through an improved sense of well-being in cancer patients.

97

### **PROVIDING QUALITY AND CONTINUITY FOR BREAST CANCER PATIENTS THROUGH A COLLABORATIVE PRACTICE MODEL**

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There is a great deal of information in the literature regarding the need for continuity of care, especially

in chronic diseases. Cancer in general, and breast cancer specifically are now considered to be chronic diseases. The purpose of our multidisciplinary team approach was to assure continuity of care from the time of diagnosis through treatment and follow-up to assure that our patient population received all of their treatment according to plan. We also wanted to assure that all patient needs were addressed appropriately. The team developed an Excel spread sheet to identify patients beginning at the time of positive biopsy, when they met the Breast Patient Navigator and were introduced to the cancer program. The patient navigator, breast surgeon, medical oncologist and radiation oncologist see the patient in our multidisciplinary program and the treatment plan is developed. The surgical intervention is identified along with staging, genetics, hormonal and HER2 status. Treatment plan is identified as neoadjuvant or adjuvant and the agents are listed. The team consisting of the breast navigator, social worker, APN, nutritionist and nursing staff from radiation, infusion and the physicians practice meets bimonthly to assure that the patient has had their pre-chemotherapy workup and education. They also track the chemotherapy cycles and patient physical and emotional status making referrals as needed. Once chemotherapy is nearing completion they assure that a radiation oncology appointment is scheduled and that radiation begins within two weeks of the completion of chemotherapy. There is documentation of the start of hormonal therapy post completion of radiation along with the scheduling of a visit for completion and review of the Survivorship Care Plan. The program is evaluated using patient satisfaction surveys. We also track the timeliness of the treatment course and patient status throughout the continuum of care. The collaborative staff effort has increased the timeliness and coordination of care. Staff relationships improved, as the group work created an environment of sharing and opened communication. This collaborative effort promotes continuity of care for breast cancer patients. Future plans include tracking for other disease states to improve quality of care and continuity for all patients.

98

### **EDUCATING ONCOLOGY NURSES ON THE RECOGNITION, PREVENTION, AND MANAGEMENT OF CHEMOTHERAPY EXTRAVASATIONS**

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Chemotherapy extravasation is the inadvertent leakage of a vesicant solution from a blood vessel into surrounding tissue. It is an accidental complication of chemotherapy administration which can result in serious damage and permanent injury to patients. To address this important issue, Memorial Sloan Kettering (MSK) created the Extravasation Reading Group (ERG): a group of expert chemotherapy nurses dedicated to reducing extravasation rates and complications. In collaboration with National Cancer Institute Designated Cancer Centers, MSK has contributed to establishing a national benchmark for chemotherapy extravasations during outpatient chemotherapy visits. Nurses at MSK are continuously seeking methods to evaluate risks and prevent/reduce complications for our patients. One of the most crucial methods to achieving this goal is ongoing nursing education. Our purpose is to educate nurses, increase knowledge, and improve practice. As a method to reduce extravasations on a unit, a nurse extravasation champion created an evidence based (EB) presentation to educate the units' chemotherapy nurses regarding the prevention, recognition, and management of extravasations. Post presentation, extravasation rates on this unit decreased by 0.74%. Based on these results the educational tool was presented to the ERG. It was determined that this presentation was valuable and a comprehensive learning tool would be useful to all MSK nurses. A team of ERG nurses enhanced the presentation; focusing on the risks, prevention, interventions, and documentation of potential/actual extravasations. The team utilized the institutional guidelines, policies/procedures, along with EB research. In 2017, the comprehensive educational module was launched to MSKs' electronic learning platform for annual competency to all outpatient chemotherapy nurses. While there are many variables that influence extravasations, this educational tool supports the achievement of national benchmarks. Success will be measured by the MSK's event reporting system. Also, a pre/post nursing survey will measure nursing comfort and knowledge levels for preventing, recognizing, and managing extravasations. Implementation of this educational module is a prime example of the value of EB research at unit and institutional levels to guide practice and improve patient outcomes. While

chemotherapy extravasation is not a new topic, our ERG and unit champions continue to evolve, conduct research, educate, and use current evidence to update policies/guidelines and improve nursing practice.

## 99

### **EVOLUTION OF GENETIC COUNSELING AT COMMUNITY CENTER HOSPITAL**

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Cancer genetic counseling is a process that can accurately assess patients to determine an individual's risk for cancer, to determine who is at high risk for a genetic mutation that predisposes an individual to certain cancers, and to determine who may benefit from genetic testing. Increasing the amount of patients seen per month allows for the maximum number of patients to receive risk assessment. The purpose of the study is to improve the average number of patients seen per month for genetic counseling by triple, from 1.69 to 5.07. A research tele genetics program was implemented in 2013 assisted by two oncology protocol nurses, Patients were seen through the telegenetics program from August 2013–September 2014, then by the part time genetic counselor from September 2014–July 2015. In 2016, a full time genetic counselor was hired. Patients were seen by the full time genetic counselor from June 2016–July 2017. The number of new patients seen for an initial visit was obtained for each version of CREP. The number of patients was averaged across the length of that program version. The average number of new patients seen per month was compared across the program. The number of patients seen per month increased, by nearly 99%, when telegenetics was replaced with a part time genetic counseling position. The number of patients seen per month increased, by approximately 104%, when the part time genetic counseling position was replaced by the full time genetic counseling position. The overall increase in patients seen per month from telegenetics to full time was approximately 305%. As the full time program has only been establish for approximately 1 year, patient referrals are still building and maximum number of patients per month has not peaked. The results showed that through the collaborative work by the oncology protocol nurses, virtual genetic counselors and physicians had laid the foundation for an established genetic program at

a community setting. This effort led in hiring a full time genetic counselor. This study reflects the components of our practice model using evidenced based approach, collaborative practice and exceptional patient care experience in cancer care delivery.

## 100

### DECREASING LENGTH OF STAY: THE IMPORTANCE OF PREOPERATIVE PATIENT EDUCATION IN AN AMBULATORY CLINIC

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Reduced length of stay is a concern for all health-care institutions interested in containing the cost of patient care. The length of stay for elective colectomy surgery patients, in our institution, was approximately two times the national average. This increase, led to a multi-disciplinary work group that developed, Colon Enhanced Recovery After Surgery (CERAS), a protocol to be used in our cancer center. As part of the protocol, a comprehensive preoperative education session is completed by nurses in the ambulatory clinics prior to surgery scheduling. In the first six months of protocol implementation, the length of stay for these patients decreased by 50% and preoperative patient education, conducted by the clinic nurse, will be verified as an influential factor. The goal of this project is to evaluate the effectiveness of the preoperative protocol education completed by the clinic nurse, and the impact it has on reducing the length of hospital stay and postoperative complications. This will be measured by a 4-question survey, developed by clinic nurses, and presented to patients at their first postoperative clinic appointment. The data will reflect their understanding of preoperative preparation, intraoperative and postoperative events that will take place, and how this education can accelerate their recovery. Clinic nurses, who are responsible for completing the preoperative CERAS teaching, will gather to develop survey questions. This group will also determine how to implement this survey into the first postoperative clinic appointment. Once complete, the questions will be reviewed with members of the multi-disciplinary work group before presenting to patients. The

effectiveness of the preoperative patient teaching, conducted by the clinic nurse, will be measured by a survey along with patient comments. The preoperative teaching conducted by the clinic nurses is vital to the success of the protocol. The CERAS protocol is complex, and requires comprehensive teaching to assure the patient's surgical preparedness. This project will highlight the importance of patient education as directed by the clinic nurse, and encourage collaboration amongst the multidisciplinary team. Tenured nurses, in a clinic setting, can excel in the advancement of a protocol that seeks to improve patient outcomes and decrease length of stay.

## 101

### QUALITY IMPROVEMENT: IDENTIFYING THE GAPS IN TELEPHONE TRIAGE

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Our Ambulatory clinic is part of a NCI-designated cancer institution that supports our program of nearly 500 Blood and Marrow Transplants (BMT) a year. The clinic does not have a defined care model for triaging the oncology patient. The BMT clinic alone has 7 days a week daytime triage area with a dedicated triage nurse. All patients/caregivers can contact their clinic nurse directly, but analysis of general oncology calls show most calls go to voice mail, due to call load. Disease group experts triage their calls during the day; after-hours telephone triage supports the entire clinic. The lack of established institutional guidelines means that patients receive inconsistent messaging about symptom management. A data analysis of after-hours calls showed that BMT had medication questions as the largest reason for calls. In preparation for establishing clinic wide telephone triage, the BMT clinic needed to understand the daytime phone calls to clinic nurses. The purpose was to identify trends of daytime calls to BMT clinic nurses as an exploratory step toward clinic wide data gathering. Daytime phone data collection was implemented with BMT nurses. Calls were tracked for 7 consecutive days for multiple variables, including length, topic, and identity of caller. A form with checkboxes and comment boxes was designed for ease of use. Data analytics provided the number, length of calls, and time of day for the same 7 days. Most calls came at the busiest clinic times and preliminary results indicate most calls were not urgent in nature. However, a group of calls were time-sensitive significant medication related or symptom management issues

requiring an immediate response. Our preliminary data necessitated an immediate intervention. We revised the BMT nurse recorded message with an automated option that allows callers with urgent needs to connect directly with the Triage nurse. Further data review may indicate there are non-nursing activities that can be transferred to other personnel to allow the nurse greater capacity to improve outcomes for patients, such as managing symptoms. The hematology/oncology clinic nurses are undertaking similar data collection to aid in determining their needs for managing calls. Ultimately, the combined data is to be used to establishing the algorithms needed for Telephone triage.

## **102 ESTABLISHING NURSING ROLES IN AN IMMUNE EFFECTOR CELL (IEC) PROGRAM TO ENSURE SAFE PATIENT PASSAGE**

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With the number of chimeric antigen receptor (CAR) T-cell clinical trials continue to rise and several products being approved by the Federal Drug Association (FDA), we are seeing a rapid increase in the volume of patients being treated with this new therapy across the country and at our institution. CAR T-cells have a unique and serious toxicity profile which have defined assessments and treatment algorithms. The purpose was to describe the establishment of a collaborative relationship between the CAR T program/research nurse (P/RRN) and the IEC nurse practitioner (IECNP) to facilitate a safe passage of CAR T patients through an IEC program. Focused workgroups met to assess patient care and safety needs at each CAR T touchpoint: ambulatory chemotherapy clinic, apheresis unit, cell processing lab, inpatient oncology units, intensive care units, and emergency department. A comprehensive patient work flow was established, incorporating the current CAR T P/RRN and the identification of a new IECNP role. The P/RRN is the patients' primary contact, responsible to educate and navigate the patient into and through the CAR T program. The IECNP is introduced at leukopheresis, initiating the collaboration with the P/RRN. Once admitted to the hospital the IECNP assumes a primary role, rounding daily with the inpatient team, being available onsite for assessing changes in patient's medical condition and facilitating communication with the IEC physician. The IECNP

and P/RRN act as a resource for the multidisciplinary inpatient teams and transition the patient back to the outpatient setting and home. The P/RRN responsibility encompasses the outpatient setting in preparation for CAR T and resumes after hospital discharge. The IECNP role was established to provide continuity of care throughout the outpatient and inpatient setting. The P/RRN and IEC NP have developed a collaborative relationship to ensure safe patient passage through the treatment trajectory. They provide comprehensive handoffs and play a critical role as clinical experts throughout the CAR T touch points. To effectively and safely treat patients receiving CAR T-cell therapy, our program is grounded by P/RRN and IECNP collaboration. Continuity of care and comprehensive handoffs are critical for safe passage of CAR T patients through an IEC program.

## **103 THE POWER OF THE ONCOLOGY NURSE NAVIGATOR TO IMPACT CLINICAL PRACTICE: HOW THE IMPLEMENTATION OF A COMPLEX GI CANCER (FOREGUT CANCER) NURSE NAVIGATOR HELPED CHANGE CLINICAL PRACTICE FOR PANCREATIC CANCER TREATMENT AT A COMMUNITY CANCER HOSPITAL**

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The Oncology Nurse Navigator (ONN) is the critical ingredient for helping to promote evidenced based medicine and shape clinical practice in the community cancer setting. The purpose was to describe the complementing factors and resulting powerful impact that implementing a novel complex GI cancer (CGIC) ONN had on clinical practice at a community cancer hospital. The CGICONN: 1. Identified multiple navigation touchpoints a. Meet newly-diagnosed CGIC patients at first consult with surgical oncologist and again at post-op visit b. Round on post-op patients and when patients are admitted for complications during treatment c. Phone call(s) during chemo/XRT/Survivorship d. Established, facilitate monthly CGIC support group 2. Coordinated GI focused weekly tumor board. Identified and shared relevant journal articles. Prompted NCCN guidelines. Arranged appointments and follow-up regarding recommendations. Evaluation: Conducted review of records using navigation software and cancer registry data pre and post CGICONN implementation. Average days from diagnosis to first treatment decreased from 18 to 13.5 days. Significant shift in clinical practice occurred in

treatment of pancreatic cancer with consideration of neo-adjuvant chemotherapy for all newly diagnosed patients with resectable disease. Newly diagnosed patients meet with medical and surgical oncologist upfront, prior to initiation of any treatment. Discussions: The CGICONN is instrumental in carrying out the behind the scenes work that, when added together, has the power to transform clinical practice in the community setting. At our facility, the expertise of the CGICONN makes it possible for her to highlight current literature at tumor board. Specifically, the CGICONN helped initiate conversation and enhanced the cancer team's understanding concerning the national trend towards using neo-adjuvant chemotherapy for resectable pancreatic cancer. The CGICONN fostered collaboration and respect for her role through the establishment of multiple navigation touchpoints that allowed for swift identification and management of treatment-related problems, increased timeliness to care, and prevented patients from slipping through the cracks. The CGICONN also provided an avenue to meet the unique physical and psychosocial needs of CGIC patients through the creation of a CGIC support group. The CGICONN plays a crucial role in providing the foundation and necessary patient supports that allow the cancer team to feel confident shifting clinical practice to better align with current literature even when the new approach is known to be especially demanding.

## 104

### ANXIETY, DEPRESSION, DISTRESS, AND ANXIOLYTIC USE IN A HEAD AND NECK CANCER RADIOTHERAPY CLINIC

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Approximately 18% of the general population experience anxiety and depression (A/D) and may be more prominent in patients undergoing treatment for head and neck cancer (HNC). Many HNC patients experience treatment-related anxiety, as a result of their diagnosis, immobilization for treatment, and other factors. This retrospective chart review sought to characterize the relationship between preexisting A/D, self-rated scores on the NCCN Distress Thermometer (DT), and anxiolytic use during RT. Patients receiving

radiotherapy for HNC from October 2016 through October 2017 (n = 54) were included. A baseline assessment including the DT (score 0–10) was given to each patient at baseline prior to initiation of treatment. Diagnosis, medication, DT score, and treatment data were collected. Patients with a DT score > 6/10 had a consultation with the oncology social worker; those with scores <6 were reassessed after treatment started. Medication reconciliation was completed to evaluate how often patients required new prescriptions to manage anxiety during the RT course. Pre-existing A/D was documented in 10/54 (18.5%) patients, 40% (4/10) of whom were already managed on a centrally acting medication (e.g. anxiolytic/antidepressant.) Three of 10 patients with documented A/D did not complete the DT. Of the 7 patients with pre-existing A/D who completed the DT, 3 (43%), scored >6 on the DT, with an average DT score of 5.14. In the pre-existing A/D group, 6 patients (6/10, 60%), had an adjustment to their anxiolytics after the initiation of radiation therapy to manage new anxiety. Most patients, (44/54, 81%), did not have documented pre-existing A/D. Of this group, 38/44 patients completed a DT worksheet and only 3 (8%) patients reported a DT score >6, with an average score of 2.07. In this group, 8 patients (8/44, 18.1%) were prescribed anxiolytics after the initiation of radiation therapy. This chart review successfully identified areas for further investigation. Characterizing distress as measured by the DT questionnaire, presence or absence of baseline A/D, and the use of anxiolytics in patients with HNC during RT may be helpful to further understand anxiety, distress reporting, and interventions. Further studies to better understand the role of A/D in patients with HNC undergoing RT may allow for improved interventions to decrease anxiety, and determine if interventions are needed for patients with anticipatory anxiety.

## 105

### LIFE COACHING FOR DELAYED ONSET OF DISTRESS FOLLOWING BREAST CANCER TREATMENT

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The Oncology Nurse Navigator routinely evaluates a patient's distress, then directs the patient towards appropriate resources. Previously, our Cancer Committee selected timepoints during radiation and chemotherapy for routine evaluation. However, it was brought to our attention that breast cancer patients were often most distressed 6 to 24 months following the completion of treatment. Our intervention was needed to address this later onset distress. The purpose



of this project was to evaluate the effectiveness of a Life Coaching program for patients 6 to 24 months following the completion of treatment. The Oncology Nurse Navigator screened for appropriateness and contacted 20 patients that fit the above criteria. Six patients were willing to participate in the Life Coaching program; this was designed as a two day retreat around these patients' unique needs. At the end of each retreat, patients completed an evaluation regarding how the program had helped them. These findings were presented to hospital administration and the hospital foundation. This program is now formally utilized at our cancer center. This evaluation was conducted by reviewing charts and routinely checking with our medical staff about patients that might be struggling 6 to 24 months following completion of treatment as well as evidence review. Specifically we evaluated for patients that seemed unable to move forward with life in terms of work, relationships, and a plan for how to re-discover meaning in life. Since implementing the Life Coaching program, patients complete the FACIT-SP-EX (Functional Assessment of Chronic Illness Therapy-Spiritual-Expanded) questionnaire prior to and following the Life Coaching sessions. So far, results have shown an improvement from 30 to 90% for patients' quality of life and spiritual well-being. To make a successful referral, the Nurse Navigator standardized screening with the Life Coach specialist. The FACIT-SP-EX evaluation yielded good patient outcomes. Commission on Cancer accreditation requires monitoring a patient's distress at pivotal timepoints. The Nurse Navigator screens for distress before and during treatment. Adding the later timepoint has become an important addition for our program to accurately identify distressed patients. Selecting the Life Coaching program for this patient population has been successful and patient outcome has definitely improved.

## 106

### QUALITY IMPROVEMENT INITIATIVE TO REDUCE CLOSTRIDIUM DIFFICILE INFECTIONS IN A BONE MARROW TRANSPLANT UNIT

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*Clostridium difficile* infection (c-diff) is a spore-forming bacillus that can exist in the hospital environment for months, frequently resulting in nosocomial infections. Fomites in the patient environment, inadequate handwashing, noncompliance with contact precautions, a

susceptible host, and antibiotic usage are contributing factors to c-diff acquisition. Severity of patient illness can range from asymptomatic colonization to death. The purpose was to determine if Bioquell Hydrogen Peroxide Vapor Decontamination (BHPVD), interdisciplinary education, antibiotic stewardship and audit for compliance with contact precautions decreased the occurrence of c-diff on a Bone Marrow Transplant Unit (BMTU). This interventional study used a twelve-month pre and post intervention on a tertiary BMT to measure the impact a change of practice using a BHPVD process had on reducing cross-contamination of c-diff. The researchers also used a three-month pre-intervention and post-intervention period to measure and evaluate terminal room cleaning, handwashing effectiveness, contact precaution compliance, and antibiotic stewardship using interdisciplinary audits. The intervention also includes interdisciplinary education provided to nursing staff, environmental services, and physicians regarding c-diff transmission. Furthermore, antibiotic stewardship evaluation occurs daily by physicians during interdisciplinary rounds. From July 2016 to August 2017 there were thirteen incidences of hospital-acquired c-diff infections on the BMT unit. Twelve rooms were cleaned using the BHPVD process and results have illustrated a positive correlation in reducing cross contamination. The current study is ongoing and results will be presented at study completion. Terminal room cleaning with BHPVD, daily cleaning using a bleach solution, effective handwashing using soap and water, contact precaution adherence, and antibiotic stewardship are all strategies for reducing c-diff acquisition. With tight surveillance and education, we plan to present an interdisciplinary approach that is effective in reducing the incidence of c-diff acquisition. Further research is warranted to determine the effectiveness of BHPVD on c-diff cross contamination between patients in order to improve outcomes for patients and reduce their risk of c-diff.

## 107

### ESTABLISHING A FOUNDATION FOR A GYNECOLOGICAL CANCER SURVIVORSHIP PROGRAM

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The population of cancer survivors continues to grow. For all cancer survivors, an estimated 64% have lived  $\geq 5$  years, 40% have lived  $\geq 10$  years, and 15% have lived  $\geq 20$  years. Cancer survivors face distinctive and complicated needs after their cancer treatment ends.

Among their long-term challenges are pain, fatigue, lymphedema, sexual dysfunction, cost of continuing care and difficulty integrating and accepting a new normal for their health status and health maintenance. Survivors post gynecological cancer treatment are also increasing. For example, 1, 5 and 10-year survival rates of women diagnosed with cancer of the uterine corpus are 92%, 81.8% and 79.5% respectively. Survivorship care for the gynecological cancer patient population is especially lacking. The purpose was to identify needs of the gynecological cancer survivors and how best to address those needs. To identify the needs of gynecological cancer survivors, a nurse case manager (NCM) and nurse practitioner (NP) dyad at the Moores UCSD Cancer Center (one of 69 NIH-designated Cancer Centers) conducted two needs assessments using the Survey Monkey Survey<sup>®</sup>: 1) To gynecology oncology providers: Clarified their understanding of gynecological cancer survivors' needs and how providers address those needs, 2) To gynecological cancer survivors: Determined their self-identified needs and resources they use to address those needs. Needs assessment results: 1) Providers (n = 20): Gynecological cancer survivor needs include surveillance for recurrent cancer, pain management and psychosocial support. Providers self-assess their ability to address those needs as good to very good. 2) Gynecological cancer survivors (n = 20). Survivor responses indicate their major concerns are a) sexual dysfunction, b) incontinence, c) fear of recurrence, d) anxiety. In general, gynecological cancer survivors reported they have minimal access to reliable resources to address their post-treatment needs and are unaware how to access helpful resources. These two assessments establish a pilot gynecological cancer survivorship package of interventions, to be provided by the NCM/NP dyad. These interventions will generate data to develop a detailed, routine Cancer Survivorship Program. Anticipated pillars of the Program are routine surveillance, a focus on the gynecological cancer survivor's individual needs and a workflow to pertinent resources to address the survivor's individual needs.

## 108

### NURSING'S ROLE IN THE IMPLEMENTATION OF A PHASE II PROTOCOL FOR HIGH DOSE RATE BRACHY THERAPY

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High dose rate brachytherapy (HDR) is useful in many malignancies to deliver high dose radiation therapy to tumors or close to tumors while sparing the normal

surrounding tissue. HDR is one treatment option for patients with prostate cancer. Until recently, the National Institutes of Health (NIH) did not have a prostate HDR brachytherapy program. Radiation Oncologists at the NIH opened a new protocol evaluating outcomes using HDR. The radiation oncology nurses planned and led implementation efforts of this new program. Working with multiple stakeholders can be quite challenging but nurses are uniquely positioned in the hospital system to address the changes associated with implementing a new program. Nurses worked collaboratively with physicians, physicists, and radiation therapists to streamline the procedure and develop staff competency. Nurses consulted with the Hospital Epidemiology Service to confirm the procedure room and sterilization procedures met infection control standards. Nursing worked closely with the Hospital Safety Officer and Anesthesia Department to coordinate care and address concerns. Since the procedure is performed in the treatment room, space and room configuration limitations led to creative arrangement of anesthesia and HDR equipment while maintaining access to oxygen and suction outlets. Necessary supplies were identified, ordered and par levels were established. Radiation oncology nurses and therapists were trained by the operating room educator on sterile technique. Research Participant (RP) education documents (Volume study, pre and post HDR instructions) were created, reviewed and approved by nursing shared governance committees. All nurses completed IV and urinary catheter insertion competencies to assist with the HDR procedure. In addition to providing information to the RPs, radiation oncology nurses also provided education to inpatient unit nurses on how to care for HDR RP post procedure. The HDR program was opened by the target date. RPs were successfully treated and expressed satisfaction regarding their treatment. Nursing led implementation of this protocol has successfully brought a new treatment modality to NIH by working collaboratively with a multi-disciplinary and multi-department team to ensure the highest level of patient safety and cancer treatment.

## 109

### INTRODUCTION OF THE TRIAGE NURSE IN THE INFUSION ROOM

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The objective was to assess patient acuity levels and evenly distribute workload among staff nurses in an

infusion room. This process change would improve staff satisfaction, increase patient throughput, and lead to decrease in wait times. The infusion room had not adopted an official mechanism to balance the workload of RNs on the unit. At times it was difficult for nurses to maintain their three patient chair assignment due to high acuity with oncology patients. This inability to establish a workload balance led nurses to become frustrated, stressed and dissatisfied. Not only was this affecting nursing, but it was also affecting patients. Nurses weren't always able to meet patient demands, thus leading to longer wait times. Oncology patients receiving treatment often felt a loss of control over their daily lives. Nurses on the unit suggested the concept of a triage nurse to evaluate and manage the infusion schedule. Patients were assigned based on a home-grown acuity rating system. This system helped to spearhead the way we would manage our patient flow as we moved to an electronic medical record (EMR), helped patients to be able to predict treatment start time, as well as gain a sense of control on their treatment days. Communication was the key to the success of the triage nurse. The triage nurse was able to evaluate workload based on an acuity rating established and evaluated by infusion RNs. Being involved in this process created buy-in by nursing and helped to ensure sustained success. Staff and management engaged in daily and weekly small huddles to further define, make process changes, and hold discussions on how to improve the role. Staff quickly became acclimated to this new process and recognized the significant improvement in patient wait times and RN workload balance. Pre and post implementation Press Ganey scores reflected improved patient wait times. This initiative was integral in supporting our new EMR, as well as new infusion scheduling templates. During times of major change, the triage nurse role helped to meet both staff and patient expectations, and significantly improved morale in the Infusion Room.

### **110** **ADMINISTRATION OF INTRAVESICAL GEMCITABINE AND DOCETAXEL AND ITS IMPACT ON WORKFLOW IN THE OUTPATIENT SETTING**

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The purpose was to educate and inform participants on the administration of intravesical gemcitabine and docetaxel in a urology practice setting. Participants will be able to describe barriers to work flow during

this therapy. In the treatment of Bacillus Calmette-Guerin (BCG) refractory non-muscle invasive bladder cancer, a new intravesical treatment regimen was initiated into practice at a Comprehensive Cancer Center. This is a new regimen that differs from our current intravesical therapies, thus challenging the nurses with the clinic workflow. The regimen starts with gemcitabine, with a dwell time of 90 minutes, followed by docetaxel and its dwell time of 2 hours, after the bladder has been emptied of gemcitabine. There is a 6 week induction course, followed by cystoscopy/transurethral resection (TUR) with bladder biopsies, and then monthly maintenance doses with negative biopsies. Nurses had to identify different ways of administration, ie., capping indwelling urinary catheter versus straight catheterization with each medication and the necessity of the patient remaining in the supine position to tolerate treatment for the allotted dwell time. This position restriction can be applicable to one or both medications. Educating patients about the process of the new regimen before and during treatment also factors into the amount of time spent in the room with the patient. The goal is to educate nurses on incorporating the administration of therapy in clinic and its impact on workflow. To assist in improving practice an intravesical clinic was developed to facilitate time, space, and workflow. The model of the clinic is to have registered nurses administer the treatment with an attending physician present for chemotherapy administration practice. New treatment regimens always challenge clinical practice workflow. Developing the new workflow process at this center, the workflow became more efficient by decreasing patient wait times. Addressing the workflow constraints with the new treatment regimen and by developing the intravesical clinic, we have improved the flow for the patient and the nurse.

### **111** **REDUCING THE INCIDENCE OF CENTRAL-LINE ASSOCIATED BLOOD STREAM INFECTIONS ON AN INPATIENT HEMATOLOGY/ONCOLOGY UNIT**

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One specific inpatient oncology nursing unit at a large, rural, academic medical center struggled to decrease the incidence of central-line associated blood stream infections (CLABSI); the unit failed to outperform the national average of like units' CLABSI rates in o

out of the last 8 rolling quarters of data. Understanding that a reduction in CLABSIs decrease patient harm, improve patient outcomes, and decrease the cost of care, a team of dedicated staff nurses, under the direction of the Unit Practice Council, assembled. This team was charged with developing methods to reduce the number of CLABSIs. The Unit CLABSI Reduction Team focused its efforts on consistent implementation of a Central Venous Access Device (CVAD) Maintenance Bundle, providing peer-to-peer feedback regarding bundle compliance, and a nursing analysis of each CLABSI as they occurred on the unit. The CLABSI Reduction Team provided expert opinion around each element of the CVAD Maintenance Bundle, including recommendations surrounding daily chlorhexidine bathing; the use of alcohol impregnated caps on open ports; and standardization of CVAD dressing changes. Through professional role modeling, this team also focused on displaying inter-professional behaviors designed to encourage all staff nurses to discuss continued need for the central access on a patient-specific basis. CLABSI Reduction Team members employed tactics of accountability and transparency through auditing of CVAD Maintenance Bundle compliance. Audits are completed by staff RNs during their worked hours; when a CVAD is found to be bundle compliant, timely recognition is given, when a CVAD bundle is non-compliant, appropriate real-time correction and feedback is provided. Finally, The CLABSI Reduction Team participated in more formal apparent cause analysis of any CLABSI that occurred on the unit. The follow up form, with assistance from the CVAD practice experts, was completed by any staff member who cared for a patient within 72 hours of the CLABSI. Through standardization of CVAD care, consistent implementation of CVAD Maintenance Bundle, peer support of appropriate CVAD management, and formal analysis of apparent cause of CLABSI, this oncology unit has significantly decreased its number of CLABSIs. For the first time in the history of the unit, nursing staff achieved 150 days (and counting!) CLABSI free.

## **112** **NURSING EDUCATION FOR THYMECTOMY IN THE SETTING OF THYMOMA**

**Elaine Hoi, RN, BSN, OCN<sup>®</sup>, Memorial Sloan Kettering Cancer Center, New York, NY**

The thymus is a lymphoid organ that sits above the heart in the mediastinum. It is active in T-cell development until the teenage years, when it decreases in size and transforms into adipose tissue. Tumors

of the thymus gland are rare and make up less than one percent of all cancers, affecting 500 Americans per year between the ages of 40 and 60. Thymomas are a complex neoplasm that is often associated with paraneoplastic syndromes, including Myasthenia Gravis and Cushing's syndrome. Surgery is the gold standard for treatment in most cases, and includes a complete resection of the thymus with possible resection of the pericardium and lung parenchyma. A multimodality approach that includes chemotherapy and radiation may be used in more invasive cases. The natural course of thymoma is unpredictable, ranging from asymptomatic, incidentally-discovered disease with an indolent course to aggressive malignant tumors. Patients with thymoma are also at risk for the development of secondary malignancies including B-cell lymphoma, gastrointestinal cancers and soft tissue sarcomas. This paper describes the disease process, treatment plan and nursing considerations for patients diagnosed with thymoma and treated with surgery. Thymectomy is a technically challenging procedure, particularly if the thymoma has invaded or adhered to the surrounding anatomy. Oncology nurses are responsible for preoperative teaching and postoperative care. The surgical care plan contains the standard overview and general postoperative instructions of pulmonary toileting, progressive ambulation, and pain management but particularly focuses on short term complications, including atrial fibrillation, pneumothorax, and the possibility of ventilator placement. This model of patient education is a collaborative effort between outpatient and inpatient nurses to provide patients with uniform instructions throughout the surgical process. Although thymoma is a rare neoplasm, thymectomy is performed regularly at this NCI-designated comprehensive cancer center, numbering approximately 40 surgeries per year. It is important for oncology nurses to have a basic understanding of the complexity of thymoma and its treatment plan. Oncology nurses will then be able to provide specific education about the disease, its treatment trajectory and surveillance recommendations after surgery. Properly educating patients and their caregivers about what to expect leads to greater patient engagement and understanding.

## **113** **IMPROVING COMMUNICATION OPTIMIZES SCHEDULING FOR SAME DAY TREATMENT REQUESTS IN OUTPATIENT INFUSION UNITS**

**Jessie Holland, RN, BSN, OCN<sup>®</sup>, Memorial Sloan Kettering Cancer Center, New York, NY; Lindsay Donofrio,**

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For patients requiring unexpected same day treatment, no electronic documentation existed to communicate patient condition, interventions requested, or follow up required. The lack of a standardized process contributed to workflow disruption in the treatments units and posed a risk to patient safety. In one outpatient infusion unit in 2017, 18% of visits were added on the same day. The high volume of requests prompted an examination of the issue in all outpatient infusion units. The purpose was to standardize communication and scheduling of unscheduled, same day treatments in the outpatient setting. To support the Charge Nurse in balancing the clinical needs with the availability of space and staffing on the unit. A team of nurses and Nurse Leaders formed to make improvements through standardization of the process. In collaboration with Nursing Informatics and Information System, an electronic nursing communication order (The Same Day Treatment Request (SDTR)) was created. The SDTR order includes: cancer diagnosis, reason for referral, patient condition and symptoms, post-intervention needs, labs and vital signs, and referring clinician contact information. The workflow supports nurse-to-nurse communication when a same day treatment appointment is being requested. The SDTR order and workflow was approved by members of the shared governance councils. Nurses received education on the entire process. Prior to implementation of the new SDTR process, a survey was sent pre-implementation to Infusion Charge Nurses to assess their satisfaction with the current workflow for same day treatment requests. The survey results showed that only 9% of nurses found the SDTR process easy. A post intervention survey will be sent after the new process has been in place for six months. Lack of standardized communication about the high volume of patients requiring same day treatments negatively impacts both patients and treatment areas. The creation of an electronic nursing communication order and process emphasizes nurse-to-nurse communication to support the decision process of the nurse when prioritizing patient care and standardizes transitions of care. The new SDTR process was implemented recently; initial feedback from Charge Nurses indicates that it has improved nursing communication and improved workflow when adding patients on for same day treatments.

## 114

### MAJOR UPDATES IN THE AMERICAN JOINT COMMITTEE ON CANCER EIGHTH EDITION CANCER STAGING MANUAL FOR BREAST CANCER: CLINICAL IMPLICATIONS FOR ONCOLOGY NURSES

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The American Joint Committee on Cancer (AJCC) publishes the Cancer Staging Manual to assist healthcare professionals in uniformly staging cancer. A standardized staging system provides a common language in which to communicate and collaborate on the treatment of oncology patients. In the eighth edition, significant updates to the primary tumor, regional lymph node, and distant metastasis (TNM) anatomic classification of breast cancer (originating in 1959) recognize the contribution of additional biologic factors that impact prognosis. A panel of experts determined that advances in clinical, laboratory, and translational science have contributed to a better understanding of how relevant biomarkers, such as tumor grade, hormone receptors (HRs), and human epidermal growth factor receptor 2 (HER2), influence prognosis, justifying an update. These changes resulted in both upstaging and downstaging of prior TNM-based classifications. Key features of the updated guidelines will be summarized along with multidisciplinary insights on how these changes affect prognoses and subsequent treatment recommendations. While the basis of the TNM staging system remains the anatomic extent of disease, the new Prognostic Stage Group table (to be used in the US from 2018) now incorporates tumor grade by cellular characteristics (Nottingham system), HR and HER2 status. Furthermore, genomic assays of biomarker panels can now be used to downstage some HR-positive, lymph node-negative tumors. Lobular carcinoma in situ has been removed from the staging system as it is not considered a malignancy but a risk factor, which has implications for surgical intervention. Clinical trials, such as the Phase III, randomized, placebo-controlled EarLEE-1 trial (NCT03078751, now recruiting), investigating

adjuvant ribociclib/placebo plus standard endocrine therapy for treatment of HR-positive, HER2-negative, high-risk, early-stage disease, are already using the new Prognostic Stage Group system to determine risk and eligibility. As the updates to the AJCC staging system have implications for breast cancer care and clinical trial eligibility, nurse navigators, research nurses, and oncology nurses would benefit from having a good understanding of the changes to fully support their patients. The AJCC eighth edition changes encompass biologic markers that are already part of standard pathology reporting and patients may already be aware of (HR and HER2 status), and additional tumor prognostic features that impact prognosis and treatment options. Additional interpretation by the managing clinical team and detailed explanation to patients will be required.

### 115

#### **THE NURSING EXPERIENCE OF A LEUKEMIA PATIENT WITH ACUTE GRAFT VERSUS HOST DISEASE AFTER ALLOGENEIC HEMATOPOIETIC STEM CELL TRANSPLANTATION**

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This article describes an acute lymphoblastic leukemia woman after allogeneic hematopoietic stem cell transplantation. An nursing experience in care of a patient was hospitalized for diagnosed with acute graft versus host disease during September 23th to November 4th, 2015. Data was collected using interviews patient, attentive listening, caring to build nurse-patient relationship, medical chart reviews, physical assessment and Roy's adaptation model as a full evaluation, confirming major issues including high risk infection, nutrition imbalanced less than body requirements, altered bowel movement and loss. Acute graft versus host disease can induce severe diarrhea and anorexia, it may cause nutrition imbalanced less. Anorexia is a subjective symptoms in clinical observation, there is no objective information can assess the severity and changes. Author aimed to select suitable anorexia assessment scale (Simplified Nutrition Appetite Questionnaire, SNAQ) through evidence-based information, it can screen early stage to provide nutrition care and exercise to increase appetite. The patient worried disease may recurrence, when it happened was needed to admit to hospital for treatment and regular outpatient since suffered from acute graft versus host disease symptom, it could not return to workplace or normal life, and she had

feeling of loss. The nursing interventions includes interviews, sharing self experience in patient groups, consult psychologist, it helped transformations of loss into positive emotion and got through dilemma. Acute graft versus host disease complications cause skin rash, fever and anorexia. A series nursing interventions of skin care and prevention of infection were provide. Furthermore, the case report provides oncology nurse as a reference nursing care experience for similar allogeneic hematopoietic stem cell transplantation cases.

### 116

#### **THE NURSING EXPERIENCE OF A LIVER CANCER PATIENT**

**Wen-Chuan Hsu, Chang Gung Memorial Hospital at Linkou, Taoyuan**

The case study is to explore the nursing experience of a liver cancer patient. The duration of nursing care was from December 10th to 28th, 2015. Gordon's Functional Health Patterns was used to assess the patient. The following nursing issues were identified: pain, body fluid overload and hopelessness. During the period of nursing care, we provided an appropriate individual nutrition support health education after discussion with dietitian and families. Besides providing continuing nursing care to improve his basic satisfaction and relieve physical and psychological discomforts. The author also provided information of related treatment process and concerns of family. The author provided individualized nursing care with minimizing discomfort in physiological aspect and satisfying the patient's psychological and spiritual needs. This article may serve as a reference for those caring for patients facing the end of life.

### 117

#### **ACUPRESSURE FOR CHEMOTHERAPY-RELATED NAUSEA AND VOMITING: AN INNOVATIVE HOLISTIC SELF MANAGEMENT TOOL**

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The purpose of this abstract is to present a self-management intervention for patients with chemotherapy-related nausea and vomiting. The significance of this intervention is to promote the recovery of oncology patients using a holistic self-management tool. It is an ancient form, but an innovative way to conventional care. When witnessed patients' suffering, I was prompted to offer

my extraordinary help. My observation echoes that of Collins and Thomas (2004) “in spite of recent advances in antiemetic therapy, as many as 60% of cancer patients undergoing chemotherapy continue to experience nausea and vomiting” (p. 76). Patients’ emotional and physical strain from the cancer and its treatment requires a new perspective and intervention. The motive to serve my patients better leads me to have created this intervention, acupressure, and provided to my patients. Most recent studies used one point PC 6. However, I believe a combination of four points may generate an improved effect. The points I selected are PC 6, CV (RN) 12, ST 36, SP4. Dr. Cheng (2016) and Mebo TCM training (2015) material supported the combination of four points. Doctor Twicken discussed RN 12 in mind and spirit perspective, stating “the point treats the Yi spirit, which includes over/repetitive thinking... and worry. It assists in keeping what is valuable and letting go of what is not necessary (p. 73). This point relieves worry for patients in addition to calming the stomach. The evaluation of this intervention comes from my own practice and studies reported in journal articles. The authors of 13 articles recommended the use of acupressure in patients with chemotherapy-related nausea and/or vomiting. In Chinese medicine, there is no organ or tissue or emotion that can be singled out for treatment. Body is an organic whole. Meridians and collaterals (energy channel) form a dynamic web connecting every organ and tissues, with mind and spirit. The response to this tool is encouraging. To align with the research agenda of oncology nurse society, I envision a pilot study or a test in multi-center so we can collect our data scientifically and produce further evidence for clinical practice.

### **118** **OPTIMIZING RADIATION ONCOLOGY PATIENT EDUCATION MATERIAL: A COLLABORATIVE APPROACH**

**Karol Huenerberg, MSN, APNP, AOCNP®, UW Health, Madison, WI**

The number of new cancer cases in the United States in 2017 is expected to be 1,688,780. Radiation therapy is an effective treatment modality and an integral part of the treatment plan for many types of cancer. The methods to deliver radiation are variable and complex. Patients may have misconceptions and a limited understanding about radiation therapy, making effective patient education a priority. Patient education material can be generated over a long period of time and from a vast variety of sources, resulting in

material that may be outdated, irrelevant and/or difficult to understand. Limited health literacy, estimated to be 36% of the U.S. adult population, must be considered when evaluating this material. Utilization of suboptimal education material may contribute to an unsatisfactory patient experience in radiation oncology. The purpose of the project is to evaluate patient education material in a Comprehensive Cancer Center’s radiation oncology department for the following criteria: relevance, readability and understandability. Members of the radiation oncology care team will collaborate to evaluate current patient education material in the department. Education material will be assessed for dates of publication and relevance to current radiation modalities and practice. Readability and understandability will be assessed using common readability tests (Flesch Reading Ease Score; Fry Score) and understandability tests (Patient Education Material Assessment Tool from the Agency for Health Research and Quality). Education material that is outdated, irrelevant and does not meet readability and understandability measures will be removed from use in the department. New education material will be added to the department that meets the criteria. Patient education materials for radiation therapy will be up to date, reflect current treatment modalities and practices and will be easy to read and understand. It is beneficial for all nurses providing oncology care to regularly evaluate their patient education material to optimize the patient experience.

### **119** **IDENTIFYING INDIVIDUALS FOR INCREASED RISK OF BREAST CANCER**

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Identification of individuals at increased risk for development of breast cancer over their lifetime. Individuals having a family history of breast cancer, breast changes, and genetic mutation can be seen by a specialized provider who can assess these individuals. The purpose was to develop a process to comprehensively care for patients that are identified at increased risk of developing breast cancer. The education of advanced practitioners, nursing staff, and support staff on different available modalities to assess patients at increased risk; additional information required

for these assessments include patient risk factors, pathology, and family history. Enhanced surveillance is offered following NCCN guidelines. An imaging order is placed during the appointment with the provider. Near the due date, written orders are mailed to patient as a reminder with instructions on how to schedule. Patients are given information on lifestyle modifications including exercise, dietary changes with referral to dietician if desired, smoking cessation and weight loss programs. Evaluation: Successful use of the appropriate screening tools (Tyer Cuzick and Gail Models). An appointment is facilitated for a six month follow up clinical breast exam as well as reassessment. Patients with surveillance imaging orders that are not fulfilled are sent a reminder letter. Specific lifestyle modifiers are tracked by clinical staff to evaluate patient compliance. Implementation of this program has resulted in identification of individuals at increased risk and more consistent monitoring. This program has also facilitated several early stage breast cancer identifications.

## 120

### EXPLORE THE RESILIENCE EFFECT OF A SUPPORTIVE GROUP FOR LUNG CANCER PATIENTS IN TAIWAN

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Lung cancer is first cause of cancer death in Taiwan. The serious side effects and high recurrence rates during cancer treatment affect patient willingness and compliance. The study aimed to explore the effects of supportive group of lung cancer patients in improvement of their sense of hope, social support and resilience. A quasi-experimental research designed to develop a Lung cancer patients demand-oriented support groups as interventions. 107 adult lung cancer patients were enrolled with 51 participating in supportive groups (experimental group, EG) and 56 patients in control group (CG) receiving usual care. The final evaluation tools were HHI, ISEL Short Form and Family Resilience Questionnaire before intervention, during T1 (2nd month) and T2 (4th month). The average age of the cases was 64.4 (SD = 10.0) years old. 58.8% patients in EG and 35.7% patients in CG were female ( $p=0.017$ ), and this is the only variable

with significant difference in demography between the two groups. There were no statistically significant difference in the comparisons about cancer staging, sense of hope, social support and family resilience before intervention, during T1 and T2, but each two of sense of hope, social support and family resilience have significant positive correlation ( $p < .001$ ). In lifestyle evaluation, conscious life stress ( $p < .05$ ) had a significant difference between the two groups. Six themes emerged from EG four times focus group interviews by a conventional content analysis, include (1) strange and eccentric of awareness of illness, (2) fighting against ill with uncertainty, (3) succeeded in living with cancer by family resilience, (4) exploring life styles throughout peer echoed with empathy, (5) reassuring the directions of fighting with cancer from health professionals, (6) self-reflection toward mindfulness and awareness. The patients sharing experience and Six themes in the EG and the adaptation process of diseased individuals can really affect the helpless patients, whereby individuals with cancer develop symbiotic coping strategies.

## 121

### THE NURSE COORDINATOR IS A KEY ROLE IN A REFLEXIVE 21 GENE TESTING PILOT PROJECT

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At the Smilow Cancer Hospital Breast Center, a National Cancer Institute Comprehensive Cancer Center, four breast surgeons and seven medical oncologists see over 1500 new cancer patient visits each year. Oncotype DX® is a commercially available test that examines 21 genes in a patient's breast tumor to determine the risk of relapse and likely benefit of chemotherapy in early stage invasive breast cancer. Prior to the study, patients would wait three weeks after surgery for Oncotype results as the test was ordered by the medical oncologist at the post-op visit. Patients often expressed distress having to wait for test results. The pilot goal was to provide patients information on the 21 gene test and decrease time to treatment decision making, thus decreasing anxiety and stress. During the pilot, the Nurse Coordinator would identify patients that met the NCCN criteria for 21 gene testing, to be ordered by the breast surgeon prior to a post-op medical oncologist consultation and place a bright pink order form on the chart. The surgeon would make a decision to order the test if patient met NCCN criteria, provide education to



patient regarding test, and sign the form. The Nurse Coordinator would explain the testing process, billing and how results would be received. An educational letter was provided which included contact information. The Nurse Coordinator would then place the order online and fax the requisition to the pathology department. An excel database was kept to track the patients, making sure the results were available by the post op visit with the medical oncologist and results were documented in the medical record. In the six months pre pilot, 58/76 (76%) tested met NCCN criteria; while during the pilot, 82/90 (91%) met the criteria. Wait time between control group and reflex group decreased from 32 to 20 days from time of surgery to treatment decision. Prior to the pilot, the Nurse Coordinator received multiple distressed calls from women verbalizing stress and anxiety regarding “waiting to know if I need chemotherapy”. During the study, patients were already waiting for surgical pathology results and the 21 gene test result became less of a focus. Future consideration is to use the Distress Thermometer to gauge patient anxiety and stress while waiting for test results.

## 122

### IMPROVING DIGITAL COMMUNICATION AND PATIENT CARE IN CENTRALIZED ONCOLOGY PHONE TRIAGE

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Electronic communication and centralized phone triage are becoming more commonplace in the oncology patient care setting. In a large academic centralized triage department answering over incoming 400 calls/day for over 100 providers, nurses rely on the use of Electronic Medical Records (EMR) to relay patient assessment and needs to an Advanced Practice Provider (APP). This communication between nurse and APP must be clear, concise, and efficient in order to reduce callbacks and meet patient care needs in a timely manner. The purpose was optimizing communication with APP's via EMR to provide safe, consistent, and prompt resolution of the patient's care need; improve nursing job satisfaction. In order to provide safe and consistent care for oncology patients via phone triage, we developed and implemented the following three interventions: 1. Communication algorithm directing best communication tool use based on urgency of patient need, 2. Standardized a documentation tool using the SBAR communication model, 3. Standardized triage guidelines aimed to

advise care needs based on patient assessment. Preliminary data suggests that our interventions have improved communications between triage nurses and APPs, increasing nursing satisfaction, and decreasing APP workload. Patients have reported increased satisfaction as nurses are able to address patient care needs upon initial phone call instead of having to wait for a call back. Triage nurses are also reporting increased confidence in assessment and treatment of patient care needs. By delineating the triage nurse role and improving digital tools to communicate patient needs with APPs, we have increased the efficiency of patient care via phone triage. Efficiency in the triage setting has helped decrease wait time for patient calls and increased patient satisfaction. Annual re-evaluation of triage guidelines is necessary in order to keep up with standard of care changes and continue care improvement.

## 123

### TRANSLATING RESEARCH INTO PRACTICE: CHRONIC LYMPHOCYTIC LEUKEMIA AND THE ADVENT OF IMMUNOTHERAPY

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Abstract Chronic Lymphocytic Leukemia (CLL) is the most common hematological malignancy in the U.S. and has been widely studied. The incidence of CLL is greater in older patients and males. Additionally, it presents in a variety of stages that involve several cytogenetic factors predictive of the patient's illness trajectory following diagnosis. Traditional treatment includes chemoimmunotherapy, with rituximab (Rituxan), fludarabine (Fludara), cyclophosphamide (Cytoxan), and bendamustine (Treanda) due to efficacy. While these therapies are effective they may exhibit toxic effects. Recently, single or combination-agent immunotherapy has emerged as an alternative to traditional chemoimmunotherapy. Ibrutinib (Imbruvica) and idelalisib (Zydelig) have improved overall response rates in patients with CLL. Recently, venetoclax (Venclexta) has demonstrated further success with regard to disease management. Currently, these drugs are reserved for patients with poor prognostic indicators or disease progression or relapse following chemoimmunotherapy. And while immunotherapy is a promising treatment option for CLL, it is not without limitations. The purpose of the paper written was to evaluate the current strategies for the management of CLL, discuss new advancements,

and make recommendations for future management. A literature review was performed to synthesize the current state of the science and the clinical impact of immunotherapy. While immunotherapy remains favorable in clinical trials, further investigation is necessary to determine whether it will become the standard of care. There are several aspects to consider including cost and patient quality of life. The emerging evidence in other oncologic areas suggests the management paradigm for CLL may shift to incorporate use of immunotherapies as first-line treatment modalities.

## 124

### **OPERATIONALIZING USP 800: IDENTIFICATION OF HAZARDOUS DRUGS, COMMUNICATION, AND EDUCATION TO ENSURE SAFETY ACROSS THE CONTINUUM**

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U.S. Pharmacopeia (USP) 800 requires development of a hazardous drug (HD) list, appropriate engineering controls, standards for safe handling of HDs across the continuum, process for communication, and education. To comply with the 2018 mandatory guidelines, Kaiser Permanente (KP) established the National Hazardous Drug Workgroup (NHDW) in 2015—a multidisciplinary group of pharmacists, nurses, and safety professionals. Standards for the handling of HDs and associated waste products are essential to healthcare workers across the continuum. The NHDW's objectives are to 1) evaluate drugs to maintain a national hazardous drug list; 2) standardize management of HDs; 3) assess compliance with the USP 800 standards; and 4) provide communication/education to all key stakeholders. An algorithm, and corresponding HD evaluation form, were developed and later refined to ensure a consistent rigorous drug review in order to classify newly approved drugs as either antineoplastic, hazardous, or non-hazardous. An intranet site was developed to provide reference documentation, communications, individual drug reviews, and a current HDs list. KP's drug formulary and medication labels were updated to clearly distinguish drugs as antineoplastic or hazardous. A personal protective equipment (PPE) guideline was developed to mitigate exposure and the HD spill response was updated. An interactive online module and competency evaluation were developed to educate nurses about hazardous drugs, safe handling and administration (including PPE and closed system transfer devices), proper cleanup and

disposal, management of spills, and acute exposures. The NHDW has provided a valuable forum to elicit expertise and insights from various disciplines across the country, in preparing the organization for compliance with USP 800. Nurses are key stakeholders in these discussions, as well as in the development of reference materials, guidelines, communications, and especially education. The interactive educational module has been well received overall, and has elicited much needed awareness regarding safe handling of HDs. All feedback is currently being reviewed for annual module updates. Disseminating information to all staff at the point of care, throughout the continuum of care, is a challenge. Opportunities for additional education and communication of healthcare workers are continually being identified and incorporated into future materials and training. Nursing plays a pivotal role in ensuring the safe handling of HDs, however, multidisciplinary collaboration is still critically important.

## 125

### **ACUPUNCTURE INTERVENTION DURING CHEMOTHERAPY INFUSIONS**

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An Integrative Medicine Service (IMS) at a large comprehensive cancer center offers patients a variety of services including massage, acupuncture and yoga. In the outpatient setting, these services are currently offered by private appointment and are fee-for-service. A multidisciplinary group including members of the Integrative medicine team, nursing and hospital administration explored the feasibility of offering free acupuncture services in conjunction with chemotherapy appointments. The pilot program was funded by an internal grant. It lasted 3 months and was intended for patients with symptoms of anxiety, nausea, pain, dry mouth or fatigue. The purpose of this pilot project was to assess the feasibility and acceptance of delivering acupuncture during chemotherapy infusions. In addition, the pilot would increase awareness and educate patients on available integrative medicine interventions accessible during cancer treatment. Finally, the pilot assessed symptom response to acupuncture and patient experience. The project team

developed a protocol and informed the clinical staff about the acupuncture project parameters. A nurse identified potential patients for acupuncture based on symptoms. An acupuncturist provided 20 min acupuncture treatments to pre-identified patients who gave their consent. The acupuncture was performed in private chemotherapy rooms. A survey was administered via Ipad at 2 time points: pre and post treatment. This survey asked questions to evaluate symptom response and experience. Data was analyzed evaluating the clinical impact of the acupuncture pilot. The project team found that it is feasible for patients to receive acupuncture treatments during chemotherapy infusion. Many patients received multiple treatments over 12 weeks. Feedback from patients showed that over 60% of patients found acupuncture helped them cope with chemotherapy treatments. Specifically, the survey data showed reduction in anxiety, nausea, pain, fatigue and dry mouth. This pilot project provided patients with access to IMS while they were concurrently undergoing conventional cancer treatments. The project survey reported that of the 25 patients not currently aware of IMS, 22 patients (88%) were interested in learning more about IMS. This acupuncture pilot showed it is feasible to offer these integrative services during conventional cancer treatments. This pilot project enhanced patient experience while increasing awareness and referrals to IMS. Other cancer centers may benefit from the results of this project.

## 126

### **IMMUNE RECONSTITUTION INFLAMMATORY SYNDROME RELATED AUTOIMMUNE NEUTROPENIA: CARE OF THE ONCOLOGY PATIENT**

**Shada Johnson-McLean, BSN, RN, National Institutes of Health, Bethesda, MD**

Immune Reconstitution Inflammatory Syndrome (IRIS), occurs in people with Human Immunodeficiency Virus (HIV) who start anti-retroviral therapy (ART) but have preexisting infections. The syndrome is manifested by an inflammatory response and worsening of infections. Individuals who have a low CD4 count, fungal infections, or high viral load at the initiation of ART have an increased risk of developing IRIS. The body mounts either a local or systemic inflammatory response which can potentially be fatal. This is a case of a 26 year old African American male who presented to our unit with IRIS. The patient had an original diagnosis of Kaposi's sarcoma-associated herpes virus (KSHV) with HIV and had developed

IRIS on initiation of ART at home. He presented to us with multiple infections, skin desquamation, and sepsis. He had been unsuccessfully treated at an outside hospital and had been told he should pursue end of life care; this resulted in hopelessness in the patient and family. Upon admission, he was signed on to a KSHV associated Inflammatory Cytokine Syndrome (KICS) clinical trial. After providing several weeks of care, the team noticed the patient was not responding well to treatment due to increased skin lesions, continued low blood counts, and continuing infections. However, after several months with various combinations of biotherapies and steroids, this patient eventually recovered his neutrophil count and showed a decrease in cytokines. Wound care was coordinated by the nursing staff to heal skin ulcers resulting from the IRIS that caused his skin to slough. Wound care was extremely painful and made the patient feel a loss of control. Nursing started including the patient in the plan of care and allowing him to make decisions. This led to a trusting relationship between the patient and staff. Pain and Palliative Care services was also consulted on pain management. The Mental Health Clinical Nurse Specialist also worked with the patient to learn coping styles and stress management. This was a case of a rare syndrome that through the interdisciplinary team and patient determination patient treatment was a success.

## 127

### **VBM OUTPATIENT SUPPORTIVE ONCOLOGY-HEMATOLOGY**

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Outpatient supportive care services were underutilized in the outpatient Hematologic/Oncology division at this NCI designated Cancer Center. Under-utilizing these services can lead to unnecessary and cost prohibitive inpatient admissions or treatments. We identified the need to develop a standardized process of evaluating every patient for supportive care services using the NCCN Palliative Care Screening Tool. Supportive care needs identification tool was piloted as a quality initiative as part of the institution wide value based medicine (VBM) project, then rolled out to the entire practice. The goal

was to increase the number of outpatient supportive care consults in the Hematology/Oncology division in 2016 to at least 20 consults monthly. These consults were based on patient scores using the NCCN Palliative Care Screening Tool to identify patients with more complex physical and emotional palliative care needs. Interventions: (a) Improved patient access to supportive care consults by providing an on-site Palliative Care Nurse Practitioner May 2016, and proactively scheduling these visits to coincide with patient's clinical visit with provider. (b) Implementation of evidence-based NCCN referral trigger tool to be completed by all Hematology NP's beginning August '16 Evaluation Expanding access to services and using evidence-based screening tools for decision support can accelerate results and drive increases in volume. Consistent messaging to promote awareness and frequent data sharing with providers are both critical to successful practice change. Total OP supportive care consults increased from average of 4 per month (Q1 2016) to an average of 23.6 per month (Q4 2016), representing a 500% increase in OP referrals from Q1 2016 to Q4 2016. Continued monitoring of the use of referral trigger and supportive oncology referrals will be measured by: (a) Assessing impact of outpatient supportive oncology consults on key end-of-life quality and utilization metrics, including, but not limited to, hospitalizations, re-admissions, ED visits, and hospice utilization. (b) Utilize consults to initiate early patient discussions on advance care planning and end-of-life decisions. (c) Expand outpatient referral criteria all disease management groups (d) Institute supportive care referral process in the inpatient setting (e) Continue provider education to foster best practices in OCM initiative

## 128

### CHEMOTHERAPY TOXICITY RISK AMONG OLDER AMBULATORY CANCER PATIENTS: PREDICTION OF CLINICAL OUTCOMES

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Management of elderly cancer patients may reflect clinician best judgment rather than evidence-based care. Geriatric assessments may help determine treatment and predict outcomes. Recently, tools have been developed to screen for chemotherapy (CTX) toxicity in geriatric patients. It is unknown whether these tools can predict common problems such as falls, and post-infusion emergency visits or hospitalizations. The study purpose is to determine, among ambulatory

oncology patients 65+ years receiving CTX, whether levels on the Chemotherapy Toxicity Prediction Tool (CTPT) are associated with the following within 30 days of CTX initiation: falls, emergency visits, hospital admissions. This ongoing correlational study is set in a southwestern outpatient infusion center. Up to 300 patients are sought (start date: 5-15-2017). The web-based Risk Calculator (CTPT) assesses likelihood of severe CTX-related side effects in older adults with cancer. Developed using geriatric patients receiving outpatient chemotherapy for heterogeneous cancers in multiple sites, CTPT captures pre-chemotherapy sociodemographics, tumor/treatment variables, labs, and geriatric variables (e.g., function, comorbidity, cognition); it predicts CTX toxicity better than Karnofsky performance scores. The association of CTX toxicity risk level (low/medium/high) and falls in the infusion center or outside (yes/no), and receipt of emergency care or hospitalization (yes/no) will be evaluated using Chi-square analysis. Data collection is ongoing. Early Results. In mid-August, 39 patients with completed follow-up had average age of 74 (range 65–87) and CTPT scores 2 to 19 (mean 8). One death and no falls were reported. Of 6 patients who reported receiving emergency or hospital care, four had high risk CTPT scores (36%) compared to 11% medium and 0 low scores,  $X^2(2) = 5.49, p = .064$ . Four of those receiving such care received biologics in addition to CTX. These preliminary results indicate that high CTPT scores may predict higher care utilization in geriatric cancer patients who receive chemotherapy, and especially those who receive adjunct biologics. No substantive conclusions can be drawn until the study is completed, but if final results support these, patients who have high risk CTPT scores should be followed closely once they complete CTX infusions in ambulatory care settings, especially if they receive biologics; this may or may not prevent emergency care and hospitalizations. Future studies using the CTPT are warranted.

## 129

### THE ROLE OF THE ONCOLOGY NURSE IN CARING FOR THE PSYCHOSOCIAL NEEDS OF PATIENT WITH GATA2 DEFICIENCY RECEIVING HEMATOPOIETIC STEM CELL TRANSPLANTATION

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GATA2 deficiency is an autosomal dominant genetic disease caused by various mutations in the GATA2 gene. GATA2 is a protein that turns genes off and on

and directs activities of many cells, including immune cells. Expression of the disease varies widely in presentation, onset and outcome with some patients prone to infections and the development of myelodysplastic syndrome (MDS), acute or chronic leukemia's, lymphedema, and pulmonary alveolar proteinosis. The most promising treatment for this chronic disease is experimental hematopoietic stem cell transplant (HSCT). This treatment carries high risks for complications both physically and psychosocially. With the prominence of psychosocial issues in patients with GATA2 deficiency treated with HSCT, it is vital that the oncology nurse caring for a patient with GATA2 deficiency recognize and implement the necessary psychosocial nursing interventions. In this case study we follow a 32 year old female with hypoplastic MDS with trisomy 8, recurrent pulmonary infections, post-traumatic stress disorder, anxiety, and warts who is diagnosed with GATA2 deficiency after chronic symptoms for 11 years. This patient undergoes a 10/10 Matched Unrelated Donor (MUD) HSCT. The chronic nature of GATA2 deficiency produces many psychosocial issues for this patient throughout her HSCT treatment course including severe anxiety, social isolation, loss of autonomy, impaired body image, and caregiver role strain. Proper nursing care is crucial in supporting the psychosocial needs of the patient. Nurses are tasked with leading the patient's education on treatments, monitoring psychosocial well-being, and providing emotional support. In this case, it is important that the patient be involved in decision making, both medically and in her daily hospital routines. Nurses constantly assess her anxiety and offer anti-anxiety medications when necessary. A care giver schedule is created to ensure the patient has a support person close by at all times. Thanks in part to these interventions, the patient does extremely well with transplant both mentally and physically; she is discharged from inpatient to outpatient on day 27 post-transplant and able to return home on day 62 where she continues to be followed by her primary physician and psychiatrist. The results of this case study underscore the importance of proper psychosocial care by the nursing staff for patients undergoing HSCT for GATA2 deficiency.

### 130

#### IMPLEMENTATION OF A BONE MARROW TRANSPLANT ADMISSION CHECKLIST

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The purpose of this presentation is to create a Bone Marrow Transplant Admission checklist to address delays in patient care caused by incomplete and prolonged admissions. Admitting patients into the Inpatient Bone Marrow Transplant Unit (BMTU) is a complex process that includes an assessment of various components. The facility did not have a systematic process to ensure nurses address all the necessary components when admitting a patient to the BMTU. The facility recognized a need to address delays in patient care caused by incomplete and prolonged admissions. Problems included delays in labs, unidentified comorbidities, missing consents and physician orders. These incomplete and prolonged admissions caused delays in care including late administration of chemotherapy, late or missing medications, decreased patient satisfaction, delayed of transplants and postponed admissions. A literature review was conducted to investigate and understand the effects of using a checklist. A SWOT analysis was completed to assess the current workflow process for BMT admissions. Utilizing the plan-do-study-act model will test the change of the new workflow for admitting BMT patients. Completing a checklist is one solution to improve the admission process for BMT patients. The nurses and multidisciplinary team created a Bone Marrow Transplant Admission checklist to address delays in patient care caused by incomplete and prolonged admissions. Components incorporated in the checklist have many strengths to improve the admission process for BMT patients, which include the following: availability of stem cells; correct date of transplant; accurate height and weight verified by two Registered Nurses for chemotherapy dosing; and chemotherapy physician orders. The BMTU aims to improve admission process to reduce delays in care for our patient population. We expect to improve patient outcomes by ensuring all necessary steps and tasks for a complete admission are addressed, and all supporting documents are accounted for prior to treatment/transplant.

### 131

#### FEASIBILITY ANALYSIS OF EARLY DRUG DELIVERY

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In our outpatient infusion clinic, our goal is to deliver medications within 20 minutes of request; however, data collection showed that this happens approximately 45% of the time. It was determined that 90% of medications were delivered within 45 minutes of request, contributing to overall non-value added (NVA) time for the patient and the institution. Patient satisfaction, resource inefficiencies, and compromised safety are all downstream effects of long chemotherapy or drug delivery wait times. Current pharmacy licensing, billing, and operational hours impede early delivery and premixing of medications prior to the patient's arrival. Current practice requires a nursing assessment prior to chemotherapy and biotherapy drugs being requested. All medications require the patient to have arrived into treatment bay prior to drug being requested by the nurse. Drug delivery was identified as an area for improvement in NVA time. The purpose is to examine feasibility of early delivery workflows and decrease NVA time by 5% in the pilot group, measuring patient room time to start time of first infusion for predetermined medications. Examination of current workflows included: patient, nurse, pharmacy, and nursing assistant workflows and the influence on NVA. Staffing adjustments for the pilot were made to allow increased pharmacy resource utilization in earlier hours of operation. Data was collected to determine drugs with the least financial impact, single infusions, and low pre-assessment needs. We instituted a locked area where medications could be safely stored to meet medication security regulations. We educated pharmacy staff, nurses, and nursing assistant on the process, work flow changes, and ongoing lessons learned. Pilot measurements showed a 15–27% reduction in NVA time for pilot drugs. Biggest reduction was seen in the pre-mixed medications when compared to compounded medications. To expand the pilot, additional regulatory compliant storage and refrigeration will need to be created. Waste for medications increased related to non-workflows for returns of cancelled treatments. Additional drug considerations and waste workflows for phase 2 of pilot are being reviewed. Reduction in medication waste and implementation of workflows will be important for financial stewardship for the organization. Increasing patient satisfaction through

decrease in NVA time requires interdisciplinary collaboration to maintain regulatory, financial, and patient care needs.

### **132** **IMPROVING SAFETY AND PATIENT** **OUTCOMES ONE HANDOFF AT A TIME**

**Ellie Stull, MSN, RN, OCN®**, Nebraska Medicine, Omaha, NE; **Missy Kneifl, BSN, RN, OCN®**, Nebraska Medicine, Omaha, NE; **Katie Adams, BSN, RN**, Nebraska Medicine, Omaha, NE

Handoff at change of shift or between units has been cited as the primary source of sentinel events as far back as 1995. While processes to guide handoff communication existed, compliance was variable. To improve nursing handoff communication with every patient transition, a standardized process for systemic communication was developed. The goal was to promote patient-centered care and increase patient safety and quality outcomes for every patient with a focus on the plan of care and inclusion of the patient and/or family at the patient's bedside. A standardized electronic handoff tool was created to streamline the process for nursing handoff using the acronym ISHAPED: I=Introduce, S=Story, H=History, A=Assessment, P=Plan, E=Error Prevention, D=Dialogue. Feedback was solicited from staff nurses to make ISHAPED a meaningful tool for individual units. Initial evaluation of the tool revealed it contained irrelevant data and excess information. The tool was refined by unit based councils based on end user input. Initial pilot conducted on inpatient oncology unit (Oct 2015). Tool refined to increase compliance and hardwire process. Expanded to all inpatient units (Jan 2016). Utilized learnings from inpatient rollout and continued to refine tool to meet the needs in the outpatient setting. A pre-implementation survey of Infusion Center nurses revealed an opportunity to improve the information they received prior to assuming care of a patient. Departmental specific ISHAPED tools for outpatient settings implemented (May 2017). Developed electronic method to track compliance. Inpatient compliance rate at baseline was 70%. Hardwiring the use of ISHAPED was achieved by naming it a 'non-negotiable'. Thru coaching, corrective action when appropriate, staff feedback and daily audits, compliance has been maintained above 90% for 18 months. A method of measuring compliance in the outpatient setting is still being validated. The ISHAPED tool has allowed for errors to be discovered prior to harm reaching the patient. Errors found include: incorrect pump settings, inactivated

bed alarms and delayed central line dressing changes. Providing nurse to nurse handoff using a standardized tool has been shown to improve patient safety, increase patient and nurse satisfaction and improve nursing efficiency. Utilizing staff feedback to develop meaningful tools for each area resulted in greater staff buy in, safe patient care and enhanced communication.

**133**

### **INFORMED BY THE EXPERTS: PATIENT PRE-OPERATIVE EDUCATION**

**Susan Koch, RN, ASN, Roswell Park Cancer Institute, Buffalo, NY**

Evidence indicates that knowing what to expect during healthcare treatment diminishes anxiety and improves patient engagement in care. For patients with early stage non-small cell lung cancer (NSCLC), surgery is proven to be the most effective treatment. The thoracic outpatient clinic nurses provide pre-operative patient education to prepare the patient for surgery and to reduce preoperative anxiety and post-operative complications. One nurse transferred from the inpatient intermediate care unit (IMCU), where thoracic surgery patient recovery occurs, to the outpatient thoracic clinic. She noted that the amount of time and content of the pre-operative education provided to the patient with NSCLC was incomplete and not uniform. The purpose of this project is to provide complete and consistent pre-operative education to patients scheduled for thoracic surgeries. The nurse that transferred from the IMCU sought assistance from the outpatient clinic nurse manager regarding the inconsistent education. A meeting was scheduled to review the problem and discuss potential solutions with the nurse manager, nursing education, and media consultant. The team decided that the best solution was to create patient education videos with input from the nurse that transferred from the IMCU to assure accurate and up-to-date content. Video content included information to help the patient understand what to expect the day of surgery, the immediate post-operative period as well as up to discharge. The videos will be available on the hospital's YouTube channel and on personal viewing devices that will be available during office visits. Anticipated outcomes to be assessed will consist of changes in postoperative thoracic patient anxiety, time in IMCU, and Press Ganey Patient Satisfaction scores for "Treatment plan explained in your words?" and "Educational materials provided?" As nurses transfer from different areas of the institute their previous knowledge and experience working with patient populations should be utilized

in patient education materials. The education materials should be in a medium that is appropriate for a majority of the patient population and their caregivers. By utilizing this process of patient pre-operative education, nurses can ensure that all patients are uniformly receiving the same information. Improved patient education outcomes are anticipated due to education accuracy and uniformity.

**134**

### **IMPLEMENTATION OF AN EVIDENCE-BASED CENTRAL LINE MAINTENANCE BUNDLE ON AN ONCOLOGY UNIT**

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Central line associated blood stream infections (CLABSIs) are a significant problem for oncology patients due to their negative impact on morbidity and mortality. Patients with a CLABSI are twice as likely to die as infection-free patients. Substantial financial risk of CLABSI exists in terms of lack of reimbursement and penalties enacted as part of the Center for Medicare and Medicaid Services (CMS) value-based purchasing (VBP) program. CMS denies reimbursement for CLABSI, classifying this complication as a "never" event. The purpose of the pilot is to implement and evaluate a multi-element CLABSI maintenance bundle to include adoption of the Bard Allpoints™ central line dressing kit and competency-based training program, and daily use of chlorhexidine (CHG) skin or shower foam. Other bundle elements include standardizing dressing changes every two days for permeable dressings and every seven days for non-permeable dressings, IV tubing and cap changes on Mondays and Thursdays, the use of Curoc™ caps on all hubs and "scrub the hub" for five seconds with CHG prep pads. Quality improvement methodology was chosen for this 90-day pilot on a 17 bed hematology/oncology unit with a pre-implementation CLABSI rate of 3/1000 patient days. Bundle compliance audits are conducted each shift to monitor staff adherence. Blood culture surveillance is concurrent and positive blood cultures are identified as mucosal barrier injury (MBI) or non-MBI CLABSI according to the 2017 NHSN criteria. CLABSI rates during the pilot will be compared with historical data for the unit. The National Healthcare Safety Network (NHSN) set a benchmark of 1.2/1000 patient days. The pilot was implemented August 1, 2017 and will conclude October 31, 2017. Data

collection elements for the pilot include, 1) temporary versus tunneled line, 2) dressing type, 3) dressing date and time, 4) frequency of port needle change, 5) frequency of tubing and cap change, 6) compliance with every shift CHG dressing wipes, and 7) CLABSI and MBI-CLABSI occurrence. Results of the pilot will be analyzed and if favorable, the maintenance bundle and competency training will be adopted and disseminated to the other oncology units within the hospital system.

### 135 INFLUENZA VACCINATION IN THE ONCOLOGY PATIENT

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Patients undergoing chemotherapy or treatment for cancer are at a higher risk of acquiring infections, such as influenza. There are guidelines published that outline most appropriate timing of vaccination for oncology patients. Influenza vaccination for oncology patients at an Academic Medical Center/Comprehensive Cancer Center had dropped over course of prior 2 years. A workgroup formed to research current guidelines and propose revisions to existing policies, including revisions to a nurse-driven protocol and alerting system within an EMR to incorporate oncology-specific recommendations. The purpose was to improve influenza vaccination for the oncology patient and enhance nurses' knowledge of vaccination guidelines and empower nurses to act within nurse-driven protocol. A literature search was performed, referencing the NCCN, IDSA and CDC guidelines for appropriate timing of influenza vaccination for the oncology patient. Feedback from direct care nurses was obtained to prepare educational materials. Monitoring of vaccination compliance. Influenza vaccination compliance of eligible patients increased over the course of the flu season. Nurses' knowledge increased and expressed feelings of empowerment to vaccinate their patient at recommended times during course of oncology treatment. Through education of nurses about the most recent guidelines, including more information about the nurse-driven protocol, explaining the "why", patient flu

vaccination compliance increased. It is recommended from this work that guidelines and policy be thoroughly reviewed annually and that educational sessions be held to keep nurses informed of national recommendations. Use of Flu Ambassadors—those staff who were trained to administer flu vaccines to staff—to educate nurses one-on-one about the policy changes and recent guidelines was instrumental to our success.

### 136 NURSES LET GO OF THEIR GRIEF, ONE STEP AT A TIME

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Oncology nurses have among the highest level of burn out and compassion fatigue in the health care profession. On our unit, patients are seen for chemotherapy and supportive care for what can sometimes be years at a time. Our staff builds a rapport with patients and their families. When patients pass away, it takes a heavy, emotional toll on our staff; nurses express shock, grief and other emotions. A means to come together and express emotions in a supportive group environment did not exist. The goal of this project is to create an annual event to allow the nursing staff a safe and serene environment in which to express their emotions associated with the loss of their patients. The Remembrance Walk was coordinated with the Recruitment, Retention and Recognition Council at Memorial Sloan Kettering (MSK). We ordered t-shirts and flashlights for the walk. Donations were acquired for flowers, snacks and water. Each participant wore a t-shirt and carried a flower to represent the memory of a patient. The route was planned and approved by the City of New York and the Legal Department at MSK. The Inaugural Remembrance Walk took place on August 17th, 2017. There were over 110 participants. The event started with a short address and meditation by the head of chaplaincy. The route was 2 miles in length, started and finished at the main hospital and took place along the East River. Halfway through the walk, participants were allowed moments of silence, reflection and letting go as they gathered together by the water. Afterwards, positive comments were given verbally by numerous nurses. A survey will be sent for further feedback from all who registered for the walk as well. The Remembrance Walk brought with it a sense of community and support amongst the nurses at MSK. Nurses were able to address their grief in a supportive environment and receive acknowledgement of the various emotional hardships



that come with the work that we do. This walk can be implemented at any institution. Oncology nurses may greatly benefit from such an event. In the future, MSK is going to broaden this walk so that staff at regional locations will also participate.

**137**

### **MITIGATING SKIN IRRITATIONS WITH TUMOR TREATING FIELDS THERAPY IN GLIOBLASTOMA**

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Tumor treating fields (TTFields) are non-invasive, anti-mitotic low intensity, intermediate frequency (200 kHz), alternating electric fields. TTFields are the first FDA-approved therapy in over a decade to demonstrate survival advantage when combined with maintenance TMZ in newly diagnosed glioblastoma. TTFields are applied continuously (>18 hours/day) using a set of four transducer arrays placed on the patient's scalp. The main TTFields-related adverse event is mild-moderate dermatitis occurring under the arrays. Strategies that mitigate skin irritation may improve patients' quality of life, improve compliance and prevent treatment disruption. Four groups of skin care products—antiperspirants, moisturizing creams, topical antibiotics, and skin barriers—have been reported by patients and healthcare providers to help alleviate factors contributing to TTFields-related skin irritation. However, these products may not be compatible with TTFields and prevent the desired delivery of therapy. An animal study testing 40 commercially available skin care products from these four groups showed some but not all products produced a significant change in the impedance at the skin surface. Current clinical trials are evaluating the concomitant use of TTFields with a variety of immunomodulators. Skin irritation and rashes are known side effects of many immunomodulators, thus heightening the need to understand and prevent adverse events associated with this combined therapies. We tested products in the clinical setting to see if local application were compatible with TTFields and could help improve or prevent skin irritation and thereby improve compliance with treatment. In this study, TTFields (200kHz) will be applied to the scalp following the application of, but not removal of topical products that were shown in animal models not to interfere with the delivery of therapy. The temperature, resistance and compliance

over time will be evaluated. Skin care products that do not change impedance at the skin surface and may prevent/treat potential skin irritation associated with TTFields, are being studied, observed, and evaluated in the clinical setting. These results will help confirm that local application of skin care products compatible with TTFields could help improve or prevent skin irritation and thereby improve compliance with treatment allowing optimal delivery of TTFields for GBM.

**138**

### **DEVELOPMENT AND IMPLEMENTATION OF AN ORAL CHEMOTHERAPY TRACKING APPLICATION FOR THE MANAGEMENT OF PATIENTS RECEIVING ORAL ONCOLYTICS**

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The management of patients receiving oral oncolytics is an increasing challenge with over 70 approved therapies and more in clinical development. Tracking and management of patients on oral oncolytics is a challenge for healthcare providers. Poor communication and side effect management, in addition to loss of nursing presence in treatment, puts patients at risk for non-adherence. Informatics approaches have been utilized to assess adherence to oral medications and assist with patient navigation. In response to this challenge and in an effort to minimize patient non-adherence, UPMC Hillman Cancer Center (HCC) developed an Oral Chemotherapy Tracking Application (OrCA) to monitor patients receiving oral oncolytics. In September 2016, the HCC Application Development Group (ADG) was tasked with developing a custom application for users to actively monitor and track patients receiving oral oncolytics. The ADG and a nurse workgroup collaborated via weekly conference calls. OrCA was launched in March 2017. The application is integrated with HCCs electronic health record to pull some patient information into OrCA. OrCA tracks diagnosis, prescribing physician, drug, dose, start and stop dates, consent date, patient education, prior authorization, pharmacy, and primary insurance. In addition, an individualized treatment calendar is populated which includes labs, provider visits, and required oral chemotherapy documentation events such as days 1-5 and 10-14 patient questionnaires and oral chemotherapy care plans. Custom events can be added to individual

patient calendars. Group calendars capture patients in each office and can be further sorted by physician and calendar event. “To-do” lists can be printed to allow nurses to plan and complete upcoming tasks. Prior to OrCA, patients receiving oral oncolytic were manually tracked using excel spread sheets. OrCA is a concise, easy to use application that encompasses all areas of managing oral oncolytics. The application allows overall visualization of patients and patient specific information. OrCA allows for better communication between the financial counselors and nursing staff. Having this information provides greater ease in submitting prescriptions and refills as well as monitoring patient follow up. OrCA is not a legal portion of the patient’s electronic medical record therefore duplicate information must be documented in the patient’s electronic chart. This presents challenges in a busy office. Despite these challenges, OrCA has been effective in monitoring and tracking patients receiving oral oncolytics.

### 139

#### **REDUCING PATIENT FALLS WITH INJURY BY CHANGING NIGHT SHIFT WORKFLOW**

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Fall prevention continues to be a considerable challenge across many institutions. When patients sustain injury from a fall it leads to prolonged hospitalization and increased costs. Hematology oncology patients are at risk for serious injury from a fall due to their disease, treatment related complications and pancytopenia. In the inpatient hematology-oncology unit at a comprehensive oncology center, it was found that most fall-related injuries occurred on night shift. In addition, toileting was identified as the most common cause. As a result, evidence based strategies to redefine purposeful rounding was implemented to reduce falls and fall related injuries. The purpose is to demonstrate how a change in workflow decreased the incidence of falls and falls with injury on an inpatient hematology-oncology unit. In January 2017, in collaboration with the unit Nurse Leader and the Clinical

Nurse Specialist, nurses and patient care technicians (PCTs) engaged in formal discussions to determine how to actualize purposeful rounding. It was realized that re-prioritizing nurse and PCT responsibilities would ensure hourly proactive toileting for all patients. The new workflow included night nurses assuming all vital sign responsibilities, freeing PCTs to toilet patients on an hourly schedule. Any patient that refused, the PCT documented “o” in the patient’s record ensuring the nurse is aware when distributing medications or performing vital signs, to toilet the patient. Additionally, a night charge nurse role was created, where a nurse without a patient assignment, in addition to managing operational issues, ensures safe room assignments for high risk patients, obtains report from nurses that include a focus on fall risk concerns, and available to answer call bells and assist patients when the primary nurse and PCT are occupied. Finally, to ensure sustainability monthly falls data is reviewed with staff keep them apprised of performance. Pre-intervention the unit failed to meet external benchmarks in 2016 with an average of 3.71 falls and 1.41 falls with injury per 1000 patient days. After implementation, the unit has met the benchmark 1st and 2nd quarter of 2017 with an average of 2.57 falls and .27 falls with injury per 1000 patient days. Integrating the new workflow on other oncology units not only actualizes purposeful rounding but enhances patient safety.

### 140

#### **RAPID RESPONSE: EMPOWERING NURSES TO SAVE LIVES**

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Oncology patients are living longer, and therefore with more medical complications. These fragile oncology patients are often the subject of rapid response (RR) emergency events. RR is a potentially life-saving intervention that calls emergency support staff to the bedside of deteriorating patients. Unfortunately, clinical observation and literary review reflect that registered nurses (RNs) face barriers to initiating RR. A survey of inpatient medical-oncology RNs revealed that one-in-five nurses is “afraid to call a RR,” and 50% experience barriers to initiating a RR. The survey was expanded to RNs hospital-wide (n = 308), and the results coincided with baseline data: 72% reported “the doctor stated it was unnecessary (RN-MD pushback),” 45% admitted to a lack of knowledge/confidence (RN unsure if RR was appropriate), and

25% reported fear of criticism from peers. The purpose of this project was threefold: to empower nurses to overcome these identified barriers, to facilitate interdisciplinary communication, and to improve patient outcomes. A questionnaire surveyed RNs in three-month intervals. After collecting baseline data, the “Emergency Response Huddle” and “RR Badge Buddy” were created. The “Huddle” is now a hospital-wide standard that requires all key players to remain at the bedside for immediate debriefing after RR events. The “badge buddy” is an easily accessible outline of the RR protocol. It includes a vital signs trend chart and details the process of initiating a RR. Post-intervention surveys reflect an increase in nursing knowledge and confidence. 16.3% fewer nurses reported being “afraid to initiate a RR.” Overall barriers to initiating a RR also decreased by 8%. The “Huddle” is improving interdisciplinary collaboration, and evaluates the process’ strengths and weaknesses. Currently, the huddle form (n = 27) shows a 41% identification of barriers, down from 50%. On the Huddle form reports, RN-MD pushback remains the greatest barrier at 36%, down from 72%. In addition, 18% of RNs felt that patients should have been transferred to a higher level of care sooner to avoid the need for RR altogether. The “Badge Buddy” empowers nurses to be autonomous with RR initiation, and the “Emergency Response Huddle” decreases RN-reported barriers by fostering interdisciplinary communication. RR is a nurse-driven protocol that saves lives—it should not be under-utilized due the barriers of fear or RN-MD pushback.

## 141

### ALL HANDS ON DECK: AN ONCOLOGY PATIENT HAND HYGIENE PROJECT FOR INFECTION PREVENTION

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Hospital-acquired infections (HAIs) are potentially preventable adverse events that can lead to complications and even death. Central line bloodstream infections (CLABSIs) are one problematic type of infection among severely immunocompromised oncology patients. Hand hygiene is the single most

effective strategy for infection prevention. While considerable attention has been focused on healthcare worker hand hygiene, there are limited patient hand hygiene programs described in the literature. The purpose of this project was to increase patient adherence to hand hygiene practice to maximize the prevention of CLABSIs and other infections. A structured oncology nurse-led patient hand hygiene campaign was initiated in the inpatient oncology setting of an urban NCI designated cancer center. Laminated hand hygiene cards in English, Spanish and Chinese were placed in easily visible areas (television, bathroom) for all patient rooms. In addition, hand hygiene reminder signs were posted in strategic locations around the unit, including the family lounge, staff conference room and near all corridor sinks. Hand hygiene patient/caregiver education was incorporated in admission teaching with patients receiving bottles of alcohol based hand sanitizer and chlorhexidine bath wash. The unit had recently implemented Purposeful Hourly Rounding (PHR) which provided additional opportunities for nurses and unlicensed assistive personnel to reinforce hand hygiene education. Patient hand hygiene compliance was included in post-HAI interdisciplinary staff huddle reviews. Now in its first month, evaluation of the project will include a short knowledge questionnaire for patients and caregivers about hand hygiene to be completed at discharge. Observations of staff doing PHR will include a check of hand hygiene reminders. Patient education materials will be further based on feedback and the role of HAI data, including CLABSI rates, will be reviewed after the project has been in place for at least six months. The goal of promoting patient safety will be enhanced by the addition of a structured approach to patient hand hygiene and serve as a model for other patient care areas. Since HAI prevention is multifactorial, a focused approach to patient hand hygiene is a positive contribution to the organizational infection prevention program.

## 142

### PROCRASTINATION IS CANCER'S BREAST FRIEND: COMMUNITY OUTREACH WITHIN A HEALTHCARE SYSTEM

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Breast Cancer is the most commonly diagnosed cancer in women and the second most common cause of female cancer deaths in New York State. With early detection Breast Cancer is curable. Data provided by the St. Peter's Health Partners insurance carrier

indicated that less than 50% of females employed in the St. Peter's system participate in breast cancer screening. This prompted the Community Outreach Nurse to plan employee screening events in conjunction with the Breast Center staff with the objectives of increasing employee screening activities and reducing diagnosis at late stages. In the past year, two screening events have been held; one on a Saturday morning in February and one on an early Thursday evening in September, in order to accommodate all work shifts. One woman out of 77 participants was found to have early stage breast cancer. She transitioned through the process with Breast Nurse Navigator assistance. Publicity for the screening events was generated by the Community Outreach Nurse in the form of flyers distributed in multiple languages, mass emails to employees, attendance at department staff meetings, presence in busy hospital corridors during shift changes, and through peer to peer recruitment. Participants at each event were given a survey pertaining to their screening habits. Numbers of appointments made, kept, and surveys completed were tallied at the end of each event. Those with gaps in screening were queried as to the reasons why there was a lapse. 85% of appointment slots were filled and 100% of post-screening surveys were completed. Surveys revealed that current guidelines set by the American College of Radiology (ACR) and National Comprehensive Cancer Network (NCCN) were not being met by employees due to lack of convenient appointment times and work constraints. 97% of respondents stated that they would attend an event annually and that they would encourage colleagues to attend. In conclusion, the Employee Breast Screening Program was deemed to be successful and will continue. The data has been shared with Senior Managers with the ultimate goal of the creation of a company-wide policy of paid time off for cancer screenings. Additionally, this model will be used for the creation of future employee prostate, lung, colon, and skin cancer screening events.

### **143** **INVOLVING PATIENTS IN MEDITATIVE PRACTICES: RELIGIOUS CONCERNS AND NURSING IMPLICATIONS**

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Research on meditation and its application to diverse groups of patients with cancer has grown

exponentially in recent years. Studies have identified benefits for patients from meditation training such as improvements in self-regulation and symptom management, improved perceptions of general health, and an enhanced capacity to manage stressors. Via training in meditation, patients gain stronger nonjudgmental insight into their current experiences and become more open and accepting of internal mental and body states. However, given meditation practices association with Eastern spiritual practices such as Buddhism and yoga, patients may raise concerns about religious conflicts. Such concerns may impact patients' willingness to trust the researchers and reduce likelihood of study participation. The purpose is to describe standard practices that research recruiters and providers may use to improve clarity about meditative training in research and practice. In a study of 386 cancer patients, a protocol is being tested to address the concerns regarding meditation practices and religious beliefs. Based on an evaluation of existing literature, our team developed a protocol that includes talking points surrounding specific issues and questions participants may have. Topics include reflecting the specific goals of the study relative to psychological and physical wellness and symptom management, use of meditation in religious and spiritual practices and how the goals of the study differ, and the use of meditative practices to strengthen meaningful and valuable personal coping resources. Since initiation of the research protocol, both recruiters and interveners have identified satisfaction with having this information. Enrollment numbers in the study have increased in rural areas where patients were expressing the most concern. Participants with religious conflicts have responded well to consideration of the practices as training in synchronizing breath with purposeful gentle physical movements. As meditation training programs become increasingly prevalent as part of supportive care options for cancer patients, it is essential that protocols are in place to respond to patient concerns regarding conflicts with religious beliefs. Addressing these concerns proactively with open dialogue increases the opportunity for meeting enrollment targets while optimizing potential practice benefits to a wider range of patients with cancer.

### **144** **FERTILITY PRESERVATION: TIMING IS KEY! A MODEL ON HOW TO INCREASE AWARENESS IN OUTPATIENT ONCOLOGY**

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Fertility preservation is an important issue for cancer patients. Many cancer patients have not started or completed their families at time of diagnosis, want to be parents after treatment, and do not recall being told of the risk to fertility. For many cancer survivors, issues surrounding fertility have become one of their biggest challenges post treatment. Presenting patients with options for fertility preservation prior to treatment can often be done quickly without significant delay of treatment. For this reason, having the tools in place to promote fertility preservation and safe sexual practice amongst staff is imperative to providing patients with comprehensive cancer care. In an effort to improve knowledge and communication amongst adult outpatient oncology nurses, a group of four registered nurses from the office practice and chemotherapy settings came together with support from the institution's fertility nurse specialists. Our goal was to develop and execute a plan to educate and act as a unit-based resource to staff regarding fertility preservation options. We initially utilized a survey to identify the learning needs of the staff in a multi-unit outpatient setting. Based on these results, we created targeted presentations to educate the staff on fertility preservation options and safe sexual practice during treatment. A survey was sent out to all attendees following the presentation to assess changes in their knowledge and comfort with the material. Pre, post and longitudinal data will be presented. Feedback from the staff showed an overwhelming improvement in their comfort speaking with patients, knowledge of fertility issues, identifying those at risk, and better understanding of the referral process and timing of fertility preservation in relation to treatment. Increasing staff awareness regarding fertility preservation and safe sexual practice can lead to improved patient care around these issues and ultimately better patient outcomes with increased patient satisfaction. A comprehensive staff education, with "champions" embedded in the units can assist in these efforts. Our team plans semi-annual refresher lectures with post assessment surveys to look for long term retention of material. We also plan to train "fertility champions" in other areas of our large academic institution. This

model can be used broadly for nurses, as experts can be invaluable when faced with time sensitive, complex and unique patient scenarios.

## 145

### OWN YOUR LINE: ENGAGING PATIENTS WITH CENTRAL VENOUS LINE CARE

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According to the Centers for Disease Control and Prevention, over 30,100 central line-associated bloodstream infections (CLABSIs) still occur each year in acute care facilities across the United States. The oncology patient population is at greater risk for infections due to immunosuppression and chemotherapy-induced neutropenia. From May to October 2017, a 19-bed Medical Oncology Unit at a large academic medical center acquired 6 CLABSIs, which cost approximately \$45,000 per incident. Findings from audits suggest low compliance with daily Chlorhexidine Gluconate (CHG) showering/bathing and linen changes. The need for further education and line maintenance improvement, rather than insertion technique, is evident. The purpose of this project is to eliminate CLABSIs among oncology patients by posting signage at the bedside to serve as a visual cue on central line care for patients. The signage will also encourage members of the healthcare team to discuss the importance of central line care with patients. A sign is to be placed on the whiteboard in rooms with patients that have central lines. The sign consists of a weekly calendar check-off for CHG showering/bathing, linen changes, date of dressing change, and tips to reduce the risk of CLABSI during their hospital stay. Patients are educated to take initiative and accountability of their daily central line care. The healthcare team will also utilize the sign during bedside rounds. Quality data on CLABSI will be evaluated to measure effectiveness of the bedside signage. The goal of analyzing this data is to have zero CLABSIs on the unit. In addition, data collected from monthly CLABSI audits will measure compliance with CHG showering/bathing and linen changes. CLABSI is a preventable adverse event that often causes delays in treatment, prolongs length of stay, impacts quality of life, and may even lead to death. Oncology nurses play a key role in preventing hospital-acquired infections, with CLABSIs being one of the most challenging to overcome among immunocompromised patients. Implementing bedside signage will prompt patients

to be more vigilant of their central line and actively engaged in the efforts to reduce CLABSIs. Nurses will continue to educate patients on CLABSI prevention techniques as an integral part of their treatment plan.

**146**

### **THE EFFECTIVENESS OF SPIRITUALITY REMINISCENCE FOR IMPROVING HOPE OF POST-CHEMOTHERAPY BREAST CANCER WOMEN**

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In recent year, breast cancer jumped to women's first cancer. When women experience radical mastectomy and chemotherapy, they will have physical discomfort caused by medication side effect. Negative emotion such as: loss, hopeless will come. Difficult interpersonal relationship and lower hope status will come. The purpose was to explore the effect of the spiritual reminiscence group activities for breast cancer and post chemotherapy which is improve hope. A quasi-experimental two-group pre-and posttest design was used. Purposive sampling was used to recruit post mastectomy patients receiving chemotherapy. Total is 39 (19 in the experimental group and control group 20). Both groups filled Herth Hope Index Scale in the first and sixth week. The experimental group participated in one-hour, six-week, weekly spiritual reminiscence small group activities. Result data are analysis by generalized estimating equation analysis. Time of the correlation matrix effects controlled, and robust standard errors calculated significant. There are significant differences in Herth Hope Index Scale. This represents a six-week spiritual reminiscence small group activity is sufficient to produce good results in hope. The spiritual reminiscence small group activities can be a good reference of nursing intervention for breast cancer women after chemotherapy.

**147**

### **FEBRILE NEUTROPENIA: CLINICAL PRACTICE STANDARDIZATION ACROSS THE CONTINUUM OF CARE**

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Febrile neutropenia (FN), a serious complication of chemotherapy, can quickly progress to sepsis or septic shock with a 48% mortality rate. Therefore,

prompt identification and treatment is imperative. When patients who receive outpatient cancer treatments develop a fever while at home, they typically present to an emergency department (ED). The American Society of Clinical Oncology's Clinical Practice Guidelines recommend FN patients receive initial doses of antibiotics within one hour of ED triage. However, given the often busy and overcrowded ED's, there is a paucity of evidence on best practices to how best to implement these recommendations. Evidence was sought and appraised to answer the PICO question, "(P) In adult patients with cancer at high risk for febrile neutropenia who present to the emergency department with fever (I) what interventions (O) reduce time to antibiotic administration (TTA) and reduce ED length of stay?" The purpose of this project is to implement and evaluate an evidence-based FN bundle to change nursing practice in the treatment of adult patients with cancer who present to the ED with fever. The bundle includes nurse-driven standardized care sets and interventions to rapidly identify and triage patients with FN, decrease variability in practice and improve TTA. Outcome measures, after six months implementation, include TTA and length of ED stay. These will be compared to and analyzed using a six-month historical control group.

**148**

### **THE DEVELOPMENT AND FORMATIVE EVALUATION OF A COMMUNICATION AID TOOL TO IMPROVE PATIENT-CLINICIAN INTERACTIONS IN CANCER SYMPTOM MANAGEMENT**

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Symptom distress is one of the most troublesome experience that cancer patients suffer in clinical settings. Effective communication between patients and clinicians is regarded as an indispensable part during the process of symptom management. However, many patients behaved passively when communicating with clinicians because of patients' lack of knowledge and skills. An effort that facilitates patients to have an efficient interaction with physicians and nurses is necessary to make. This study aimed to develop a communication aid tool to improve cancer symptom management interactions between patients and clinicians; and to evaluate the usability of and satisfaction with the tool. Participants were recruited from

two medical wards of a cancer specialized hospital in Shanghai China. A communication aid tool for symptom management was developed based on patients' and clinicians' perception of symptom communication and information need which were identified in previous study. This aid tool presented the notion of patient participation in symptom management and symptom communication skills. Usability test were conducted by consulting from four doctors and four nurses in terms of the tool's content and format. Then the modified tool operated in an Ipad was tested with 50 patients to evaluate its time consuming, understanding and satisfaction. The interviewed doctors and nurse gave a high appraise to the tool and some of them suggested a few common symptoms to be involved in the tool and the way of aid tips presentation. Patients spent 5 minutes and 31 seconds in average (SD=51 seconds) on reading the modified communication aid. When using the tool, 20 patients asked 1-2 questions, mostly about the Ipad operation. 86% of the patients reported it was easy for them to understand the content. Over 90% of patients satisfied with the tool and thought it was helpful for them to understand their condition, cope with their symptoms. Most of the patients responded that the tool increased their confidence of communication with clinicians and encouraged them to ask questions. In this study the content and format of the communication aid tool was shown to be satisfying. This tool can be used to help patients communicate with their physicians and nurses in symptom management and its effects need to further tested in future studies.

## 149

### **PREPARING ACUITY BASED NURSE ASSIGNMENTS IN THE INFUSION CLINIC USING SPECIALIZED MEDICAL SOFTWARE (ACUITIES SOFTWARE)**

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The method of preparing nurse/patient assignments in an outpatient oncology clinic can be inefficient, posing a risk to patient safety. Variation in creating nurse assignments can lead to challenging nurse/patient ratios, unbalanced assignments, and increased workloads that place undue stress on nurses and put patients at greater risk for harm due to nurse overload. A balanced workload based on patient acuity can help to prevent negative outcomes. Literature reveals a high demand for a streamlined process to create nurse assignments in infusion clinics nationwide, yet there is lack of such a simplified tool. Implementation of an acuity-based software program will assist to

standardize nurse assignments of patients receiving complex treatment regimens and help to distribute resources more efficiently. This can help contribute to the safe administration of chemotherapy regimens, more evenly balance nurse/patient workloads, and improve patient safety outcomes. An acuity based software program has the capacity to more efficiently allocate nurse resources and provide the streamlined process of creating nurse assignments that is longed for nationwide in infusion clinics. A comprehensive literature review was conducted that revealed a need for a standardized model to create nurse assignments in Infusion Clinics. A software engineer was consulted to create a standardized software program that creates patient assignments that consider patient acuity, staffing, and clinic space. 25 nurses completed a survey using a Likert scale to measure ease and efficiency of software use, value, and benefit compared with the current method. Nurses were also asked to assess their current level of difficulty in making patient assignments. Additionally, use of the software to make assignments was compared to a nurse making a daily assignment without use of a standardized acuity tool over a period of 5 days. Survey results revealed that over 90% of nurses report that using Acuties software to prepare assignments was easier and more efficient than creating an assignment without an acuity tool. Using Acuties to prepare nurse assignments was more efficient at creating a balanced acuity than when nurses prepared assignments manually. Programs like Acuties that use technology to streamline nurse tasks are innovative and highly valued. Using the Acuties software program for creating nurse assignments has the potential to improve how nurse assignments are made in infusion clinics.

## 150

### **UTILIZATION OF A "SUPER AUDITOR" TO IMPROVE AUDIT ACCURACY AND IDENTIFY TRENDS**

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Audits are necessary for the ongoing monitoring and evaluation of quality nursing care. Documentation

audits are often complex and time consuming and may require in depth chart reviews. The information obtained from auditing is valuable; however the results are only reliable when the auditors are consistent in their methodology. The purpose was to improve the accuracy and consistency of a documentation audit by introducing the role of a “super auditor”. In April of 2014, the Ambulatory Nursing Quality and Safety Council created a task force to monitor compliance of a specific nursing documentation. Fourteen auditors reviewed approximately 250 charts monthly. After initial improvement in compliance, rates started to decrease in 2015. The assumption was that more staff education was needed, however as we probed further, we discovered that there were auditor inconsistencies that were contributing to the decreased compliance rates. A super auditor was designated to re-educate the auditors and perform a second review of the non compliant charts. The super auditor provided a unique perspective and was able to pick up on auditing misinterpretations. After the implementation of the super auditor role, we immediately noticed a sustained improvement of a three to five percent increase in compliance rate each month. In addition to picking up on auditing discrepancies, the super auditor continues to identify trends in auditing and documentation practices that enable us to target education, further improving compliance. In our experience, the introduction of a super auditor was a valuable investment for this audit which helped improve quality and confidence of our data. We were able to target education to the auditors and the nursing staff based on trends that would have not have been appreciated without the unique perspective of the super auditor. We are confident that we are acting upon reliable data and can focus efforts on the correct interventions. When conducting complex audits, the super auditor role contributes to the quality and accuracy of the data.

## 151

### **PENN PALS: A NOVEL WOMAN TO WOMAN APPROACH TO SUPPORT IN LIVING WITH AND AFTER GYNECOLOGICAL CANCER**

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Living with and after gynecological cancer (GYNCA) generates many intimate concerns. Challenging for many women, a typical ambulatory encounter

provides limited scope to address them. Alternations in sexual function and expression compound shifting understandings of womanhood. Emphasizing bio-medical approaches to such concerns may limit opportunities for self-care and personal growth. Small patient populations like those with GYNCA may make professional facilitated support groups unfeasible. Moreover, women with GYNCA may feel isolated in centers where they represent a small subsection of larger patient population. Using appreciative inquiry, we developed a peer-to-peer mentoring program for women living with and after GYNCA to achieve interdisciplinary aims to improve supportive care for these patients. The program, designed collaboratively with patients and a masters-prepared social worker (MSW)/advanced practice nurse (APN) team, addresses needs of cis-gendered women—those born female who identify as women—but is able to accommodate trans-men who were born female and identify as men who wish to participate. Called Penn Pals, this peer support program is patient driven. Those patients seeking a peer mentor determine specific characteristics like a diagnosis or shared faith to match them with their peer. The social worker introduces the Penn Pals pair, offering guidance on navigating the journey together, sharing insights, and communicating for support and empowerment. The women are encouraged to communicate in ways they find comfortable. The MSW remains a resource, primary contact for supportive care and referrals back to the APN as the peer-to-peer relationship evolves. After eight months of participatory planning, Penn Pals launched in April 2017. Four women, matched in two pairs, form the pilot cohort. They actively seek feedback from each other and the SW, expressing satisfaction with the program. The women mentored spontaneously express comfort with their peer mentors and relief at being able to understand better their care and see themselves in a more positive light. Limited resources often thwart goals to enhance supportive care. Peer-to-peer support effectively complements professional care. Peer support is particularly valuable to GYNCA patients, offering women-centered personal growth, learning from those who share experiences in cancer and life. Penn Pals provides innovative, co-created support for women living with and after GYNCA, emphasizing personal growth to balance bio-medically focused care.

## 152

### **CHEMOTHERAPY ADMINISTRATION. A SAFER APPROACH TO TRAINING NEW NURSES**



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All medication administrations, including chemotherapy, need to have a safe process. Inconsistencies in the educational process for training new chemotherapy nurses was discovered. For example, some nurses were receiving only part of the training, while others were receiving training months after the initial education. Our goal was to create a consistent process that every nurse would go through on their journey to becoming chemotherapy certified. The purpose was to develop a system-wide approach to the chemotherapy practicum that provides a safe learning environment, enhance clinical skills, validates competency, and assists with applying theory to practice. The AOCNS met with the leadership team and proposed the process for this new education. It would provide various types of education from classroom education, online computer ONS Chemotherapy/Biotherapy class, a skills portion for accessing ports, a computer based class teaching the computer charting, a simulation portion where nurses would have to simulate two patient scenarios demonstrating administration of chemotherapy, and then a hands-on practicum at our cancer centers. Each nurse received a folder prior to the beginning of this process explaining the various steps and a competency checklist that would serve as a working document throughout the process. Each nurse also received an evaluation form that divided out the various steps of this educational process, and as they went through the process they rated the various steps in how it increased their knowledge, and if they felt the educator met their needs. As participants completed the training the nurses stated an increase in their comfort level with chemotherapy administration. This was demonstrated by our first group of nineteen participants that completed this new educational process with eighteen of them scoring the highest level of increased knowledge and the importance of practicing in a simulation environment prior to patient exposure. This process demonstrated innovation in the fact that there were several various modalities that have been implemented for this education. Classroom, computer, skills lab, simulation and hands-on were all utilized to assist in successfully managing their way through this educational journey. This new process has now opened the door for many more simulations, such as anaphylactic reactions, extravasations and chemotherapy spills. There is also discussion of utilizing simulation as a yearly competency for all chemotherapy nurses.

153

### COMPLEX CARE COORDINATION: ONCOLOGY NURSING IN A MULTIDISCIPLINARY SKULL BASE CLINIC

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Patients diagnosed with skull base tumors such as pituitary lesions, sellar or nasopharyngeal lesions require complex coordination of care with multiple specialists and diagnostics analyses. We developed a multidisciplinary team approach to focus on patients with skull base tumors, optimizing collaborative practice resulting in efficient quality care. Our team includes oncology nurses, a neurosurgeon, head and neck surgeon, endocrinologist, administrative staff and social workers/case management all working together to provide a comprehensive coordinated patient focused approach. The nurse/patient-family relationship begins before the patient is seen at our comprehensive cancer center. The nurse reviews initial reports and does a complex needs and symptom assessment which helps the patient and caregiver gather and understand the essential components of work-up. This first step also provides psychosocial support to the patient and family and is an integral piece in streamlining care planning which will minimize wait time for specialty evaluation within our clinic. Often the need for referrals to other specialist such as neuro-ophthalmic for visual field testing, Interventional radiologist for petrosal sampling, radiation oncology and neuro-oncology can be coordinated in advance. Complex cases are discussed at our skull base tumor board (includes nurses, neurosurgeon, ENT surgeon, Radiologists, neuro-oncologist, radiation oncologist, interventional radiologist, endocrinologist and treatment recommendations are developed. Roles of the nurse in our skull based clinic include that of an educator, patient care provider, advocate, and facilitator. Patients frequently require office procedures such as biopsies, endoscopic evaluations, complex post-operative management such as debridement and irrigations. Patient education related to disease and treatment, endocrine laboratory abnormalities as with Cushing's disease, Acromegaly, SIADH, and Diabetes Insipidus is a fundamental component of nursing. Emotional support is also essential because of hormonal abnormalities causing changes in body features (broadening of nose or jaw, changes in shoe/ring sizes, discharge from nipples), fatigue and decreased libido. Common complaints such as

headaches, increased thirst and urination and visual changes are addressed and followed by nurses. A team approach, such as we developed, has been associated with improved clinical outcomes, opportunities for patients to participate in novel therapies and clinical trials, increased patient satisfaction and well-being, enhanced communication between providers, and the provision of quality educational and supportive care.

## 154

### **REDUCING CHEMOTHERAPY ERRORS: A LOOK AT EFFECTIVE INTERVENTIONS**

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The ASCO/ONS Chemotherapy Administration Safety Standards (2016) outline safe practices to minimize the risk of errors in chemotherapy ordering, preparation and administration. These standards serve as the basis for our institutional guidelines, however, chemotherapy-related errors continue to occur in our hospital. To address risk of errors within our academic medical center, a nursing/pharmacy workgroup collaboratively performs root cause analysis on all chemotherapy errors and develops strategies to prevent future errors. Despite these efforts, we experienced an increase in chemotherapy errors in 2016. The purpose of this multifaceted intervention was to reduce chemotherapy errors reaching the patient by 25%. Examination of event reports and current practices revealed inconsistencies associated with independent double-check processes and chemotherapy checklist use. Additionally, inadequate orders were not identified at initial nurse review and chemotherapy checks occurring at the nurses' station were subject to frequent distractions. Event reports indicated a pattern of errors involving leucovorin administration associated with high-dose methotrexate. To ensure pharmacy received complete orders per guidelines, two chemotherapy coordinator positions were created to review orders. A quiet, designated checking area "chemo bar" was established to eliminate distractions during the checking process. In recognition that many nurses were checking chemotherapy together rather than independently, practice using simulation during our annual chemotherapy competency validation was reviewed. Nurses demonstrated an independent double check and debriefing emphasized the importance of, and rationale for, appropriate checklist utilization. The high-dose methotrexate/leucovorin order was simplified with education delivered

via huddles and on-line learning. These interventions have reduced errors reaching the patient by 48%. Ongoing practice audits confirm most nurses (80%) are checking chemotherapy at the "chemo bar" and using the checklist properly. All nurses are utilizing an independent double check process. Ongoing education was required to address leucovorin errors that continued to be problematic despite changes to the order. Successful reduction in chemotherapy errors requires systematic evaluation of errors and clinical practice to identify improvement opportunities. Initial nurse order review led to order correction prior to patient arrival and the use of a quiet, designated chemotherapy checking area enhanced safety. We found simulation was effective for emphasizing independent double checks using a chemotherapy checklist. Complicated orders, however, require revisions and education to achieve correct administration and appreciation of the significance of potential toxicity.

## 155

### **BREAKING THE BARRIERS TO PATIENT CARE: FROM BREAST BIOPSY TO TREATMENT**

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Patients requiring a breast biopsy may experience stress, fear and confusion. The roles of the oncology nurse navigator and breast biopsy nurse coordinator are essential to patient satisfaction in the early stages of a breast cancer diagnosis and prompt treatment. This fact has propelled us to identify an appropriate pathway that a patient can easily navigate from abnormal breast imaging to treatment. The patient is typically given biopsy post care instructions and informed they will be receiving a follow up phone call with the results by the radiologist. A breast navigator is not always alerted, and some patients do not receive any support, or education about the next steps to their care. Patients are self scheduling with provider offices. Many patients are unsure of the next steps. This may compromise care. Thirty Bi-Rads 5 (an assessment category for breast imaging; highly suspicious for malignancy) patients will be identified in a large academic healthcare setting and will also be given the contact information for the breast biopsy nurse coordinator for scheduling the breast biopsy procedure. There are approximately ten to twelve patients with Bi-Rads 5 needing to be scheduled each month at the Perelman Center for Advanced Medicine

mammography department. At biopsy completion, the biopsy nurse coordinator provides discharge care and instructions. The patient is then informed of the oncology nurse navigator's role. The biopsy nurse coordinator alerts the nurse navigator, through the EMS-electronic medical record. The oncology nurse navigator will then follow up on all the patients through the EMS. All of the patients with positive pathology results will be contacted and the patient will be set up with the appropriate surgeon or provider by the oncology nurse navigator. To measure the effectiveness of the interventions, quality of care, and patient satisfaction, a questionnaire will be given at time of appointment with provider. Over the course of three months, we hope to capture 30 patients to connect with navigation and accelerate their access to care. The patients were given a survey to document level of satisfaction. These interventions address the early needs of a newly diagnosed patient. They break down the barriers to care. The patients are given support and education needed to make informed decisions on their care.

## 156

### CYBERKNIFE RADIATION FOR PROSTATE CANCER: THE ROLE OF THE RADIATION ONCOLOGY NURSE

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One in five American men will be diagnosed with Prostate cancer in their lifetime. It is the second leading cause of death from cancer in the US for men. In 2016, approximately 180,890 men were diagnosed with prostate cancer. With various treatment choices available for early/intermediate stage disease, the decision process can be overwhelming. One such choice is Cyberknife Robotic Radiosurgery, a precise form of radiation treatment delivering radiation to targeted areas, destroying tumors, while limiting dose to the surrounding tissues. For prostate patients, this precision allows for less treatment days (5 with Cyberknife, 25-40 with IMRT, EBRT), minimal side effects and less disruption in the patients daily life. Over 4280 patients have been treated with Cyberknife since 2005 at NYU Winthrop Hospital. Each visit, patient's complete The Expanded Prostate Cancer Index Composite (EPIC) questionnaire. This information is collected in a comprehensive data base

for tracking and trending urinary, bowel, hormonal and sexual functions. It has allowed us as a team to better identify most common patient side effect's so early interventions may be initiated. The psychosocial distress screening tools helps the nurses to better support our patients emotional, family, spiritual and financials concerns. These multidisciplinary tools along with our hands on nursing care have been received with positive feedback from our expanding patient cliental. As patient demand for Cyberknife has increased, the role of nursing in radiation oncology has also expanded. Implementation of nursing daily assessments along with screening tools has enabled nurses to identify potential risk factors, acute treatment related side effects and assess for psychosocial distress before, during and after completion of treatment. Continued quality improvement initiatives has led to the development of new pre-treatment patient educational packets, revision of treatment prep/diet, addition of psychosocial distress screening tools, and enhanced daily patient assessments. NYU Winthrop Cyberknife utilizes a multidisciplinary approach to each patient's treatment. The Radiation Oncology nurse is an integral member of this team. Utilizing patient assessment, intervention and communication between the entire Cyberknife team we provide patients with prompt management of side effects and psychosocial distress interventions leading to improved patient satisfaction.

## 157

### UTILIZING A MULTIDISCIPLINARY APPROACH TO DECREASE ERRORS RELATED TO HIGH-DOSE METHOTREXATE (HD-MTX) ON A HEMATOLOGY/ONCOLOGY INPATIENT UNIT

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Chemotherapy errors are the third most common medication error throughout the inpatient and outpatient settings at this large urban academic medical center. In 2015, there were 44 reported chemotherapy related errors on the oncology units; 9 of which involved regimens containing high-dose methotrexate (HD-MTX). Severe adverse outcomes for patients can occur when this regimen is not administered correctly, including bone marrow suppression, renal failure, and death. The goal of the project is to minimize errors related to high-dose methotrexate administration through multidisciplinary collaboration and promoting a culture of safety, while creating systems and prevention tools for the nurses. A multidisciplinary team of clinicians, nursing informatics, and

administrative leadership was assembled. A three-day performance improvement event was held in March 2016. Utilizing Lean methodology, attendees outlined the current process for administering HD-MTX, as well as the ideal future state. The team focused on initiatives that would have the greatest impact, such as regimen-specific education, and creation of a home-grown E-learning module on HD-MTX administration for new hires. Nurses also identified that the verbiage of electronic order sets for HD-MTX could lead to varying interpretations in how to administer this regimen. The team collaborated to create order sets with more easily understood language which were shared with both novice and seasoned nurses to ensure clear readability prior to implementation. In 2015 there was an average of 0.75 errors/month related to regimens involving HD-MTX. In the post intervention period of March–December 2016 the error rate was decreased to 0.55 errors/month. In 2017, the error rate has been further reduced to 0.3 errors/month. Ongoing monitoring is completed through use of audits. Overall, team members have verbalized better understanding of regimens containing HD-MTX. Oncology nurses have the ability to positively impact quality and safety of chemotherapy administration through multidisciplinary collaboration. The input of the front-line nurses is crucial to ensure a full understanding of the problem, and feasibility of potential solutions. It is imperative that teams have a forum to discuss errors comprehensively in order to improve medication error prevention. Work such as this ultimately helps the organization fulfill its goal of zero patient and employee harm.

## **158**

### **FEASIBILITY ANALYSIS OF SCALP COOLING IMPLEMENTATION FOLLOWING FDA APPROVAL**

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Breast cancer patients report alopecia as one of the most distressing adverse effects when undergoing chemotherapy treatment. A multi-site trial of scalp cooling devices, conducted December 2013 to September 2016, found the utilization of cooling cap technology

among women with stage I–II breast cancer receiving taxane and/or anthracycline chemotherapy, had less than 50% hair loss after the fourth chemotherapy treatment compared to those receiving no scalp cooling. On April 20, 2017, the FDA granted clearance for marketing Paxman cooling system in the US to help decrease alopecia during chemotherapy. Our comprehensive cancer center recognized the demand for this supportive therapy and need for efficient integration of the technology. The purpose was to design a feasibility evaluation for implementation of scalp cooling therapy in a high volume academic ambulatory oncology infusion center. Interventions: Determine patient/provider demand, attain administrative support, collect data for current volumes and future demand predictions, as well as evaluate different scalp cooling systems for their ease of use and efficacies. Collaboration between multiple interdisciplinary teams related to policy development, workflow management, multidisciplinary in-services, patient education, and internal and external marketing. Program points for evaluation include: resource impact on staff, bay utilization, and time; patient satisfaction related to results and ease of product use; service demand given out of pocket cost; and patient readiness for initiation of therapy after independent self-directed training. Initial training given to key stakeholders prior to organizational-wide training and policy development to ensure understanding of equipment, patient educational needs, and system workflows. Establish differences between implementation of devices in an academic organization versus community sites as well as create organizational and site-specific procedures. Bringing device approvals into clinical practice requires comprehensive care systems analysis to best support patients outcomes and staff engagement.

## **159**

### **ONCOLOGY NURSE NAVIGATION: EXAMINING A CORRELATION BETWEEN CASELOAD AND ACUITY**

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Patient acuity systems and risk stratification have been used in a variety of ways to assess the degree

of complexity for patient care and nursing workload. Tools have been used to budget time and resources more efficiently. However, there is limited reported research on the use of tools to stratify navigated cancer patients. An acuity tool may be beneficial in defining and identifying high risk populations which require more intense navigation services, as well as predict caseload and productivity. The goal was to develop an acuity tool to determine the level of complexity for navigated patients based on disease site. In addition, we examined the relationship between patient acuity and navigator caseload, seeking to determine if there were potential factors affecting productivity. Navigators completed the acuity tool at the end of each patient encounter. We used time and complexity to determine an acuity score ranging from 0 to 3. A score of 0 is defined as no need for navigation services. A score of 1-3 is based on increasing time spent due to multiple barriers and need for coordination of complex care. The scoring and categories were kept simple to ensure consistency among all navigators. Data was obtained by information entered in the data collection tool in Epic, over a 12 month period and analyzed for each disease-focused navigator. The data included average monthly caseload and average acuity. Overall, both were consistent throughout the observed timeframe. Acuity averaged 1.74 with a range of 1.36 to 2.29. The average quarterly caseload as a group was 76 patients with a range of 43 to 109 patients. Examining the data for our navigation team provided valuable information about acuity and caseload. Evaluation suggested that our navigation team was serving consistent numbers of patients throughout the 2016-2017 fiscal year. Head and neck and genitourinary patients consistently presented the highest average acuity (2.29), with the least caseload (43 patients). However this trend was not as strongly observed amongst other disease sites. This data also suggest that our team has reached maximum capacity regarding caseload. We identified many healthcare system barriers that, if eliminated, could impact caseload and/or acuity. Further evaluation is needed regarding role delineation and barriers in providing optimal navigation.

### **160** **IMPROVING ONCOLOGY INPATIENT ACCESS THROUGH REDUCTION OF INTRA-UNIT TRANSFER TIMES**

**Sarah Mason, RN, Lehigh Valley Health Network, Allentown, PA**

Hospital admissions continue to be on the rise, forcing hospitals to address capacity issues. Staff

within a 800-bed academic Magnet® hospital with high intra-unit transfer volumes, inclusive of a 20-bed medical-surgical hematology/oncology unit, noted opportunities to impact patient flow through improvements in intra-unit transfer times. In particular, there was no standard work associated with these transfers. Evidence has shown that standard work improves efficiencies. This poster details the standard work algorithm for intra-unit transfers, as well as strategies for success and tactics to address barriers encountered. An interprofessional team was formed, consisting of representatives from medical-surgical and critical care units, bed management and patient transport; a coach skilled in lean methodology assured evidence associated with standard work and patient flow was reviewed, considered and incorporated into solutions. Intra-unit transfer time is defined as “the time it takes from when a patient is assigned a clean bed on another unit until that patient occupies that bed.” A standard work algorithm was developed, including specific actions, time frames and responsible persons, and implemented during December, 2015. During the six months pre-interventions, hospital-wide monthly transfer times ranged from 86 to 107 minutes. The range post-interventions, January 2016 through the present, is 61 to 71 minutes. The hematology/oncology unit average unit intra-unit transfer pull time for fiscal year (FY) 16 (pre-standard work) was 68.3 minutes and for FY17 (post-standard work) was 57.1 minutes. Success is attributed to development of the standard work algorithm and accountability through inclusion of an incentivized goal for management and clinical nurses to decrease intra-unit transfer time, evaluated at the time of annual performance appraisal. Presentation content is applicable to oncology nurses in any acute health care setting that has opportunities to improve capacity through efficient intra-unit transfers, thus enhancing the oncology patient experience.

### **161** **COLLABORATION OF OUTPATIENT AND INPATIENT NURSING STAFF REGARDING ORIENTATION, SKILL VALIDATION AND COMPETENCY FOR SAFE ADMINISTRATION OF CHEMOTHERAPY**

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Currently oncology patients are treated on a Medical unit, with chemotherapy competent nursing staff. In preparation of inpatient oncology growth, we worked

with our inpatient leadership to develop an educational, orientation and skill competency validations for all inpatient staff members. The purpose was to develop an educational, orientation and skill competency validation tool for all inpatient staff members. In collaboration with nursing leadership of the Inpatient Medical unit, the outpatient Oncology unit developed an educational, orientation and skill competency validation program for all inpatient nursing staff members to complete. The education included classroom attendance for New to Oncology and Disease Management, as well as, online computer modules. Once completed, the inpatient staff members orientated with outpatient nursing staff for “hands on” patient care, consisting of port access and administration of chemotherapy agents—irritants and vesicant medications, IV push medications, IVPB medications, drug calculations, evaluation of lab results, just to name a few. Outpatient nursing staff would provide resource support for the inpatient medical unit. All inpatient nurses would be required to complete the online Oncology Nursing Society Chemotherapy and Biotherapy Administration course within 6–9 months of entering the education process. All inpatient nursing staff are required to rotate through the outpatient unit every 3 months for additional training and to enhance their skills and competencies. Inpatient nursing staff are required to attend the annual skill competency validation day held within the outpatient unit. Within the first 6 months the inpatient medical unit staff member’s competency grew from three nurses to 10 nurses deemed competent to administer chemotherapy. As the inpatient unit continues to grow, discussions are centered on improving the educational process and skill competency validations to include new staff members upon hire date. In-services are provided, as needed, to inpatient staff members on new drugs and disease management.

## 162

### **DEVELOPMENT AND IMPLEMENTATION OF AN EVIDENCE BASED PRACTICE VENOUS ASSESSMENT TOOL TO IMPROVE PATIENT OUTCOMES DURING CHEMOTHERAPY ADMINISTRATION**

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**Cancer Institute, Boston, MA; Nancy Hilton, RN, MS, Dana Farber Cancer Institute, Boston, MA**

Adequate stable venous access is essential for safe administration of anti-neoplastic agents. The decision about the type of venous access requires consideration of patient specific physical characteristics, the type of neoplastic agents and duration of treatment plan. An objective venous assessment tool (VAT) can improve patient, nurse and clinician communication and decision making regarding vein preservation. Proactive assessment will identify patients at risk to reduce vein deterioration and risk of extravasation. The purpose was to develop an objective physical and treatment specific oncology vein assessment tool to assist patient specific venous access decision making. Variation in decision making for type of vascular access led to development of a nursing committee focused on improving vascular access for oncology patients at an NCI designated outpatient cancer center. The aim of the committee was to establish best practice for venous access based on professional evidence based standards and guidelines for chemotherapy administration. A literature search provided a vein assessment tool by Wells (2008) based on patient physical characteristics. The tool was piloted but responses between raters were not consistent. The VAT was redesigned to incorporate the Infusion Nursing Society Infusion Therapy Device Selection Tool. The INS tool considers factors such as; infusate properties, therapy duration and type of device. The improved VAT combined the physical factors such as skin integrity, anatomical vein assessments and interventions required for vein visibility to provide a comprehensive physical and treatment risk assessment tool. Nurses found the tool easily to complete. Providers value the objective assessment. The tool facilitated communication with provider and patient recognizing nursing clinical expertise in access recommendations. Safe administration of anti-neoplastic agents requires collaborative interdisciplinary communication between nurses, providers and patients. The Oncology Venous Assessment tool supports nursing practice providing objective evaluation of patient characteristics and treatment risk to improve safe anti-neoplastic drug administration. The tool facilitates communication with provider and patient recognizing nursing clinical expertise in access recommendations. An oncology specific venous assessment tool provides objective data of patient specific physical and treatment related risks to assist decision making for vascular access for safe chemotherapy administration.

163

### GENOMIC TESTING AND TIMELY TREATMENT FOR BREAST CANCER—QUALITY IMPROVEMENT PROJECT

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The American Cancer Society (ACS) estimates 231,840 new cases of invasive breast cancer will be diagnosed in 2015. Along with the diagnosis of breast cancer comes many decisions regarding to treatment options. The American College of Surgeons' Commission on Cancer (CoC) and the National Accreditation Program for Breast Centers (NAPBC) recommend that patients be evaluated and treated in compliance with evidence based guidelines such as those set forth by the National Comprehensive Cancer Network (NCCN). Oncotype DX is a multigene assay that provides prognostic information regarding 10-year distant recurrence and predicts the likelihood of benefit of adjuvant chemotherapy for women with early stage, estrogen receptor positive (ER+), Her2Neu negative breast cancer. Utilization of Oncotype DX has consistently resulted in a significant reduction in the number of patients who are prescribed chemotherapy. In addition, this test can identify a smaller subset of patients who would benefit from chemotherapy among patients who would otherwise receive endocrine therapy alone. The purpose of this quality improvement project was to define best practices for identifying appropriate patients, and improve timeliness of test ordering and result reporting. An interdisciplinary team of surgeons, radiologists, medical oncologists and nurses agreed that the registered nurse (RN) navigator would be the key person to facilitate timely access to genomic profiling. The Advanced Practice Nurse (APN)-RN Navigator practice model was developed and implemented which improved the overall process.

164

### PRACTICAL CONSIDERATIONS IN TREATING PATIENTS WITH MYELODYSPLASTIC SYNDROMES AND IRON OVERLOAD

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Iron overload (IO) is common in myelodysplastic syndromes (MDS) due to chronic blood transfusions and disease-related alterations in iron metabolism. Adherence to iron chelation therapy (ICT) resulting

in lower serum ferritin (SF) in patients with IO is associated with improved organ function, extended survival, and possible delayed progression to acute myeloid leukemia in patients with MDS. Options for ICT include once-daily deferasirox dispersible tablet (DT) with an established safety and efficacy profile, but adherence due to tolerability and palatability may not be ideal. A film-coated tablet (FCT) and a sprinkle formulation containing the same active ingredient as DT have recently been approved. In the ECLIPSE trial, patients with very low-, low-, or intermediate-risk MDS had comparable FCT and DT safety profiles. Those who received FCT had fewer gastrointestinal adverse events (AEs) and better compliance. They also remained on therapy longer and sustained greater SF reduction. Best practices to optimize patient adherence to ICT will be described. A treatment pathway for patients with MDS and IO starts with identification of appropriate candidates for ICT. MDS risk, comorbidities, and organ function determine the suitability for ICT. Patient education by physicians, advanced practitioners, and nurse navigators focuses on IO and complications, ICT options and AEs, and the importance of adherence to achieve maximum benefit. In patients with prior ICT experience, AEs incurred are assessed, and clinical choices include using an alternate ICT or transitioning from deferasirox DT to FCT. Transitioning to the deferasirox FCT formulation is simple and usually begins at prescription renewal. Because FCT has greater bioavailability than DT, the recommended dose of FCT is ~30% lower than that of DT, rounded to the nearest whole tablet. Patient education includes any changes made to ICT therapy and revisions for administration. Monitoring response to ICT occurs every 3-6 months by measuring SF; AEs are assessed at every visit, and organ function monitored as per established guidelines. Dose adjustments based on response, tolerability, and organ function are made as clinically indicated. Treatment pathways for managing MDS patients with IO involve the patient and the entire clinical team. Established institutional guidelines to determine optimal ICT may improve adherence, thereby leading to a greater reduction in SF, as well as improved outcomes overall.

165

### IMPLEMENTING PATIENT CARE COORDINATION ROUNDS TO PROMOTE PATIENT-CENTERED CARE

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The cancer program at the University Medical Center of Princeton is accredited by the American College of Surgeons Commission on Cancer (ACoS CoC) and provides oncology care following the standards to deliver patient-centered care. Oncology treatment is provided at the Matthews Center for Cancer Care. The Cancer Care Team (CCT) recognized that oncology care was being delivered in three distinct physical areas with no opportunity for face-to-face communication between team members. Additionally, each treating area documented in a separate electronic medical record (EMR); CCT members communicated primarily via email, usually not in real time unless a patient emergency existed. Antidotal responses from CCT members identified that these communication barriers prevented interdisciplinary/multidisciplinary team discussion regarding patient goals-of-care, a tenet of patient-centered care. To address these communication barriers, weekly patient care coordination rounds were created and piloted for six months. The objectives were to establishing patient goals-of-care for all patients with input from the entire team, discuss relevant social/financial/nutritional issues, coordinate concurrent treatment schedules between departments, stimulate referrals to support services/palliative care, and improve overall team communication. Each week, for 60 minutes, the CCT met face-to-face; the medical oncology practice and radiation oncology nurses created a list of prospective and treating patients. The list was presented to the CCT: the medical oncology practice nurse, radiation oncology nurse, oncology nurse navigator, survivorship coordinator, social worker, registered dietitian, oncology pharmacist, outpatient infusion nurse, medical oncologist(s) and palliative care physician. Discussion points and treatment plans were documented on a spread sheet and are accessible to the team. At the conclusion of the six month pilot, all members of the team were asked to complete an evaluation. A 100% response rate revealed that all participants agreed that we met our objectives. During the pilot, the CCT shorten the meeting time to 30 minutes by keeping focused on the objectives and limiting offshoot discussions. Patient Care Coordination Rounds have

positively impacted patient-centered care by improving communication across the interdisciplinary/multidisciplinary care team and allowing for all CCT members to be aware of issues outside of the medical condition that affect patient outcomes. Palliative care, a new support service at the start of care rounds, has seen a steady increase in referrals and there has been a reduction in patient scheduling errors.

## **166** **HARM REDUCTION GUIDELINE DEVELOPMENT AND IMPLEMENTATION FOR SUBSTANCE MISUSE, ABUSE OR DIVERSION AMONG ONCOLOGY PATIENTS: A MULTIDISCIPLINARY TEAM APPROACH**

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Substance misuse, abuse and diversion in the oncology population are not well understood and the extent of the problem not well characterized. Misuse and abuse of both prescription medications and illegal substances may significantly compromise the ability of healthcare professionals to deliver high quality cancer care. Patients may present with current or past history of a substance use disorder, and/or develop these problems during treatment of their malignancy, which may interfere with achieving optimal outcomes. The purpose was to form a multidisciplinary workgroup focused on devising strategies/interventions to reduce harm from substance misuse, abuse or diversion among oncology patients at a large cancer hospital. The multidisciplinary workgroup developed a systematic screening process to characterize the extent of patient reported substance misuse/abuse. Simultaneously an action plan was created focusing on harm reduction guidelines for oncology patients with substance use issues. This work group met monthly and included an ambulatory nurse practitioner, pharmacist, social workers, patient care resource managers (registered nurses), and an inpatient nurse practitioner. Additional resources regularly consulted included hematology physicians, pain management, and addiction medicine. A screening tool utilizing the National Institute



on Drug Abuse's (NIDA) NIDA-modified ASSIST was constructed and trialled over six months within two ambulatory lymphoma clinics. Concurrently harm reduction and risk management strategies were identified and recommendations created. A health behaviour counsellor position was conceived with the goal of ensuring completion of cancer care through expert psychosocial and clinical support. The counsellor will assist with piloting the systematic implementation of the screening process and recommendations in early 2018. Unfortunately cancer patients are not excluded from the public health crisis of substance misuse/abuse. Addiction is a disease, not a character flaw; these patients are more challenging to effectively treat due to complex malignancy/chemotherapy related issues in addition to noncompliance/adherence. Serious complications, such as infections, may occur if strategies for reducing patient harm are not implemented in at risk patients. Nursing is in a unique position to positively impact the management of oncology patients affected by substance misuse/abuse issues. Nurses are able to lead the interprofessional collaboration required to achieve optimal outcomes for this complex population. Little has been published on how to successfully address substance misuse/abuse issues in the oncology population.

## 167

### THE PRIME DILEMMA: OPTIMIZING SMALL-VOLUME INFUSIONS WITH SHORT-SET TUBING

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There is much debate and variation regarding the practices of using primary versus secondary tubing for small volume chemotherapy and biotherapy medications (<250ml) via an infusion pump. Per Oncology Nursing Society community discussion boards, this is a common practice question. A barrier to using primary tubing leads to significant drug loss in the line and requires a flush bag to adequately deliver the entire dose. Use of secondary tubing requires under programming of the volume-to-be-infused to alert the nurse when the volume is near completion. This is done to ensure nursing presence before the secondary line empties to avoid pulling air into the primary line while the primary line is clamped. The purpose was to find a solution to enhance nursing workflow, patient safety, proper drug delivery, and decrease hazardous drug exposure. A short-set tubing was found to be available, which would allow for the entire

infusion of small drug volume. Collaborating with pharmacy administration, nursing infusion leaders advocated for the use of short-set tubing. Seventeen small volume medications were chosen, based on specific criteria, to transition to the short-set tubing. This impacted seven ambulatory infusion areas within a large comprehensive cancer center, averaging 5,000 infusion visits a month. Focused nursing education was provided to each area. There was an overwhelming positive response from nursing staff regarding the use of short-set tubing with small volume infusions. Infusion nurses found the tubing easy to use, safe and saved time. The financial impact of this change will be presented. The transition from the previous workflow to short-set tubing was perceived as seamless. Nursing feedback included requests for transitioning more medications to short-set tubing and having short-set tubing available for use with small volume electrolytes and common medications such as aprepitant and zoledronic acid. This change enabled nurses to create a more efficient workflow and ultimately save time. Use of short-set tubing has enhanced nursing workflow and eliminated waste of small volume medications. This ensures the delivery of the entire dose of medication without additional manipulation to clear the line. Short-set tubing could be more widely used to improve nursing workflow of other infusions that may not meet the small volume criteria.

## 168

### EXPANDING, IMPLEMENTING AND EVALUATING A SUSTAINABLE SHARPS SAFETY QUALITY PROJECT CANCER CENTER WIDE

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The purpose was to broaden and expand a unit based quality improvement project from an individual intervention to a system-wide program that increases safety for all staff of an NCI Designated ambulatory cancer center. In 2014, a single-unit quality project was implemented to reduce sharps injuries within a comprehensive cancer center. The project was successful in reducing the unit's injuries to zero within the calendar year. In 2016, analysis revealed, an increase in sharp injuries in areas other than where the new curriculum had been implemented. This presented an opportunity to create a center wide sustainable curriculum to be implemented comprehensively to reduce sharp injuries. Sharps injury baseline data 2014-2016 was collected and analyzed. Clinical units with higher sharps injury incidence were selected to initiate the new "Train the Trainer" curriculum.

Evaluation data points included incidents of injury, individuals' injuries by job title, years of employment, type of device involved in the injury and clinical unit specialty. Teams on each unit were formed to mobilize "Train the Trainer," to all staff. A pre and post assessment of individuals' knowledge and comfort was done with each educational encounter. The one-on-one "Train the Trainer" was individually executed to each employee and included a re-demonstration to reinforce correct technique. A competency quality program developed within a single unit was successfully translated across all cancer center clinical areas. Program implementations included teaching to each unique clinical area, engagement and training of all staff and focused on-boarding of new hires. "Train the Trainer" peer principals were integral to the successful decrease in sharp related injuries. The use of interdisciplinary teams throughout the cancer center utilized the principles of standardized work flow to assure consistency. Data are monitored quarterly to track incidence and identify program changes as needed to assure continued safety and success of prevention of sharp injuries. The new curriculum has now become a standard quality competency mandated in staff orientation and renewed annually for all staff. Safety and quality curriculums are dependent on staff engagement; ongoing monitoring and continual assessments. Clinical sharps injury prevention is an important metric of safety on the National Quality Dashboard and our NCI ambulatory cancer center's safety and quality dashboard.

**169**

### **IMPROVING CANCER CARE MANAGEMENT THROUGH EARLY RECOGNITION AND TREATMENT OF CHEMOTHERAPY AND BIOTHERAPY ASSOCIATED HYPERSENSITIVITY REACTIONS**

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Cancer therapies such as chemotherapy and biotherapy have the potential to cause hypersensitivity reactions (HSRs). Hypersensitivity and anaphylactic reactions can be triggered by the therapeutic agent, the diluent, or the solution. The general incidence of HSRs is 5%, but the incidence for some agents is much higher. Immediate interventions are necessary to prevent progression of symptoms, more reactions, and delays in care. Through case review, it was identified that improper management and significant delays in treatment of HSR led to hospitalizations and transfers to the intensive care throughout the facility. The

purpose of this project is to improve patient care by providing immediate interventions for patients who experience a HSR through nursing education and implementation of a standardized procedure. The interventions were led by an Oncology Certified Clinical Nurse Specialist in a 528 bed community hospital. A comprehensive literature review was conducted to establish best practices for treatment of HSR. A standardized procedure was created by a multidisciplinary team based on findings. 45 nurses from both the Out-Patient Infusion Center and Inpatient Oncology unit attended a 60 minute classroom based program on care and management of patients with a HSR. Curriculum included lecture based on the resources from the Oncology Nursing Society's Educator Resource Center, case study review, post-test, and a practicum simulation. All nurses were required to pass the post-test at a rate of 100% and complete a competency assessment. Chart audits were conducted to evaluate compliance to the standardized procedure which yielded a 50% increase in the number of patients that were treated for a HSR per the evidenced based guidelines. In addition, there were no acute hospitalizations related treatment delays from a hypersensitivity reaction. Many of the post-intervention fall-outs were related to omission of H2-blocker for moderate and severe reactions. Currently the H2-blocker is the only medication included in the standardized procedure that is not listed on order sets used to order chemotherapy and biotherapy. If the registered nurse does not use the electronic standardized procedure, the H2-blocker is often not administered. The chemotherapy and biotherapy order sets are currently being revised in an effort to close this gap.

**170**

### **PALLIATIVE CARE REFERRAL TRENDS IN HOSPITALIZED HEME/ONC PATIENTS**

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Patients with hematologic malignancies (HM) are less likely to receive palliative care consults than patients with solid tumor malignancies. The HM palliative care consults, when ordered, occur later on in the disease trajectory which decreases scale of potential benefit for HM patients. The National Institute for Clinical Excellence (NICE) and World Health Organization (WHO) recommend palliative care referral upon initial diagnosis. Research indicates that patients with HM are more likely to die in the hospital than patients with solid tumor malignancies. Symptom burden and psychosocial needs are similar in both populations.

Palliative care offers patients improved symptom control, reduced incidence of complications, and improved psychosocial outcomes. Palliative care consults support patients and their families' responses to a cancer diagnosis as well enhance staff efforts in complex patient care management. The purpose was to examine trends of palliative care referrals of liquid tumor patients at a large comprehensive academic cancer center. This study is a retrospective chart review of HM patients who died in the inpatient setting. Recommendations are made for a standardized referral process based on the results of this study. An IRB approved retrospective analysis of deceased patient records from an inpatient hematology oncology floor in 2015–2016. Variables reviewed include: demographics, diagnosis and date diagnosed, number of treatments, date of last administration of chemotherapy, disease status at death, cause of death, number of days on palliative care service, referring team, referring attending, inpatient or outpatient referral. The results of this study facilitate a comprehensive view of current palliative care referral practices for HM patients hospitalized at time of death. Palliative care should be established as early as possible in a patients' care trajectory. These data confirm few HM patients are utilizing this resource. The results of this study establish the current levels of involvement of palliative care in HM patients at time of death at a large comprehensive academic cancer center. The results of this study inform future palliative care programmatic changes and increase institutional clinical awareness for patients with HM. The ultimate goal is to standardize HM palliative care referrals and increase the involvement of palliative care to promote best patient outcomes.

## 172

### PSYCHOSOCIAL DISTRESS SCREENING AND THE RADIATION ONCOLOGY NURSES' ROLE

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Psychosocial distress (PD) has been called the sixth vital sign because its presence signals a risk of deterioration in physical and mental health. PD has been linked to poor outcomes among patients with cancer). The American College of Surgeons Commission on Cancer has mandated cancer centers to demonstrate effective distress screening (DS) and treatment to maintain accreditation by 2015. The purpose was to evaluate the adherence and effectiveness of implementing a

distress screening tool in a large urban NCI-designated comprehensive cancer center. Patients treated with radiation therapy at an NCI comprehensive cancer center were administered a validated biopsychosocial DS questionnaire. Radiation oncology nurses facilitated the process for patients to complete the National Comprehensive Cancer Network (NCCN) Distress Thermometer during weekly treatment visits. Based on patient answers, referrals were made as needed. Oncology social workers reviewed electronic health records (EHRs) dating back two years in their respective cancer programs. Rates of overall adherence to a prescribed distress screening protocol were calculated based on documentation in the EHR that screening adherence and an appropriate clinical response had occurred. The use of the distress thermometer increased from a 90% completion rate (n=516) in 2015 to a completion rate of 100% (n=279) in 2017. In addition, 100% of patients triggering a clinically significant distress level were referred to psychosocial services. The results of this evaluation were congruent with the literature that notes that nurse led DS using the electronic medical record in radiation oncology suggests that clinical nurses may be the key to successful adherence to a DS protocol. The observed associations between mandated psychosocial care protocol and service utilization suggest opportunities for the development of clinical care models by which psychosocial screening is delivered by clinical nurses.

## 173

### OFF-LABEL DRUG USE IN ONCOLOGY PATIENTS

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It is common practice for hematology/oncology patients to be offered off-label medications if they have not responded to standard of care medications and do not qualify for a clinical trial. These medications may offer a tumor response but can also bring anxiety related uncertain clinical benefit and potential of high cost of medication which insurance is unlikely to cover. At a large academic cancer center in the Southeast United States Hematology/Oncology did not have a process for notifying involved parties (such as social work, finance, and pharmacy) when a provider prescribed a cancer agent for a non-FDA approved diagnosis. This lack of process caused undue stress to the patient due to the potential financial burden, increased expense to the division without receiving net revenue, and confusion with the clinical

teams because of undefined roles and responsibilities. The goal was to create a process to involve social work, finance and pharmacy along with the medical team and the patient. Data sources used were denial reports from finance, patient calls and qualitative data from nursing staff and pharmacy. The numeric baseline measure was obtained from a drug denial report containing medical necessity denials. Current measure is being captured by social work as patients are referred prior to initiation of off-label medication. A work-flow process was created and all staff in the division were educated regarding this flow. When a provider initiates the process by discussing off-label medication with a patient that now triggers the RN to obtain a cost estimate and initiate a social work consult to discuss stress and cost-impact with the patient as well as patient assistance enrollment. Once assistance is obtained pharmacy is notified so that the division will not be charged for medication given. The main factor contributing to the performance gap was a lack of communication from the medical team. When the new process is followed there is clear tracking of patients, volumes and medications. Hand-off communication and key role delineation were the key factors in improving this process, getting the medication to the patient sooner with less costs incurred.

## 174 QOPI READINESS . . . HOW TO HAVE A SUCCESSFUL SURVEY

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The QOPI® Certification Program (QCP™) provides a three-year certification for outpatient hematology-oncology practices demonstrating a practice's commitment to quality. A benefit of certification is the opportunity to critically evaluate internal processes indicative of a high-performing oncology team, identify improvements to be made, and implement a plan to put those improvements in place. As the treatment of oncology patients has shifted from the inpatient to the outpatient arena, there is growing appreciation that as interventions become more complex, standardization of care improves patient outcomes and increases safety. Tennessee Oncology has been QOPI certified since 2011 with successful re-certifications in 2014 and 2017. In preparation for the 2017 survey, a QOPI® Champion

Team was formed in 2016 that included representatives for all 30 clinics. This included managers and front line staff. The purpose was to conduct monthly meetings to discuss in detail QOPI® standards and for these individuals to take information back and disseminate it to their peers. These content experts evaluated internal processes, policies, and existing practices to ensure all met safety and quality standards. Key to a successful certification was the work done by the QOPI® champions and the consistent implementation of changes throughout the organization. Areas of focus included: (a) Engage all staff with an emphasis on patient and staff safety as the driving motivation (b) Review policies and procedures and update to better reflect quality and safety standards (c) Mock surveys of all clinics to evaluate adherence to standards. If a clinic did not meet standards by at least 85%, an action plan was developed to correct areas of improvement and a repeat mock survey done to measure progress in meeting standards. A share drive was created and results from mock surveys posted for the entire organization to view. The process of preparing for and completing the Site Assessment stimulated internal discussion regarding opportunities for staff driven improvements, team collaboration, and implementation of practices that focused on excellence in quality and safety for the patients and health care providers.

## 175 THE CALVARY OF CHALLENGES: FIGHTING INFECTION IN A MAJOR CANCER CENTER'S AMBULATORY PRACTICE

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Cancer is the leading cause of death worldwide, with infections being a major cause of morbidity and mortality. The potential pathogens known to cause infections in immunocompromised individuals have increased due to prolonged neutropenia, intensified immunosuppression, emergence of antimicrobial-resistant pathogens, improved diagnostic assays and prolonged patient survival. Community acquired, nosocomial, reactivation, and environmental patterns of infection are associated with bacterial, fungal, viral and parasitic contagions. Invasive pulmonary and blood borne pathogens, opportunistic infections such as Toxoplasmosis, Nocardia and Mycobacteria and fungal infections such as Aspergillosis and Candida,

are emerging as significant causes of morbidity. To reduce morbidity and mortality, early diagnosis is essential. Nursing knowledge of the cancer, treatment, expected immune insult and patient history is critical. Understanding possible severe side effects of new immune passive and active modulating treatments such as CAR T-cells and checkpoint inhibitors will guide early supportive interventions. Immunotherapy exploits the immune system to destroy cancer cells and may alter infection fighting pathways. The risk for reactivation of latent or chronic infections justifies screening and prophylaxis. Nursing is the first line of defense in the Infectious Disease Ambulatory setting. Competencies include triage skills, astute physical assessment, investigating pertinent history, including history of Tuberculosis, Hepatitis and other latent infections. The nurse must maintain cultural sensitivity and while questioning without judgment giving special attention to travel history, pets, tick exposure and infections endemic to patient's homeland. Patient education, including household contacts, related to vaccinations, awareness of environmental and travel concerns including Zika, sexually transmitted infections and tick borne illnesses, especially with regard to asplenic patients with Babesia. Elevation of practice, involvement in research and maintaining knowledge of new practices to target persistent infections is a must for today's oncology nurse. The exciting discussions of the role of a healthy microbiota assisting in tissue homeostasis and immune function lead to research in Fecal Microbiota Transplantation to help restore gut microbes and prevent colonization resistance with special attention in prevention of C-difficile, the leading cause of hospital acquired infections. The oncology nurse in an ambulatory infectious disease clinic is instrumental in helping to diagnose infection, intervene effectively, and develop a plan to prevent reoccurrence, using vaccines, antibiotic suppression, education, and infection control.

**176**

### **POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME (PRES): THE INCREASING NEED FOR EARLY SYMPTOM RECOGNITION AMONG ONCOLOGY NURSES**

**Katherine Nelson, MS, RN, National Institutes of Health, Bethesda, MD**

Posterior reversible encephalopathy syndrome (PRES) is a neurotoxic state caused by vasogenic edema of the posterior occipital lobes of the brain. Characterized by hypertension, headache, altered mental status, vision disturbances and seizures, PRES can evolve over a

number of hours and lead to permanent cerebral injury without prompt treatment. With recognition of PRES in the setting of increasing use of immunosuppressive drugs and chemotherapy, improved awareness among oncology nurses is critical for prompt recognition and treatment. A 39-year-old female with a history of sickle cell disease (SCD) undergoes human leukocyte antigen (HLA) matched sibling stem cell transplant and begins taking Sirolimus post-transplant as Graft-vs-host disease prophylaxis. Ten days after beginning Sirolimus, the patient shows gradual blood pressure increases over a number of days and complains of headaches and vision changes. The following evening, she has what is suspected to be a seizure and the nurse reports the possibility of PRES. Magnetic Resonance Imaging (MRI) is preformed and shows the bilateral occipital edema characteristic of PRES. Upon diagnosis, nursing interventions to manage the condition are quickly put into place. Nursing care for the patient consisted of frequent checking of vital signs, aggressive blood pressure management to maintain blood pressure within set parameters, the initiation of antiepileptic drugs, and the implementation of seizure precautions. With close monitoring the symptoms of PRES resolved within one week and the patient returned to baseline with no further complications. Prompt recognition of the PRES cluster of symptoms by nursing staff facilitated the quick response and initiation of proper treatment for this patient. The pathophysiology behind the development of PRES is unclear. PRES has been reported frequently in patients with eclampsia and pre-eclampsia but also seems to have a higher incidence in patients on calcineurin inhibitors after stem cell transplant. Patients receiving high dose cytotoxic agents are also at an increased risk for PRES. Oncology nurses and those caring for patients undergoing hematopoietic stem cell transplant (HSCT) should receive additional education about this syndrome in order to intervene early. Signs and symptoms of the condition can be subtle and present gradually, mandating that nurses recognize and report these changes. Increased awareness of the signs and symptoms among oncology nurses will allow for earlier intervention and reduced PRES related morbidity and mortality.

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### **CLINICAL PRACTICE POSTER SESSIONS—SATURDAY**

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**177**

### **STRUCTURED PATIENT EDUCATION UTILIZING THE MEDICATION ORAL AGENT**

## TEACHING TOOL AND MEDICATION ADHERENCE IN ONCOLOGY PATIENTS PRESCRIBED ORAL CHEMOTHERAPY

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The purpose of this research project was to design and implement a structured patient education session utilizing The Medication Oral Agent Teaching Tool (MOATT) to improve medication adherence in oncology patients prescribed oral chemotherapy in the outpatient setting. Medication adherence is a significant complex problem in healthcare today; currently, less than 50% of patients adhere to their prescribed medications and healthcare provider recommendations causing difficulties in the efficacy of treatment, management of disease, and health outcomes. Non-adherence to medication is thought to be due to many factors such as cost, access, knowledge, and complicated dosing schedules. Today approximately 25% of all new chemotherapy medications in development are oral medications mostly prescribed in the outpatient setting. Oncology patients in the outpatient setting are more at risk for non-adherence due to more opportunities for non-adherence behaviors as patients treated in the outpatient setting experience less healthcare support, increased patient autonomy, and increased risks for developing non-adherent behaviors. The Health Belief Model guided the project by assessing patients' beliefs, knowledge, and perceptions supporting the Advance Practice Nurse (APN) in identifying risks and barriers to medication adherence as well as promoting and supporting the use of self-management skills and strategies needed to improve medication adherence. In this study the participants received four structured education sessions using the MOATT. The participants completed the Adherence Starts with Knowledge-12 survey (ASK-12), a demographic survey, and documented in a personal diary of adherence.

### 178

#### DECREASING LENGTH OF STAY IN THE LEUKEMIA AND LYMPHOMA POPULATION

Ashlee Nickens, RN, OCN®, Massey Cancer Center, Richmond, VA

VCUHealth teams has been tasked with the goal to decrease the length of stay (LOS) of hospitalizations. The Acute Leukemia population currently does not meet the national standards of hospital LOS of 17 days for induction chemotherapy. Decreasing LOS will improve throughput, decrease hospital diversion, decrease hospital acquired infection, and improve

patient satisfaction by allowing them to be at home with family. The purpose was to decrease LOS to meet or more closely match the national standard of 17 days for inductions and to better align with the standard associated with other National Cancer Institute (NCI) cancer centers. LOS task force implemented three pilots. First they began discharging patients during their induction treatment prior to their blood counts fully recovering to better align with benchmark metrics. Secondly three inpatient chemotherapy regimens (EPOCH, DCEP, ICE) are to be administered in the outpatient clinic. This was accomplished by contracting with a home health company to supply 24 hour chemotherapy pumps. Lastly when appropriate re-induction chemotherapies are being administered in the outpatient clinic. Preliminary feedback from patients has shown to be positive. Formal surveys to measure patient satisfaction as well as assessment of readmission rates for this specific population will provide additional support of the process. Successfully decreasing inpatient LOS has had a large impact on the outpatient clinic volume without having added additional resources to support this volume. Increased volume has affected the lab and treatment room related to transfusions and chemotherapy, all which were previously administered inpatient. Additional staff education had to be performed to orient staff to the new regimens as well as inform them of the heightened acuity of the patients that would be presenting during their nadir period. New patient education was also developed. Decreasing LOS in the inpatient setting is an organizational initiative to improve revenue and throughput. Likewise, it will increase patient satisfaction and quality of life.

### 179

#### QUANTITATIVE ANALYSIS OF PHYSICAL IMPAIRMENTS IN PERSONS WITH HEAD AND NECK CANCER ACROSS THE SURVIVORSHIP TRAJECTORY

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The identification and management of late and long-term treatment effects was emphasized by the American Cancer Society (ACS) as an essential element of survivorship care. While these ACS clinical

practice guidelines outline physical limitations HNC patients may experience, including musculoskeletal impairments, fatigue, and lymphedema, the data on the prevalence and complexity of these issues is limited. The purpose of this study was to determine the prevalence of these physical limitations in HNC survivors seen in a multidisciplinary HNC survivorship clinic. This clinic is a quality improvement initiative designed to provide patients with comprehensive, survivorship care. As part of this clinic, patients were screened by a nurse for late and long-term effects of treatment outlined in the ACS practice guidelines. If physical limitations were reported, patients were evaluated by a physical therapist present in the clinic. When deemed clinically appropriate, referrals for physical therapy were made. From December 2016 to September 2017, 279 individual head and neck cancer survivors were evaluated in the survivorship clinic. The survivors were on average 5.2 years (SD=6.4) post-treatment. Survivors were predominantly male (n=202, 72%) with a mean age of 64.9 years (SD=11.1). The predominant tumor sites were: oropharynx (n=92, 33%), oral cavity (n=85, 31%), and larynx (n=55, 20%). The majority of survivors were diagnosed with advanced stage cancer (n=175, 63%) and received multimodality treatment (n=202, 72%). Musculoskeletal limitations commonly occurred in the neck (n=158, 57%), shoulder (n=80, 29%), jaw (n=70, 25%) and tongue (n=17, 6%). Moreover, 37% (n=103) had limitations in more than 1 of these sites including pain, decreased mobility, stiffness, or spasms. Lymphedema/swelling (n=26, 9%), forward head posture (n=18, 7%) and fatigue (n=8, 2%) were also noted. Physical therapy was recommended for 173 (62%) survivors. Of these survivors, 6 (2%) were currently working with a physical therapist and 16 (6%) refused a referral. The results of this project highlight the prevalence and complexity of long-term physical limitations experienced by survivors. These long-term physical limitations can impact activities of daily living and quality of life. Oncology nurses and advanced practice nurses are well-positioned to advocate for referrals to physical therapy and other rehabilitation services to increase participation in activities of daily living and optimize quality of life. Further work is needed to optimize treatment strategies and assess their efficacy.

**180**

### **THE ROLE OF ADVANCED PRACTICE PROVIDERS IN THE CARE OF PATIENTS WITH CHRONIC MYELOID LEUKEMIA RECEIVING**

### **TYROSINE KINASE INHIBITOR THERAPY IN AN ERA OF EVOLVING TREATMENT GOALS**

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Tyrosine kinase inhibitor (TKI) therapy has dramatically improved outcomes for patients with chronic myeloid leukemia (CML). Five-year relative survival rates rose from 34.2% in 1995, prior to imatinib's approval in 2001, to 66.9% in 2007–2013 (National Cancer Institute), and patients are now more likely to die from non-CML causes. In one study, overall 8-year probabilities of CML-related and non-CML-related death were 4% and 7%, respectively. As a result, CML prevalence in the United States is predicted to rise from 70,000 in 2010 to 144,000 in 2030, and achievement of deep molecular responses (DMRs) to allow TKI discontinuation and treatment-free remission (TFR) is now an important concept. The purpose was to define key roles of advanced practice providers (APPs) in the care and management of patients with CML, focusing on strategies to promote treatment adherence and molecular monitoring—2 central factors in maximizing long-term outcomes. Higher treatment adherence is associated with higher DMR rates (76.0% vs 4.3% in patients with poor adherence) and lower progression rates (7.2/1000 vs 15.8/1000 person-years, respectively). Poor adherence may be unintentional (eg, due to insurance delays or forgetfulness) or intentional (eg, to avoid high costs or side effects). APPs should be involved in counseling patients on the importance of not missing doses and strategies to improve adherence. For unintentional nonadherence, interventions include enlisting family support and phone reminders. For intentional nonadherence, financial assistance programs, patient education, and better and more aggressive management of side effects can help. Molecular monitoring per National Comprehensive Cancer Network Guidelines (NCCN V1.2018) is also essential as the results can signal suboptimal treatment responses and poor adherence. Patients monitored 3–4 times yearly have 44% fewer inpatient admissions and lower medical service costs than patients with no tests. Notably, improvements in the education of APPs on monitoring guidelines and the importance of molecular monitoring are also needed. As long-term prognoses for patients with CML improve, patients' understanding of the impact of treatment adherence and molecular

monitoring on their potential to achieve DMRs and TFR is crucial. A multidisciplinary approach is needed to keep patients on target for optimal long-term outcomes, and APPs play crucial roles in improving adherence and molecular monitoring.

**181**

### **THE ONCOLOGY PATIENT EDUCATOR ROLE: NURSING INNOVATION TO IMPROVE SAFETY AND QUALITY IN ORAL CHEMOTHERAPY SELF-ADMINISTRATION**

**Aja Novello, BSN, RN, Abramson Cancer Center at Pennsylvania Hospital, Philadelphia, PA; Mary Pat Lynch, MSN, CRNP, AOCNP®, Abramson Cancer Center at Pennsylvania Hospital, Philadelphia, PA**

Critical concerns regarding safe administration and patient education arise as cancer treatment paradigms move away from chemotherapy infusion to rely increasingly on patient self-administration of oral chemotherapy. In reviewing our practices for oral chemotherapy, we identified that consent, education, and follow up require standardized protocols and development of new mechanisms to insure safe, high quality patient outcomes. We initiated a new nursing role called Oncology Patient Educator (OPE) to meet specific goals for safe handling, self-administration, and self-care. The OPE role, currently implemented as part-time in our center, requires a bachelor of science in nursing and experience in ambulatory cancer nursing. The OPE, building on the infusion nurse role, works directly with prescribing providers—oncologist or oncology nurse practitioner—and patients and family caregivers to address three main goals. The first goal is consent, a tenet of patient safety sometimes missed in oral as opposed to infusion chemotherapy practice. The second is education, focused on increasing patient and family caregiver knowledge for safe handling and independent home administration. The final goal is follow up to address knowledge gaps, side effect management, and communication with the physician and nurse practitioner. The OPE works to advance self-care, resolving patient questions arising during treatment. In nine months since inception, our part-time OPE sees approximately 12 new patients per month. The OPE and oncology pharmacist collaborate, identifying patients with a new prescription for oral chemotherapy, triggering an assessment visit. With the nurse-patient relationship established in person, telephone consultation provides easy access for patients and family caregivers. OPE outreach with oncology nurse practitioner team enhances continuity of care. Future improvements in the OPE role and r

structures supporting oral chemotherapy administration include electronic signature pads in exam rooms to facilitate fully compliant consent and an OPE referral option in the electronic health record. The OPE role is consistent with 2013 Updated American Society of Clinical Oncology/Oncology Nursing Society Chemotherapy Administration Safety Standards Including Standards for the Safe Administration and Management of Oral Chemotherapy. Importantly, for an aging patient population, this role offers a cost-effective, person-centered approach to support safe oral chemotherapy self-administration. The novel OPE is a replicable nursing role to support guideline compliance and better performance in oral chemotherapy self-administration.

**182**

### **A GROWING PHASE ONE CLINICAL TRIAL PROGRAM AT AN ACADEMIC MEDICAL CENTER'S OUTPATIENT CANCER CENTER**

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The phase one program at our organization is growing rapidly and coordinating schedules for this program is a huge challenge. Chairs were overbooked and this resulted in use of additional chair time and displaced other patient populations who then experienced increased wait times. Coordinating visits in a way that would ensure safe and efficient care for this group, while still providing for the care of our existing patient groups required a standardized approach to the allocation of our resources. The purpose of the initiative was to develop a communication tool and acuity assessment tool. Additional goals of this project include decreased wait time and increased patient satisfaction. In 2016 the infusion and research RNs identified the need for two interventions: a shared calendar and a patient acuity tool. The common calendar prevents overbooking. The second was the development of an acuity tool. With limited staffing and chair availability, the tool was needed to assist with planning the day. The scale ranged from "A" (lowest acuity) to "C" (highest acuity). The criteria included frequency of vital signs, lab draws, and EKGs. The research team rates each patient based on the protocol. These



interventions have been implemented for outpatient, and are starting to be used inpatient. One outcome was to ensure an appropriate nurse to patient ratio. A shared calendar in combination with use of standardized acuity tool allows the infusion charge nurses to have a clear idea of what to expect on each day. We determined that most patients with the level “A” acuity mirror the acuity level of a standard of care patient, thus not requiring any special accommodations. This allows us to accommodate higher acuity phase one patients in “B” and “C” within our daily allotted four chairs. As the program has expanded, we have had to be strategic in the allocation of the chairs. These tools provide improved communication and transparency between the research teams and the infusion nurses resulting in more efficient utilization of resources. We continue to look at patient satisfaction and wait times to measure outcomes, as well as the possibility of utilizing more chairs for the growing phase one research program.

### **183** **COMPREHENSIVE EDUCATION TO DECREASE CLABSI RATES**

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Preventable Central line-associated bloodstream infections (CLABSIs) result in thousands of deaths each year and billions of dollars in costs. An estimated 30,100 CLABSIs occur each year. CLABSI rates are reportable figures that consumers have access to when choosing a healthcare facility. The CLABSI rates at our large NCCN designated Comprehensive Cancer Center were higher than we wanted them to be despite putting a variety of evidence-based interventions into play. We needed to come up with some way to reach all staff in order to reduce our CLABSI rates. We developed a mandatory central line education program that all RNs and patient care associates (PCAs) would attend. We went to our Patient Care Council to determine exactly what skills to cover. The PCA topics included hand hygiene and the use of waterless CHG bathing. The RNs reviewed drawing blood cultures from central lines, accessing implanted ports, central line dressing changes, and the use of CuroS™ protective caps. Some topics were covered by reading a poster or policy and completing a posttest while others were hands on demonstration. We held 36 sessions over 9 days in October and November 2016 at various times to accommodate all shifts. During the sessions we uncovered some questionable practices

and developed a “Lessons Learned” sheet that we distributed to all staff to remind them of best practices. Following the education our CLABSI rates steadily decreased. Overall rates went from 2.22 in August to 1.42, 0.23 and 0.80 in December, January and February respectively. With this massive undertaking we were able to touch over 1500 nurses and PCAs with great outcomes. We continue to keep CLABSI prevention in the forefront. We’ve developed CLABSI elearnings for both RNs and PCAs that are required upon hire and annually thereafter and will continue to have yearly inservices regarding aspects of CLABSI prevention. Each educational topic was presented in a way to meet a variety of learning styles. The use of interactive, didactic and passive learning was used to meet the needs of learners. These different and innovative educational experiences along with the efforts of Educators and CNSs teaming together to bring all of the best practices forward allowed us to reach every nurse and PCA in the organization and assure that all patients were receiving the best care.

### **184** **A BATH A DAY KEEPS INFECTIONS AWAY: AN INNOVATIVE APPROACH TO DAILY CHG BATHING ON AN ONCOLOGY UNIT**

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Oncology patients are at an increased risk for infections and require additional nursing interventions to help with infection prevention. One important nursing intervention for infection prevention is daily bathing with Chlorhexidine Gluconate (CHG) cloths. Prior data collected on an inpatient hematology/oncology inpatient unit at a large academic medical center consistently indicated that nursing staff were not performing or assisting patients with CHG baths daily. Patients did not have an understanding of the purpose and importance of daily CHG bathing and nursing staff were not providing the appropriate education to patients when they would refuse daily CHG bathing. The purpose of this project is to provide nursing staff and patients with the proper information regarding daily CHG bathing to enhance infection prevention knowledge and to improve the compliance of daily CHG bathing on the unit. A clinical nurse leader at a large academic medical center created a project to help educate staff and patients on the purpose and importance of daily CHG use to prevent infection and improve compliance of daily CHG bathing on the unit. The staff education includes a presentation and hand out that outlines the effectiveness of CHG

bathing and the proper procedure to perform a CHG bath with supportive literature. The patient education includes a hand out within the admission folder discussing the importance of CHG bathing for infection prevention and signage in each patient bathroom that clearly describes how to perform a CHG bath. Daily audit are completed to determine compliance of CHG bathing based on documentation from nursing staff within patients' electronic medical records; these results are shared with nursing staff weekly with monthly overviews. The goal of this project is to improve the compliance of daily CHG bathing on the hematology/oncology inpatient unit. Within six months, the unit saw a 75% increase in CHG bathing compliance. Data collection is continuous and further results are pending. Performing daily CHG bathing has been shown to significantly decrease a patient's risk of developing a central line associated bloodstream infection. It is vital that oncology patients understand the importance of daily CHG bathing and receive daily CHG baths to help prevent infections during their hospitalization.

### **185** **ONE CALL DOES IT ALL—DEVELOPING AN ONCOLOGY CONTACT CENTER**

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Cancer Centers regularly receive numerous calls from providers referring new patients, current patients requiring assistance, and community members seeking information. Formerly, these calls to our cancer center were received and processed by a variety of individuals. This resulted in inconsistencies which contributed to physician and nurse frustration, low patient satisfaction scores, and call success rates below 85%. A multidisciplinary team was organized to develop and execute a vision for a centralized contact center. In August of 2015, a single phone number was established with the purpose of receiving all routed calls from all areas within the cancer center. Operator guidelines were created to streamline referral entry, assist with issue resolution, and transfer calls effectively. New Patient Coordinators (NPC) were added to review new patient referrals, gather records, and coordinate the initial visit. Chart surveys were placed on all new patient charts to gather information from physicians regarding the completeness of the record. Operators and NPCs are overseen by Clinic Lead Nurses (CLN). The CLNs assist the Contact Center in both a clinical and administrative capacity. The CLN develops and

maintains documentation, ensures timely communication, assists with difficult referral cases, and triages ill patients. Reports were created to monitor call volumes and time to first contact. Call Center performance metrics are shared with staff on a regular basis to help identify additional improvement opportunities. Press Ganey satisfaction scores have improved 2% annually following the implementation of a centralized contact center. New referral chart satisfaction surveys by MD's have improved, and anecdotally, employee satisfaction has improved with the new system. Call success rates have been maintained at or above 95% for six months. Nursing fulfills a pivotal role in this approach to a "One call does it all" system that has standardized the management of oncology calls, new patient referrals, and phone triage. Developing guidelines for obtaining new patient records ensures the physician has all the needed information to develop a plan of care or render a second opinion. Other institutions can use this information as a model to guide the development of a system for calls to their centers.

### **186** **TRACK APP: IMPROVING AN OUTPATIENT TRACKING SYSTEM TO INCREASE PATIENT AND STAFF SATISFACTION**

**Ikechukwu Onweagba, BSN-BC, RN, OCN<sup>®</sup>, Mount Sinai Hospital, New York, NY**

There is a constant need to improve efficiency within a busy outpatient infusion center to both impact the patient experience and staff satisfaction. To assist with more than 450 unique patient visits daily, a patient navigation tool or tracking system was developed. This computer-mediated application was designed with a primary objective of providing information to employees on the status of a patient from check in to discharge using a color coded system during their visit at the infusion center. Also, the tracker is utilized for nurse-patient assignment and treatment duration however acuity value and changes in length of treatment were not initially addressed. To help improve operational efficiency, a nurse led team explored ways to improve upon the observed limitations of the tracker by including a nurse-user generated data model that addresses acuity values and changes to treatment plan to its functionality. A time study was designed to determine if current infusion time and acuity values used in the infusion center were appropriate. Each nurse logged the time it took to provide care for each patient regardless of type of infusion/treatment. Data logged included the duration of time for: chart review, pre assessment, EPIC charting,

CVAD or peripheral IV assess time, patient teaching, actual therapy and discharge planning. A Likert-type survey to determine nurse perspective on room utilization and RN satisfaction was utilized. Data indicated acuity values were directly proportional to medication administration time but did not account for variability in patient status or sickness. Acuity values ranged from Level 1 (0–30 min) - level 6 (240+ min). Nurses needed a way to adjust acuity value and treatment time in real time to show level of care provided. Enhancements were created on the tracker app for quick identification of patient type based on treatment plan and patient condition. Acuity also related to time needed with research patients. Furthermore, enhancements were created to alert staff of patient wait times and for add-on patients. Real time adjustments to the tracker application address patient acuity and changes in treatment time allowances. These real time adjustments improve operational efficiency via improved patient flow which is both satisfying to patients and for nurses as they account for patient characteristics and acuity.

### **187** **REDESIGNED WORKFLOW IN ONCOLOGY INFUSION CENTERS USING AN ACUITY-BASED MODEL FOR THE NURSING ASSIGNMENT**

**Grace Orekoya, MS, RN-BC, OCN®, CRNI, Mount Sinai Downtown Chelsea Center, New York, NY; Diona Lumani, MSN, RN, CMSRN, Mount Sinai Downtown Chelsea Center, New York, NY; Karen deVries, RN, OCN®, CBCN®, Mount Sinai at Beth Israel Medical Center, New York, NY**

Resource allocation, management of complex patient regimens, as well as patient wait times are some of the well documented challenges in oncology infusion centers. By utilizing an acuity based nursing assignment as a guideline, oncology infusion centers can more accurately operationalize nursing care, definitively describing patient complexity level, developing evidence based staffing assignments as well as justification of resources, and improving overall workflow, safety and efficiency. The purpose of this project was to develop an acuity based nursing model that would accurately reflect patient complexity in two outpatient oncology infusion centers. A patient acuity nursing assignment was developed through the joint effort of a multi-site nursing shared governance committee. Monthly focus groups were held with clinical nurses and management using a performance improvement model to create a test of change pilot and subsequent use of the acuity based nursing

assignment. The four phases of development were: Identification of 1) Treatment Types, 2) Treatment Concerns, 3) Psychosocial Considerations, 4) Formatting and Model Development. An ordinal scale was used in which acuity level ranged from one to six, with six representing the most complex patient and 1 representing the least complex. Instructions on how to use the scale and example of a nurse patient assignment, was included with the dissemination of the model. The implementation of an acuity based nursing model in an outpatient infusion center can serve as a direct way to create balanced nurse assignments that include patient complexity, and may improve the overall efficiency, and delivery of care.

### **188** **ROLE OF NURSE NAVIGATOR IN IMPLEMENTING INTRALESIONAL DRUG THERAPY FOR NON-RESECTABLE MALIGNANT MELANOMA**

**Nancy Page, RN, OCN®, Wellstar Kennestone Hospital, Marietta, GA**

When intralesional drug therapy with talimogene laherparepvec for non-resectable malignant melanoma was approved we wanted to offer it to our patients. Instead of referring patients to an academic center outside of our service area members of the Melanoma Subcommittee began planning to offer this treatment at our community based, not for profit institution. After talking with the leadership in the cancer center, the surgical oncologists worked to complete the training and the nurse navigator developed a process that would ensure timely, safe and appropriate use of this treatment option. Offering this treatment in the local community hospital setting would be of great benefit to patients referred for intralesional therapy to remain in their own community. At that time, only two academic hospitals in the region were providing the treatment. Our hospital was the first community based facility to receive approval to provide this treatment in Georgia. Many meetings were held with Pharmacists, nursing, Cancer Administration, medical and surgical oncologists, to gain support before going to Pharmacy and Therapeutics committee for approval. After the drug was placed on formulary, the process for billing for treatment drug, physician procedure fee and setting up order protocol, ensuring correct drug codes and CPT codes were being utilized was established. The outpatient infusion department was identified as the best location for this treatment. It provided a separate treatment room to meet safety and privacy conditions. The nursing staff, already familiar with immunotherapy were educated

on all aspects of the drug, administration, and patient safety issues. The pharmacy was educated on proper ordering protocol since it had to be ordered and drop shipped to meet the designated appointment time. The surgical oncologist's office established workflows for scheduling patient and physician time, coding, billing and ordering process. The patient will come to the Cancer Center every other week for injections which take approximately ten to fifteen minutes and return the next week to the physician for measuring lesions and photographing results until the lesion is no longer there. Patients have shown total response in as little as four months with the average being six months.

### **189** **IMPLEMENTATION OF PUMP INTEROPERABILITY TO ENHANCE PATIENT SAFETY**

**Julie Painter, MSN, RN, OCN®, Community Health Network, Indianapolis, IN**

Intravenous medication errors account for approximately 1/3 of all medication errors in the U.S. with an approximated 700 deaths per day and >250,000/year. The Institute for Safe Medication Practice (ISMP) recently released new guidelines on “high alert medications” with a heightened awareness facilities and a call to improve practice to reduce significant harm. Intravenous medications when involved in events can have more harmful effects and have a more rapid impact due to the mere fact of being administered directly into the bloodstream. Oncology nurses are responsible for the administration of medications that have a significant risk of harm and even death, if administered incorrectly. It is imperative that we review mechanisms to improve safe practices with the reduction of harm, which includes our processes and equipment. Improvements then will assist our staff in delivering the safest care, in an environment that is often filled with change and numerous interruptions. Pump Interoperability enhances patient safety and reduces risk of harm and errors by reducing the “human factor” in medication delivery that so often can be the root cause of medication errors and severe harm and/or death. Interoperability reduces harm as the infusion pump is automatically loaded with the exact medication information upon scanning. The technology allows an interface directly between the pump and electronic medical record, removing the time spent manually entering information and thus reducing errors. Utilization of infusion pumps with smart pump technology allows for accuracy of medications that match the electronic medical record

provider order so that the bedside nurse can efficiently and accurately administer intravenous medications. Pump interoperability reduces time spent manually programming the pump; decreases pump alerts for reprogramming; improves compliance of patient identification; improves charge capture by documenting start and stop times; and improves documentation of accurate infusion volumes into the EMR. Implementation can be complex but with strong collaboration between nursing, pharmacy, and vendors; a facility can realize the true benefits. Pump interoperability implementation is crucial in the current healthcare environment and will offer enhanced care and safety beyond the utilization of mere cognitive processes. This presentation will review a multisite approach to pump interoperability; lessons learned; outcomes and reduction of harm across the continuum of care.

### **190** **ANALYSIS OF DATA ON CAPECITABINE—RELATED ADVERSE REACTIONS FROM A KOREAN DATABASE OF SPONTANEOUSLY REPORTED ADVERSE DRUG REACTIONS**

**Jeong Yun Park, RN, PhD, University of Ulsan, Seoul**

Oral capecitabine chemotherapy circumvents any discomfort or inconvenience to the patient and is safer, so its use is gradually increasing. Patients taking capecitabine at home have been needed to evaluate any adverse effects and control their dosages. Adverse reactions to chemotherapy may appear even years after taking the drug, and as such, continuous monitoring is required. The purpose of this study was to evaluate the adverse reactions and serious adverse events associated with capecitabine use in Korean patients by analyzing data from a comprehensive national database of ADRs. This study used the KIDS KAERS Database (KIDS-KD), comprising data from KAERS, a system collecting data on adverse reactions through KIDS, compiled over 48 months from January 2011 to December 2014. The most commonly reported capecitabine-related ADRs were gastrointestinal system disorders, including diarrhea, nausea, vomiting, and stomatitis. Other common ADRs were skin discoloration, itching, and rash, appendage disorders, hand-foot syndrome, and central and peripheral nervous system disorders, which were reported as tingling skin and neuropathy. Severe ADRs were common in the patients aged over 70 years. Patients need to be educated about the common ADRs associated with capecitabine intake in a clinical setting. Patient characteristics must be considered when determining the capecitabine dosage and risk of ADRs, and nursing

intervention is critical for preventing these ADRs from worsening. Future studies with drug adverse event reporting data would help confirm the safety of oral chemotherapeutic agents and provide basic data for the development of effective patient education programs.

## 191

### IDENTIFICATION OF ANASTOMOTIC LEAKS IN THE SURGICAL ONCOLOGY PATIENT

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The primary treatment of early stage solid tumors is surgical resection. Surgical resection that involves anastomosing two structures increases the patient's risk of developing an anastomotic leak as a postoperative complication. It is important that surgical oncology nurses recognize the early and latent signs of anastomotic leak to ensure timely intervention in the postoperative period and to improve outcomes. The purpose of this activity is to describe gastrointestinal cancers and surgical procedures where anastomoses occur. Risk factors including chemotherapy and radiation therapy will be reviewed. Surgical and nonsurgical options to treat an anastomotic leak will be discussed. A comprehensive literature review was conducted to determine evidence based nursing practice regarding care of patients with anastomotic leaks. Common surgical procedures and their associated cancers were described. Surgical oncology nurses were educated to recognize both early and late signs symptoms of anastomotic leak. Nursing assessment and interventions were discussed. Nonsurgical and surgical therapy for anastomotic leak were reviewed. Upon completion of this activity, surgical oncology nurses will be able to describe various gastrointestinal cancers and associated surgical procedures. They will also be able to identify the signs and symptoms of early and late anastomotic leaks. Appropriate interventions including both surgical and nonsurgical therapies will be verbalized. These goals will be measured by a post test. Surgical oncology nurses should be knowledgeable regarding surgical therapies to remove solid tumors in order to provide more comprehensive patient care. By understanding the surgical procedures, nurses are able to identify potential areas of anastomotic breakdown and feel more confident in identification subsequent signs and symptoms. Understanding the difference between free and contained leaks empowers surgical oncology nurses to

confidently educate the patient on surgical and non-surgical interventions to address this postoperative complication. This continuing education program has addressed an area of complications in postoperative care in the surgical oncology patient population and enabled nurses to intervene using evidence based care. Surgical oncology nurses understand the need to constantly review the literature and to implement new nursing interventions in order to continue to provide optimal patient care. Keeping abreast of the latest evidence based literature allows the bedside nurse to provide optimal patient care.

## 192

### THE PARTICIPATION OF THE NURSING TEAM IN THE IDENTIFICATION AND PREPARATION OF AN ACTION PLAN TO MINIMIZE THE MAIN COMPLICATIONS IDENTIFIED IN A PRIVATE CENTER OF ONCOLOGY

Patricia Passos, Américas Centro de Oncologia Integrado, Rio de Janeiro; Flavia Ramos, Américas Centro de Oncologia Integrado, Rio de Janeiro; Flávia Pessoa, Américas Centro de Oncologia Integrado, Rio de Janeiro; Marcos Soares, Américas Centro de Oncologia Integrado, Rio de Janeiro

The performance of the nursing team has a fundamental role in research and allows to standardize the actions in the mitigation of unexpected events. The monitoring of events ensures that the actions will impact on patient safety and treatment success. The knowledge of routines and control of operational instructions enable the monitoring of complications and success of actions to improve the patient's care. The purpose was to evaluate the main complications in an outpatient service of chemotherapy in a private oncologic center in the State of Rio de Janeiro and to describe the actions to minimize complications. Quantitative evaluation of data from the computerized system of hospital management between December 2016 and April 2017 and analysis of medical records and internal notifications. 2,078 complications were analyzed from 24,345 visit reports and the following actions were proposed for each of the main events: 1) Burning sensation in the path and vascular disorders (21.7%); Protocol of insertion of PICC and change of the main drugs dilution. 2) Hyperglycemia (11.6%); Preparation of a scheme of administration of insulin based on glucose result. 3) Nausea (8.85%); Review of the medication administration plan in conjunction with the pharmacy for adequacy of antiemetic drugs with the international guidelines. 4) Hypertension (6.11%); Analysis of the complications

versus the patient's clinical status conducted along with the medical team: Comparison with the Brazilian hypertension guidelines to propose a customized care. 5) Infusion related reactions and allergic reactions (6.44%): Critical analysis of the recommended treatment before the chemotherapy aiming its adequacy and reduction of complications. Based on the analysis of generated data and thorough discussion it was possible to develop improved actions in the practice of oncologic treatment as an outpatient. The activities of the work team enhanced the ability to a better interpretation of proposed routine procedures and emphasized the importance of monitoring the events to corroborate with the patients' treatment success. The records of information, allowed to the knowledge of main complications profile permitting a better adequacy of procedures and new proposals to improve the quality of the patients' care.

**193**

### **CENTRAL LINE HOME CARE: STANDARDIZATION THROUGH A NURSE AND PATIENT EDUCATION INITIATIVE**

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Cancer patients often have central venous lines (CVL) that require specific home care supplies and education regarding proper maintenance. Inconsistencies in patient and nursing education related to the care of central lines at home was noted across our healthcare system consisting of a tertiary facility with six regional hospitals serving 29 counties of eastern North Carolina. Cancer patients may be treated in more than one hospital setting with a goal to receive care closer to home when available. The institutional CVL policy addressed inpatient care but lacked standards for outpatient and home care. Additionally, cost of supplies and lack of home health support were barriers to ensuring proper maintenance of the lines at home. Oncology nursing leaders from inpatient and outpatient units collaborated to review current practice and compare to best practices recommended in the 2017 ONS Access Device guidelines. Our goal was to standardize both nursing and patient education regarding central line care across the continuum. A patient education tool was developed that included flushing, dressing changes, and home care management. Additionally, a nursing education booklet was created that included step by step instructions for educating

patients and their caregivers. Pre and post-tests were administered during education huddles with inpatient and outpatient nursing staff. Cost analysis of flushing supplies was completed by contacting several local pharmacies. Forty nurses attended the education sessions. Prior to the intervention, 29/40 (73%) were able to describe the current hospital policy for CVL care versus 39/40 (98%) post-intervention. Additionally, 21/40 (53%) of nurses understood proper patient education for home care of CVLs versus 40/40 (100%) post-intervention. During the development, the patient education tool was evaluated by 15 patients for clarity and understandability. Improved nursing and patient understanding of proper home care for CVL has been noted. Prior to hospital discharge, nurses are providing more consistent education to patients/caregivers, ensuring that necessary supplies are obtained in a timely manner and at a reasonable cost. Future direction includes developing a standardized written or electronic prescription for flushing supplies, emergency dressing change kit as well as working to implement standardization at all hospitals across our health system.

**194**

### **DOES MUSIC THERAPY REDUCE ANXIETY LEVELS IN ADULT ONCOLOGY PATIENTS UNDERGOING MEDICAL TREATMENT?**

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Every year more than half a million Americans die from cancer. It is the second leading cause of death in the United States. In 2017, 1,688,780 million new cases of cancer will be diagnosed in the United States. Treatment for cancer commonly consist of chemotherapy and/or radiation. These medical interventions are extensive and anxiety provoking sometimes causing patients to become depressed, fatigue, and apprehensive. Studies have suggested that music therapy (MT) is a cost-effective therapy that can provide relaxation and may improve the patient's emotional response and overall experience. This systematic review aimed to explore the effectiveness of music therapy as an intervention to reduce anxiety levels in adult

oncology patients undergoing medical treatment. A literature search using Cochrane Reviews, CINAHL, PubMed, and National Guidelines Clearinghouse was executed to obtain relevant English studies published between 2001 and 2016. The following inclusion criteria were used to select articles: controlled randomized trials (RCTs), meta-analysis, systematic reviews, tested music intervention, used an adult population with a current cancer diagnosis, assessed a measurable anxiety outcome, and accessible in full text. A comprehensive list of keywords were used including: “music therapy”, “anxiety”, “cancer”, “music intervention”, “adult”, “nursing.” From this search, a total of nine relevant articles were found. Each article was reviewed for methodological credibility, applicability and utilizing corresponding to a study design CASP checklist. Of the nine studies, six RCTs supported the use of MT to decrease anxiety, however, statistically significant results varied, warranting future research. One CRT found no evidence supporting the use of MT to reduce anxiety prior to radiation therapy. MT was significantly effective in reducing anxiety in one meta-analysis study, and one meta-analysis/systematic review study had inconclusive results. Even though results largely support the use of MT to reduce anxiety in patients living with cancer, these studies had small sample size and did not uniformly implement music intervention; future research should strengthen evidence for MT by establishing a standardized protocol with a larger sample size. Our findings do not consistently support MT as an effectiveness tool to reduce anxiety levels in adult oncology patients undergoing medical treatment and further investigation is necessary to evaluate its efficacy.

## 195

### DEVELOP DEPRESSION SCREENING PROCEDURE FOR ALL CHEMOTHERAPY PATIENTS

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While undergoing cancer treatment one may feel overwhelmed or hopeless and resources maybe sparse. According to NCI depression affects 15–25% of cancer patients. To help identify affected patients early on and thereby receive proper care, the APRNs of the

Central Jersey Division, Regional Cancer Care Associates (RCCA CJD) established a depression screening procedure for all patients undergoing treatment every six months. All patients undergoing chemotherapy at RCCA CJD are screened for depression and anxiety. The patient visit list is reviewed daily. Upon identifying patients, a review is done on when their last depression screening was completed. Assessments are completed initially and every 6 months thereafter, when appropriate the form is completed. The score is calculated and if applicable intervention is initiated. 0–9 interventions are optional, 10–19 assessment by a provider is performed and a list of mental health professionals given. In a community practice resources are limited. A list of mental health professionals who are comfortable treating oncology patients was compiled. Since implementation we have been able to screen over 1500 patients. By screening these patients at their initial treatment visit we are able to provide them with improved care and resources to deal with their emotional stress in a timely manner. Performing ongoing assessments and screenings allows us to identify any changes in their emotional health promptly. Patients continue to provide positive feedback regarding their comfort level with their overall care at RCCA CJD. This is in large part to the depression screening initiative which addresses the patients’ emotional wellbeing in addition to their physical health. The importance of assessing depression and anxiety is often overlooked when providing patient care. Oncology patients are affected physically and emotionally; therefore necessary interventions and resources should be provided to help them cope with the emotional stress. Treating patients’ emotional concerns facilitate better tolerance of the physical strain of cancer. We have improved the overall quality of our patient care since implementing the depression screening procedure.

## 196

### ADVANCING CARE IN THE BREAST CANCER POPULATION THROUGH NUTRITION EDUCATION, CULINARY SKILLS INSTRUCTION, AND RELATIONAL CONNECTION

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Nutritional support for cancer patients is often a challenge. Many patients are not nutritionally compromised

when they start cancer treatment but can quickly become depleted as treatment progresses. An ambulatory community cancer center aimed to provide education and hands on preparation of highly nutritious food to empower patients to participate in their treatment and wellbeing. The nutrition/cooking class objective was for participants to gain knowledge about nutritional values, confidence in preparing appealing dishes, support and control in dealing with nutritional challenges, a sense of culinary adventure, and most of all—feeling better. Topics included dealing with nausea and taste changes, maintaining a healthy weight/body mass index, and establishing healthy lifestyles. A six-week nutrition class at a professional kitchen was offered to empower patients to take control of their nutritional health. Interesting recipes that create appetizing meals with simple preparation were key objectives. Patients received instruction on important nutritional components—antioxidants, polyphenols, healthy fats, healing proteins, and maintenance of healthy bones and gut biomes. Using new cooking skills, participants constructed and consumed the meal together while listening to a guest speaker such as a local university nutrition professor, nutritionists, chefs, and a dietician. An engaged team of oncology nurses facilitated connection and encouraged integration of nutritional knowledge into lifestyles. Initially, participants filled out a self-assessment of their interests and culinary abilities. After each class, they evaluated the evening's menu and speaker. Many positive responses mention choosing healthy recipes, trying new foods, and sharing their own adaptations of the recipes. According to the six class evaluations, seventy-two participants responded they would apply the skills learned in class at home and felt confident they could prepare nutritious meals. As a bonus, participants made connections, shared recipes, and began exercise that lasted beyond the six week program. Our educational design—15 minutes of instruction with printed handouts, 30 minutes of food preparation, then eating during the lecture—was effective. This was achievable, and the attendees responded with requests for more. Group facilitators learned from class barriers to improve the innovative support group for future attendees.

## 197

### **2018 ONS CONGRESS THEME: ONE NURSE. ONE MOMENT. ONE ACTION**

**Kimberly Peccia, RN, Roswell Park Cancer Institute, Buffalo, NY**

The spleen is an essential organ charged with filtering blood to reduce bacterial invasion that can cause

pneumonia and meningitis. Patients who require splenectomy need vaccinations to decrease the risk for overwhelming post splenectomy sepsis. Patients scheduled for splenectomy receive three vaccines: pneumococcal, meningococcal, and haemophilus influenza type b (HIB) which should be given 2 weeks before elective splenectomy. Non-elective splenectomy patients should be vaccinated on or after post-operative day 14. Traditional vaccine therapy for a patient post-splenectomy was pneumococcal polysaccharide vaccine (PPSV23 or Pneumovax), meningococcal and Hib. In early 2015, we realized that some of these patients were receiving pneumococcal valent 13 (PCV13) from their primary care providers. PCV13 is used to protect patients from 13 types of pneumococcal bacteria. PPSV23 protects the patient from 23 different strains of bacteria. In our quest to determine current evidence based practice, we were faced with inconsistent recommendations from pharmacy regarding vaccination type and the schedule of administration. The purpose of this project was to determine evidence-based practice, provide the patient/caregiver with the appropriate vaccination type and schedule post-splenectomy as well as provide consistent, evidence based nursing care and patient/caregiver education. Once the problem was identified, one nurse in the gastrointestinal surgery clinic initiated the project. Realizing the need to gather current evidence, the nurse collaborated with the Nursing Evidence Based Practice committee and a physician regarding vaccinations for patients post-splenectomy. A communication tool was developed from the collaboration referencing the Centers for Disease Control Guidelines for vaccinations post splenectomy. The communication tool outlines the type of vaccination, schedule for when vaccination should occur and what type of care provided will administer the vaccination. The communication tool is initiated by the nursing and medical staff during a pre-operative clinic visit, and then copies submitted to the patient/caregiver and the primary care physician (PCP) for their medical records. This communication tool will aid the primary care physician as to which vaccination needs to be administered and the appropriate timing for each. Uniform communication regarding vaccination types and schedules post-splenectomy is essential to ensuring patients have protections from harmful bacteria. One nurse, by paying attention to all of the care her patients were receiving, was prompted to assemble and disseminate current information for best practice.



198

### **COMPASSION FATIGUE: IMPACT ON NURSING PRACTICE**

**Maggie Perrone, BSN, MA, OCN<sup>®</sup>, Michigan Medicine, Ann Arbor, MI**

Compassion fatigue has been described as the “Cost of caring” and is a term identified by Figley and Joinson to describe situations where nurses had either turned off their own feelings or experienced helplessness and anger in response to the stress they feel watching patients go through illness and trauma. It is insidious, real, hard to put our fingers on and silently pervasive in our profession. Compassion is the foundation of our passion for our practice and for some, the reason we went into this profession in the first place. Without it, we are ineffective, harmful to our physical and psychological selves and our relationships of all kinds. Research has shown over and over again the negative impact compassion fatigue can have on nurses who are suffering from it. New research has begun to show its impact on the actual delivery of effective patient care and overall patient satisfaction scores. Many nurses know something is amiss, their work and their response to it has changed, become more difficult and less satisfying. Few know that what they are suffering from is real, treatable and that they are not alone. In this presentation I will discuss the emotional effect of being indirectly traumatized by helping those who experience trauma and stress. How compassion fatigue establishes itself in and impacts our nursing practice, options for treatment and tools to cope. I will discuss findings in many research studies that show how a well-managed and supportive work environment decreases compassion fatigue and burn out while maintaining levels of compassion satisfaction. I will discuss in detail strategies we can use to begin to take personal responsibility for maintaining our own psycho-social health and well-being in order to combat compassion fatigue. It is imperative we become more knowledgeable about compassion fatigue symptoms and intervention strategies, along with early recognition, awareness and preventative care. Each of us, on all levels of the nursing spectrum, staff nurses to top nursing leadership are not immune and each of us has a responsibility to do all we can to heal the healers who are suffering.

199

### **SPIRITUAL CARE: MINIMIZING THE VULNERABILITY OF PARENTS WHOSE CHILDREN WITH CANCER FACE THE END OF LIFE**

**Cheryl Petersen, PhD, RN, Carthage College, Kenosha, WI**  
In today’s world, vulnerability consists of a convergence

of factors, and terminal illness is one distinct aspect. The focus on care of the mind, body, and spirit has tremendously influenced contemporary end of life care. The provision of spiritual care to address the spiritual needs of patients and their family members is considered a vital dimension of nursing. It is a distinct responsibility of nurses to provide parents of children with cancer who are facing the end of life with spiritual support and resources that address their overwhelming vulnerability, while also facilitating growth in the face of great loss. The purpose of this literature review was to methodologically describe and give meaning to the size and nature of the evidence regarding the value of spirituality and spiritual care in minimizing vulnerability for parents whose children with cancer are at the end of life. A scoping review was completed due to the exploratory nature of the research question and the minimal amount of empirical research in this domain. This type of review is especially appropriate for areas with emerging evidence in which there is a lack of quantitative research; the scoping review allows for a review and incorporation of a range of study designs in the published research and grey literature, addressing questions beyond intervention effectiveness to generate new knowledge. The Arksey and O’Malley (2005) methodological framework guided the conduct of this scoping review. This technique allowed for a mapping of the primary concepts in this research area of spiritual care of parents of dying children with cancer, key sources and types of evidence, and delineation of the depth and breadth of knowledge. Spiritual care provides parents of children with cancer who have died with support; enhances coping; instills hope; assists them to find meaning; and guides them to develop continuing bonds with their child. By addressing spiritual needs, nurses assist these vulnerable parents to find opportunities for spiritual growth, support, and peace. This scoping review addressed a distinct gap in the literature related to the value of spiritual care in minimizing the struggles of parents of children with cancer at end of life, thereby pointing the way for future research in this area.

200

### **VAGINAL STENOSIS: A COMPLICATION FROM EXTERNAL BEAM RADIATION AND BRACHYTHERAPY**

**Dorothy Pierce, DNP, NP-C, CRN, CBCN<sup>®</sup>, Radiation Oncology Department Rutgers Cancer Institute of New Jersey, Jackson, NJ**

The treatment of uterine, cervical, and vaginal cancers is pelvic radiotherapy (RT) plus brachytherapy. A noticeable side effect of pelvic-RT and or

brachytherapy is vaginal stenosis (VS). VS is a long-term radiation toxicity resulting in fibrosis formation in the vaginal canal that may limit the ability of patients to tolerate pelvic examinations during surveillance and negatively affect patients' sexual dysfunction including dyspareunia and postcoital bleeding. VS is the abnormal tightening and shortening of the vagina, and the incidence rate ranges from 1.25% to 88%. After RT, the recommendation is to perform regular vaginal dilation (VD) to reduce the risk of VS. VD consists of inserting a plastic device into the vagina for approximately three times per week for 5 to 10 minutes to stretch the skin and keep the vagina open. Conversely, advanced practice nurses (APNs) who render survivorship care in radiation oncology (RAD/ONC) are uniquely positioned to provide VS education at the beginning of treatment. The purpose of this poster presentation is to establish if best practices existed for preventing VS in RAD/ONC. This quality improvement activity can determine advanced practice nurses (APNs) experiences with VD. Patient education plays an essential role in increasing compliance with vaginal dilator use. Consistent sexual intercourse or the use of vaginal dilator may prevent VS. The APN in RT set out to improve VD compliance will develop a verification survey to ascertain responses regarding practices in preventing VS. RAD/ONC APNs who care for patients treated for gynecological (GYN) cancers will be recruited to complete the survey. Evidence shows that VS is not life-threatening but often troublesome for these patients after pelvic- RT. VS has the potential to overwhelmingly affect their physical, psychological, social functioning and quality of life (QOL). The anticipation is that the clinical data collected may help improve patient compliance with VD and reduce emotional distress. This survey may illuminate prevention strategies to understand VS effect on long-term survivorship. RAD/ONC APNs plays an integral role in the management of GYN patients to prevent radiation-induced VS. The ultimate goal is to improve patient adherence, enhance QOL, provide patient information and support in VD. Conversely, it's crucial that RAD/ONC APNs acquire the knowledge and skills in promoting sexual rehabilitation if these women develop VS after pelvic-RT.

## 202

### **AN INNOVATIVE OUTPATIENT THERAPY PROCEDURE THAT DELIVERS RADIATION DIRECTLY TO TUMORS IN THE LIVER WITH MINIMAL SIDE EFFECTS**

Cindy Pitt, RN, H. Lee Moffitt Cancer Center, Tampa,

**FL; Gloria Wood, BSN, RN, H. Lee Moffitt Cancer Center, Tampa, FL**

The objective is to inform health care professional that many liver cancer patients who have reached their maximum tolerance dose of traditional radiation may be candidates for outpatient radioembolization a procedure with minimal side effects. The liver is the largest organ inside the abdomen. An estimated 40,710 new cases of liver cancer (including intrahepatic bile duct cancers) are expected to occur in the US during 2017, approximately three-fourths of which will be hepatocellular carcinoma (HCC). Liver cancer is about 3 times more common in men than in women. The liver has two blood supplies; the hepatic artery and the portal vein. Most tumors get their blood flow from the hepatic artery. An estimated 28,920 liver cancer deaths are expected in 2017. Radioembolization is a cancer treatment in which radioactive particles are delivered to a tumor through the bloodstream. The particles lodge in the tumor and emit radiation that kills cancer cells. Radioembolization is most often used on cancers in the liver. The purpose is to educate health professionals in order to decrease patient anxiety, increase compliance, and increase patient engagement. The patient consults with a radiation oncologist and an interventional radiologist to explain the procedure. The nurse educates the patient on the workup prior to the procedure which includes; labs, angiogram, anesthesia, x-rays and radiation safety precautions. The nurse explains to the patient how the procedure is preformed, what to expect during and after the procedure to alleviate anxiety and increase patient engagement. Some patients experience flu like symptoms. These side effects may be alleviated with medication. The patient is instructed on radiation safety precautions and may resume normal activities within 5 to 7 days following the procedure. When the nurse is proactive and utilizes the electronic educational tools available on the patient portal; before, during and after the procedure less adverse symptoms are reported. Follow up may include CT scan, MRI, and blood work to re-evaluate the tumor response and disease status 4 weeks after procedure. When the patients were knowledgeable it decreased their anxiety level and they become more engaged and compliant with their health care. Further research is pending. Radioembolization is an innovative therapy that delivers radiation directly to tumors in the liver by way of blood vessels.

## 203

### **TRANSITIONS IN CARE: A TIME FOR MULTI-DISCIPLINARY COLLABORATION**

Susan Posthumus, RN, BSN, OCN®, Memorial Sloan

Kettering, New York, NY; Debra O'Shea, MSN, RN, AOCNS®, Memorial Sloan Kettering, New York, NY; Bernadette Frawley, BSN, RN, Memorial Sloan Kettering, New York, NY; Jason Mallari, BSN, RN, OCN®, Memorial Sloan Kettering, New York, NY

Blinatumomab, a biotherapy treatment option for patients with relapsed B- cell Acute Lymphoblastic Leukemia, is given by continuous infusion for 28 days. The therapy must be initiated inpatient due to risk of cytokine release syndrome and neurotoxicity, but subsequent infusions are initiated and completed outpatient via portable pump. Lack of coordination of care between the inpatient and outpatient setting impacted the efficiency of appointments by increasing wait times and causing interruptions in therapy. Infusion nurses also reported interruptions related to the process of the bag change. Interruptions in therapy increase the risk for adverse events. Our goal was to improve the transition of care upon discharge, reduce interruptions in therapy, and create an efficient work flow. We recognized that multidisciplinary collaboration would be essential to accomplish our goals. A multidisciplinary task force was formed consisting of inpatient and outpatient nursing, pharmacy, and administration. The task force met biweekly to improve the overall process. A standard operating procedure was developed by the team. An e-mail distribution list helps to communicate with team members when inpatients receive Blinatumomab. When initiating Blinatumomab, a standard treatment start time was established to ensure timely transition to outpatient. Prior to discharge, the outpatient nursing staff meets the patient to: establish a relationship, reinforce teaching about the drug, schedule, and portable pump operation. The taskforce educated staff on the new process and tracked delays and other variations from the ideal workflow through event reports. Outcomes The new workflow decreased the time for bag change to five minutes. Patients anecdotally reported when the nurse visited them inpatient this contributed to less anxiety, confidence in the care team and improved self care strategies. 80% of event reports after the intervention were related to pharmacy delays and mechanical issues. The taskforce continues to review event reports and make recommendations for improvements. New chemotherapies are becoming more complex. A multidisciplinary standard of practice improves patient experience and care. Transitions in care from inpatient to outpatient require teamwork, communication and education. This presentation will demonstrate how to improve the patient experience while receiving a complex treatment regimen.

## 204

### FACTORS ASSOCIATED WITH ADHERENCE TO RISK MANAGEMENT FOR WOMEN WITH A BRCA MUTATION

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The objective is to identify potential factors associated with adherence to screening or preventive surgery management guidelines among individuals with Hereditary Breast and Ovarian Cancer syndrome (HBOC) within the North Texas area. Individuals with HBOC, caused by mutations in BRCA1 and BRCA2, have some of the highest cancer incidence of any known group. Cancer risk can be mitigated through surveillance or prophylactic surgeries. The National Comprehensive Cancer Network® (NCCN®) has established risk management guidelines for mutation-positive patients. There is variable uptake of risk-reducing strategies among patients. We are using a genetic nurse navigator (GNN) to help patients address barriers to compliance. Identifying factors associated with noncompliance is important to direct efforts to improve adherence to management guidelines. Simmons' multisite cancer genetics program has identified over 1200 BRCA mutations since its inception in 1992. Currently, 32% of our patient population is uninsured/underserved. We previously measured uptake of NCCN®-recommended surveillance compliance in our uninsured/underserved and insured mutation-carrier patient populations. We are examining this data further to discern if certain factors are associated with compliance. We performed a retrospective chart analysis of 182 patients with HBOC identified from 2010–2017 to ascertain compliance with 2017 NCCN® recommendations. Descriptive statistics were calculated for demographic factors (age, race/ethnicity, place of residence, insurance status), personal and family cancer history, family history of genetic testing, and BRCA1/2 status. Bivariate analyses were used to assess associations between patient characteristics and adherence to management guidelines. For the 182 patients included, 129 (70.8%) were in compliance with NCCN® recommendations. For patients opting for risk-reducing surgeries, 104 (57.2%) had a bilateral mastectomy, and 109 (59.9%) had a bilateral salpingo-oophorectomy. An additional 27 (14.8%) patients opted for breast cancer surveillance, and an additional 18 (9.9%) were undergoing

ovarian cancer surveillance. Of the demographic and clinical factors analyzed, only BRCA1 positive status, insurance status, and a personal history of cancer were associated with increased compliance. We plan to use this information to perform a multivariate logistic regression of factors affecting compliance. The introduction of a GNN has already demonstrated a positive effect on improving compliance in our underserved/uninsured mutation carriers. Additional gains can be made by evaluating specific factors which may influence patient adherence to recommended increased surveillance and risk-reducing interventions.

## 205

### IMPROVING PATIENT SAFETY BY MINIMIZING RISK OF CHEMOTHERAPY EXPOSURE DURING DISCONNECTION

Kassie Pryor, RN, BSN, OCN®, UT Southwestern, Dallas, TX; Kopila Gurung, RN, BSN, OCN®, UT Southwestern, Dallas, TX

Chemotherapy is essential for treatment and survival of cancer patients. With the increase number of cancer patients, there is an increase in administration of hazardous drugs. There are many evidence based guidelines covering personal protective equipment (PPE) while handling of hazardous drugs. The goal is to reduce chemotherapy exposure in the ambulatory setting amongst nurses, patients, and caregivers. The purpose is to reduce the risk of long term exposure from hazardous medications in healthcare workers. Working in a fast-paced infusion center gives plenty of opportunity for contamination to occur. It is known that repeated exposures are dangerous, and the goal is to minimize such exposures by using needleless Y-site Huber sets. After the guidelines for proper PPE were reviewed, it was apparent that the disconnection process could be revised. We decided to use a dual lumen mediport needle on patients going home with a prolonged infusion pump. We provided education to patients along with their caregivers on how to disconnect the pump without disconnecting the chemotherapy tubing. We decided to implement this same practice within the infusion clinic for the same benefit of reduced chemotherapy exposure. Once the patient has the dual lumen access, we are then able to use second lumen for saline flush prior to disconnection. Patients are more comfortable disconnecting prolonged chemotherapy pump at home with the dual lumen access because they are not required to remove chemotherapy tubing from the mediport. Positive response from nursing staff was received by making this small adjustment in the disconnection

process. They were happy that this will eliminate one less opportunity to expose themselves to hazardous medications while caring for patients. This process would benefit oncology nurses all over in the effort to protect themselves while caring for patients.

## 206

### IMPROVING A CANCER PATIENT'S QUALITY OF LIFE WITH THE SUPPORT OF AN ONCOLOGY NURSE NAVIGATOR THROUGH STANDARDIZATION OF CARE IN THE OUTPATIENT ONCOLOGY SETTING

Ginny Pugh, RN, BSN, Helen F. Graham Cancer Center and Research Institute, Newark, DE; Karen Sites, RN, BSN, OCN®, Helen F. Graham Cancer Center, Newark, DE

When patients today receive the diagnosis of cancer, their lives can turn to chaos. There is uncertainty and fear of the unknown. Often the focus from the medical team involved in the patient's care becomes narrowed on the patient's treatment and hopeful cure of the cancer. The role of the oncology nurse navigator is to provide patients with information on resources and supportive services that are available to them and to serve as a bridge between medical treatment and supportive services. As an advocate for the oncology patient, nurse navigators provide them with psychosocial support, assistance with treatment decision making, identifying barriers in their care, coordinating care among the multidisciplinary group, and coordinating supportive services throughout their cancer care continuum and thereafter. At the Helen F. Graham Cancer Center and Research Institute, oncology nurse navigators are used in the Multidisciplinary Clinic and throughout the individual physician offices to connect and meet with newly diagnosed cancer patients or those with established diagnoses. The collaboration between the oncology nurse navigators and the physicians at the Helen F. Graham Cancer Center has increased the timeliness of patient's care. An example is through The Supportive Care of the Oncology Patient (SCOOP) pathway, which is used by nurse navigators in a specific population of high risk oncology patients with the hope to show improvement in the patient's experience and outcome, while reducing emergency room visits and re-admissions. The SCOOP pathway allows standardization of care for patients via the electronic medical record by connecting patients with supportive services that are available. Each oncology nurse navigator offers individualized patient care for each cancer patient with the hope that the support and familiarity eases the

patient's journey through the cancer diagnosis and treatment. Having a nurse navigator involved in an oncology patient's care at the beginning of the cancer diagnosis can cause significant comfort and ease for a patient knowing that there is someone to support them along the cancer care continuum.

## 207

### OVERVIEW OF BLADDER CANCER AND IMMUNOTHERAPY: AN EDUCATION FOR THE ONCOLOGY NURSE ON MANAGEMENT OF irAEs

Salima Rafikh, RN, OCN®, MSKCC, New York, NY

Bladder cancer is the 5th most common malignancy in the U.S, with 76,960 cases diagnosed in 2016, and ≥17,000 cancer-related deaths per year. 75% present with non-invasive disease (Stage 0–I), which has a high recurrence rate (50–70%). Only 5% present with metastatic disease at initial diagnosis. About 20% of patients present with locally advanced disease. About 20% of these patients will progress to advanced disease. Only 5% present with metastatic disease at initial diagnosis. Until 2016, there were no new treatment for advanced disease in over 20 years. Platinum-based chemotherapy has been commonly used for patients with muscle invasive and metastatic urothelial carcinoma. From 4/2016 to 5/2017 the five new anti-PD1 and anti-PD-L1 checkpoint inhibitors were approved by the FDA to treat locally advanced and metastatic bladder cancer, and have transformed the way patients are treated. Historically, median survival of patients with newly diagnosed metastatic bladder cancer is less than 1 year, for previously treated patients less than 9 months. The new immune checkpoint inhibitors are notable for extending survival in previously treated patients compared to salvage chemotherapy regimens, and providing a relatively non-toxic treatment for unfit patients with newly diagnosed metastatic disease. Patients now have an option for the treatment of metastatic disease with immunotherapy which requires extensive teaching to the patient and caregivers on the inflammatory processes and the management of side effects during and after treatment, which requires long term surveillance. The nurse is instrumental in ensuring the patients and caregivers are educated on the recognition and management of irAEs of immunotherapy to prevent severe adverse events. The purpose of this presentation is to educate oncology nurses working with bladder cancer patients to demonstrate knowledge about management of immune related adverse events (irAEs). Nurses need to be able to recognize

irAEs, triage appropriately, and intervene appropriately, especially when patients are going to their community emergency rooms for evaluation and management of symptoms.

## 208

### ONCOLOGY ADVANCED SURGICAL RECOVERY (ASURE) PROGRAM

Shanna Ramsey-Haynes, DNP, APRN, ACNS-BC, RN-BC, Cancer Treatment Centers of America at Southeastern Regional Medical Center, Newnan, GA

The Advanced Surgical Recovery (ASURE) Program at Cancer Treatment Centers of America® (CTCA) refers to standardized, multimodal care pathways designed to reduce patients' stress responses to surgery, maintain normal physiologic parameters, and accelerate return to normal daily activities. Evidence-based, surgical recovery pathways have been shown to: decrease length of stay, readmission rates, and incidence of complications related to surgery; as well as accelerate healing and improve quality of life and patient satisfaction. These outcomes are accomplished through multidisciplinary teamwork and includes the patient in decision-making throughout the entire process. CTCA's program is unique in that it incorporates integrative medicine, including nutrition therapy, naturopathic medicine, oncology rehabilitation, acupuncture, chiropractic care, mind-body medicine, and a pain management team. Since implementing the ASURE Program in June 2016, narcotic use in the first 24-hour post-operative period has decreased 74% for pelvic cases and 56% for large abdominal cases. Length of stay has decreased 50% for pelvic cases and 39% for large abdominal cases. 30-day readmission has decreased 100% for pelvic cases and 29% for large abdominal cases. Pelvic cases include vaginal hysterectomies and abdominal hysterectomies with or without the following: tumor debulking, lymph node dissections, panniculectomies, salpingo oophorectomies, partial cystectomies, omenectomies, colostomies, and closure of colostomies or ileostomies. Large abdominal cases include pancreatectomies, cystectomies with ileo conduit or construction of neobladder, pancreaticoduodenectomies, irreversible electroporation (IRE) ablations, and cytoreductive surgeries with hyperthermic intraperitoneal chemotherapy (HIPEC). CTCA has capitalized on clinical expertise across the enterprise and leveraged our unique, integrated care model to support the development and implementation of the ASURE enhanced recovery pathway by focusing on the pre-operative, intra-operative and post-operative

care of patients. Pre-operative care includes patient and caregiver education, medical evaluation and optimized management of medical co-morbidities, physical therapy pre-habilitation, dietitian consult and nutrition preparation (Impact® Immunonutrition and ClearFast PreOp®), preparation and expectation management for post-operative pain management, and additional integrative oncology consults, as appropriate. Intra-operative care includes laparoscopic approaches or minimized surgical incisions, regional anesthesia to decrease need for narcotics, goal-directed fluid therapy, and minimized use of tubes, drains and catheters. Post-operative care consists of advancing diet as soon as possible, unassisted mobility after surgery with the goal of ambulation on post-operative day one, gum-chewing as soon as awake, and pain management utilizing non-narcotic therapies.

**209**

### **THE “S” WORD: DESTIGMATIZING CONVERSATIONS ABOUT SEXUAL INTIMACY AMONG ONCOLOGY AND GERIATRIC PATIENTS**

Kristen Randolph, BSN, RN, OCN®, NYU Langone Health, New York, NY; Molly Blais, BSN, RN, OCN®, NYU Langone Health, New York, NY; Michael Wuckovich, RN, MSN, NYU Langone Health, New York, NY

This project sought to educate hospitalized oncology and geriatric patients about safe sex practices and normal body changes related to aging. In order to ensure patients are appropriately educated, there is a need to destigmatize the conversations about sexual activity between the nursing staff and patients. The objective is to initiate a protocol that allows nurses to comfortably and thoroughly educate oncology and geriatric patients on safe sexual activity. An anonymous five-question survey was distributed via email to 46 nurses. Topics included comfort levels of nurses providing sex education to oncology and geriatric patients as well as what information should be included in sex education. Based on the 69% response rate, it was evident that the nurses surveyed were not comfortable with educating patients on safe sexual practices. Additionally, patients were not receiving the required, vital education on safe sexual practices and body changes related to cancer, treatment and aging. An education handout on safe sex for oncology and geriatric patients was created using plain language. Nurses were educated on how to have discussions about sexual activity with patients. During a patient's hospitalization, a nurse was expected to distribute this handout to the patient and review it

with him or her. Nurses comfort level providing this education and level of patient education on sexual activity was evaluated by observation of changes in nursing practice throughout the unit. The findings showed that nursing staff were unaware of their critical role in providing sexual education to oncology and geriatric patients. Nurses were also surprised by how comfortable they felt providing this education and how many questions patients had on this topic. After the implementation of this new protocol, there has been an increase in nurses' comfort level in providing sex education to patients and thus an increase in patient education on this topic. Next, we hope to make changes to the electronic medical record so that sexual activity is assessed house wide during admission.

**210**

### **Huddle Up! An Interprofessional Effort to Optimize Patient Care**

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The purpose of the Nicholas Family Foundation Translational Research Unit (TRU) is to provide an environment that meets the care needs of patients on Phase 1 and 2 oncology clinical trials and other multifaceted studies in the ambulatory setting. Not only does each protocol have intricate details to follow, which are critical to maintaining the study's integrity and successful execution, but the patients also have their own complex needs. Research staff, nurses, and pharmacists are part of the research team and each has their unique role and responsibilities to ensure optimal care of these patients. To communicate the expected plan of care for each patient on study, a daily huddle was developed to constructively discuss patients coming in for treatment the next day. This discussion is interprofessional and includes infusion nurses, clinical research coordinators and research nurses, research laboratory staff, and investigational drug pharmacists. Discussion is led by the lead nurse in the TRU and is focused around coordination of research care, accuracy of orders/treatment plan, study changes, amendments, lab results, disease evaluations, study related tasks, drug assignments, any outstanding issues, and patient specific needs. The huddle promotes accountability and ownership of the

patient care requirements for the next day and allows staff to proactively address outstanding items before the patient arrives in the TRU. A survey was sent out to research coordinators, research nurses, and laboratory staff to evaluate the effectiveness of the daily huddle. Results were very positive. Survey themes indicated the interprofessional discussion is productive, and allows everyone to be on the same page. If there are outstanding issues, they can be proactively addressed before the patient arrives, making for a smoother appointment the next day. Challenges that remain include the thoroughness and accuracy of the study teams' report on each patient, follow up of outstanding issues, and the communication to the direct care nurse. Other suggestions for improvement relate to location, redundancy, flexibility (phone call versus attendance), efficiency, and time.

## **211** **REDUCING ACCESS REDUCES CLABSI: A UNIT-WIDE PRACTICE CHANGE**

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Central line-associated bloodstream infections (CLABSIs) are a serious life threatening condition that occurs when bacteria enters the bloodstream via a central venous catheter (CVC). CVCs are widely used in patients with hematologic malignancies due to poor peripheral access. These patients require numerous blood draws, therefore limited access and proper CVC maintenance care is necessary to prevent CLABSIs. A hematology oncology unit at a comprehensive cancer center experienced high CLABSI rates due to repeated access of catheters for duplicated, cancelled, and unscheduled blood draws as well as poor oversight of compliance with CVC maintenance practices. The purpose is to demonstrate how a change in workflow and nursing practice decreased incidence of CLABSIs on an inpatient hematology-oncology unit. A unit based task force made up of Nursing leadership, Clinical Nurse Specialist, Quality & Safety Nurse, IV team and clinical bedside nurses evaluated the frequency of catheter access. It was found that patients were inundated with multiple blood draws, increasing

risk for CLABSI. Presurveys were sent to both the IV team and unit nurses to identify practice trends. Findings were presented in unit-wide education involving practice changes to improve communication and workflow. They included consolidating blood work by encouraging physicians to "bundle" lab orders. Type & screens were drawn on predetermined days with AM labs to avoid unnecessary draws. The nurses provided better oversight of cancelled or duplicate lab orders and communicated to both the physicians and IV team to prevent unnecessary blood draw. Additional changes included the presence of two nurses for blood draws that are heavily involved such as blood cultures which require clave changes on each lumen. Finally, weekly CLABSI audits are performed by unit CLABSI champions and sent to the unit nurse leader to ensure sustained compliance with CLABSI bundles. Since implementation, CLABSI rates have declined from 2.35 per 1000 central line days in first quarter 2017 to 1.65 second quarter and zero CLABSI the first month of third quarter. A post survey will be sent to nurses to evaluate practice changes. Nursing leadership is exploring utilizing smart phones as an additional communication tool between the IV and medical teams.

## **212** **DEVELOPING AN ACUITY MEASURE FOR AN OUTPATIENT ONCOLOGY TRIAGE UNIT**

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Currently there are no published standards for the nurse-patient ratios in outpatient oncology settings due to significant variations among institutions, patient populations and the growing needs of the patients. Care of the oncology patient should be based on patient acuity, the care setting, skills of the oncology nurse, support of the care providers in an ambulatory setting and availability of resources for the oncology nurse. The triage unit at a comprehensive cancer center has both scheduled and unscheduled visits for surgical and medical oncology patients. Patients are scheduled for routine visits and procedures and urgent visits are added for patients with problems. This cancer center does not have an emergency room but does have an urgent care area. Triage is a step down from the urgent care area and criteria differentiate which patient is to go to which unit. However as is often the case in oncology, a presenting problem can often be more complex than

initial phone assessment. As the volume of patients seen and the acuity rose and it was clear additional staffing was needed, the staff developed a retrospective measure for acuity to collect daily data. Nursing intensity measurement is the process of sorting and grouping patients for the purpose of nursing care time to the patient. Rapid changes hold the oncology nurse accountable to be flexible, adapt to change quickly, provide care and education as well as provide direct and indirect patient care. The triage nurse manages a one bed triage room and can utilize exam rooms as needed. The triage nurse uses her critical thinking skills to prioritize and often re-evaluate patient care. An attempt is made to have patients scheduled when appropriate however the true purpose is triaging sick patients and coordinating care quickly and efficiently. Statistics are collected daily. The patients are given a level of care from one to five based on time, procedures, education and admission. As a result of the data collected, the staff was increased. The goal is to continue to collect data and provide appropriate staffing, re-evaluating continuously.

## 213

### EXTRAORDINARY ONCOLOGY NURSING CARE MAKES POSSIBLE THE EARLY DISCHARGE OF AML PATIENTS POST-INDUCTION CHEMOTHERAPY

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An Early Discharge Protocol (EDP) was implemented in our large NCCN designated site to compare safety, resource utilization, infections, and costs between AML/high-risk MDS patients who were discharged right after receiving induction/ salvage chemotherapy and standard care patients. Standard care patients typically remain hospitalized for 3–4 weeks. Over a 43-month period, 178 adults were enrolled; 107 patients met predesignated criteria for early discharge, while 29 met medical criteria only and served as inpatient controls. EDP patients were released from the hospital at the completion of chemotherapy and supportive care was provided in the outpatient setting until blood cell count recovery (median, 21 days; range, 2–45 days). Controls received typical inpatient supportive care (median, 16 days; range, 3–42 days). The purpose was comprehensive examination of the role of nursing and care coordination for early discharged AML/

High-risk MDS patient in the outpatient setting and the impact on EDP patient. The AML/high-risk MDS Clinical Nurse Coordinators (CNCs) coordinate the care of these complex EDP patients through: onsite RN assessments (every other day during nadir), coordinating blood product transfusions, triage, symptom management, and care communication with providers and other departments. EDP AML/high-risk MDS patients were able to stay home during recovery from chemotherapy, which in turn significantly decreased hospitalization time, reduced hospital readmission rates and overall costs of care. CNCs dedicated to the care of AML/high-risk MDS patients were central to the success of the EDP and to the current successful outpatient management of post induction patients. Safe and effective management in the outpatient setting for early-discharge AML/ high-risk MDS post-chemo patients was achieved. Comprehensive, expert CNC care management allowed for the success of this protocol, leading to significant decreases in hospitalization time and costs of care. Oncology CNCs were essential to successful patient outcomes and satisfaction with EDP. Clinical standards of care were created to achieve these goals. Patient education tools were designed specifically to reinforce teaching for success in EDP care. Paradigmatic changes in oncology care mandate collaborative work between medical providers, lab team, pharmacists, blood bank services and nurses; in this case, oncology CNCs synthesized the implementation of post induction outpatient care and instituted a new standard for best practices.

## 214

### MANAGEMENT OF LOW RISK FEBRILE NEUTROPENIA IN SOLID TUMOR PATIENTS IN THE OUTPATIENT SETTING

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Neutropenic fever and infection is a common cause of death in patients with cancer. Oncology patients with neutropenic fever require timely administration of empiric antibiotic therapy to prevent progression of infection, which can be life threatening. In 2013, ASCO published recommendations to manage a carefully selected population of low risk febrile neutropenia



patients as outpatients with oral antibiotics. The purpose of our project was to provide convenient same day urgent access for patients, reduce costs of care by decreasing emergency department visits/hospital admissions and maintain the quality and safety of patients identified with low risk neutropenia. In the current healthcare climate, there is a notable shift to value based care which challenges providers and health systems to transform care to achieve their goals of improving quality, providing access, and controlling cost. We created a comprehensive, but not all inclusive, set of guidelines for urgent same day access as part of our care transformation plan for the Oncology Care Model. We further developed guidelines for the management of patients with fever. A suspected neutropenic fever was defined as (single temperature measurement by oral or tympanic membrane of greater than or equal to 38.3°C (101°F) or a temperature of greater than 38.0°C (100.4°F) for greater than one hour). Patients are brought to the outpatient setting to be evaluated by an APRN or MD and risk is calculated using the MASCC score. If score is 21 or higher, and the patient meets the inclusion criteria, outpatient management will be considered. A standardized electronic order template was created for outpatient labs and antibiotics. Daily telephone outreach upon discharge from outpatient are required to ensure appropriate patient follow up. Patients also have clinic appointments scheduled within 48–96 hours. Outpatient evaluation and management for low risk febrile neutropenic fever patients improves quality of life and decreases hospital admissions, length of stay, and complications associated with hospitalization. A data analytics dashboard has been developed with reporting capabilities to determine the utilization of urgent visits for suspected neutropenic fever. We can drill down within the data to view trends in emergency department treat and release, hospital admission and length of stay. Early data suggests an increase in urgent outpatient visits and a decrease in emergency department treat and release.

## 215

### **BLOOD CONSERVATION STRATEGIES IN THE ADULT INPATIENT ONCOLOGY POPULATION**

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The goal of this practice initiative was to decrease the incidence of hospital acquired anemia on an Inpatient Oncology Unit by using the push-pull method and minimal blood volume for laboratory tubes. Repeated exposure to blood products can increase the risk of

developing antibodies, febrile reactions and cardiac overload. Patients with bone marrow suppression due to chemotherapy or other conditions affecting blood cell production may become anemic while hospitalized. A study by Byrn (2016), estimated average daily diagnostic blood loss in hospitalized patients ranges from approximately 12 mL per day in general medical units to 40 to 50 mL per day in intensive care units. The study also estimated that for every 50 mL of blood collected, the risk of developing hospital acquired anemia increases by 20%. Presentations on the push-pull method and minimal fill volume were provided to Inpatient staff at two meetings. Implementation of the push-pull method was established by unit competencies. Collection of pre-intervention data was completed during a one month retrospective chart review. Post-intervention data was obtained through a real time audit requiring RNs to track if they used the push-pull method, the minimum fill volume for CBC's and CMP's/BMP's and if the sample was acceptable. Scripting ideas for patients were distributed to nursing staff. A critical care note was added to the online procedural description stating "Only trained staff can perform the push-pull method of blood sample collection from a Central Venous Access Device (CVAD). The primary method of blood sample collection from a CVAD is the discard method." During the retrospective chart audit, 1999 ml of blood were being wasted using the discard method and filling the lab tubes full. Six patients experienced a drop in Hgb > 2 g/dl; two patients required a blood transfusion. During the post-intervention audit, 886 ml of blood were saved using these two techniques. Four patients experienced a drop in Hgb > 2 g/dl; no blood transfusions occurred. A successful reduction of hospital acquired anemia occurred using the push-pull method and minimum fill volume. Risk of blood exposure and chance of instilling waste blood into a lab tube are decreased using the push-pull method. Competent nurses and use of scripting increase patient satisfaction.

## 216

### **IT'S PEAK TIME: PREVENT FALLS WITH HOURLY ROUNDING**

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Safety Intelligence (SI) reports revealed 23 falls from August 2015–January 2016, a majority of which occurred between 4 AM and 8 AM and were toileting related. The purpose was to reduce patient falls on an acute care oncology unit. Hourly rounding during the 4–8AM timeframe was implemented on all patients and continued throughout the day on patients scoring

15 or greater on the Hester Davis Fall Risk Assessment Scale (HDS). These rounds included addressing the four P's: Personal Hygiene, Pain, Possessions, and Position. Staff was educated on rounding through staff meetings, unit council meetings, and one-on-one instruction. Daily audits were completed to monitor compliance. Peak time rounding was initiated in April 2016. Overall fall rates have been reduced by 44% in the six months following this intervention. Using SI reports assisted in the identification of times when patients were more vulnerable to falling. Hourly rounding during a high-risk time and for high-risk patients has drastically decreased patient falls on the unit. Using the HDS to drive interventions proved to be an evidence-based approach to guide which patients needed rounding. Having clinical decision support such as the HDS to drive care paired with rounding compliance on high fall risk patients is an effective fall reduction strategy. Hourly rounding can be an overwhelming task when it's expected for every patient, every hour. This results in noncompliance and use of rounding on patients that don't need it. When considering hourly rounds, using defined clinical and temporal criteria can assist to drive this important intervention to the right patient at the right time resulting in fewer falls.

## 217

### **BUILDING THE BRIDGE TO ONCOLOGY EXCELLENCE: INCREASING CONFIDENCE OF THE NOVICE BONE MARROW TRANSPLANT NURSE**

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A 16-bed Bone Marrow Transplant (BMT) inpatient unit in an academic medical center experienced a 23.46% increase in allogeneic transplants in one year. This census growth resulted in admissions to other oncology units to accommodate program needs. Historically, a sister hematology/oncology (heme/onc) unit had 4 underutilized designated BMT beds because nurses did not possess the education and training to care for BMT patients. Careful planning and literature review lead to the birth of the BMT Bridge Program. The goal of this project was to create a robust educational program for oncology nurses, to increase their confidence in the care of a BMT patient and open the available designated BMT beds on the heme/onc unit. An educational needs assessment was created for the heme/onc nurses and we constructed

our 2-week BMT orientation in collaboration with nursing education, medicine, and leadership. Our theoretical framework for this program was Benner's Novice to Expert Theory. Some elements included during orientation were admitting and discharging a BMT patient, conditioning chemotherapy, stem cell transplant administration and attending a two hour didactic lecture. Heme/onc nurses were provided with a 1:1 preceptorship on the BMT unit. An algorithm was created in partnership with the admitting department for patient placement. An expert resource nurse from the BMT unit was dedicated to work with the heme/onc nurses to hone their new skills and improve critical thinking since implementation of the program. We assessed nursing confidence levels with a 5 question Likert scale at the following intervals: prior to orientation, post-orientation, and 1 and 2 months post-orientation. Heme/onc nurses demonstrated an approximate 60% increase in confidence level when caring for a BMT patient. We were able to provide the same quality care on the heme/onc unit which was a major concern for our transplant physicians. Oncology nurses play a vital role in successful training and education during implementation of a new program. This program demonstrated that nursing confidence can improve when provided with the right support and opportunity to learn. Moving forward, the new BMT competent heme/onc nurses will provide orientation for future novice nurses using this curriculum. This program can be replicated at any hospital without incurring any costs by utilizing internal experts as resources.

## 218

### **METASTATIC COLORECTAL CANCER PATIENT EDUCATION: NEEDS AND FUTURE DIRECTIONS**

**Nicole Ross, CRNP, Fox Chase Cancer Center, Philadelphia, PA**

The purpose is to discuss and review the key areas of patient education for patients with metastatic colorectal cancer and how nurses use evidence based guidelines to inform their patients. Treatment of metastatic colorectal cancer has changed for the better in the last several years. More treatment options including VEGF and EGFR inhibition are available. There are also new oral medications that can provide durable responses for patients. The oral medication schedules are complex and nurses are key to helping patients understand the treatment schedule. Nurses play an important role in educating patients on side effects and evidence based interventions including

skin care, monitoring and managing hypertension, controlling diarrhea, and treatment of nausea. Immunotherapy has also emerged as a potential treatment for a select group of metastatic colorectal patients who are MSI-high. Nurses need to understand the treatment options, role of sequencing these drugs, and side effect management. We need to teach our patients in a way they will understand and absorb the advice, despite their anxiety and stress. Review of the literature includes a review of prior educational needs of these patients, common side effects and their evidence based management strategies, teaching tools, and online resources. The evaluation includes a review of prior literature on the topic and identified education needs. The evaluation also includes where to find evidence based resources and recommendations for symptom directed patient education tools. This project has the potential to lead into many other abstracts and projects. It is imperative to know your patient population and a potential future study is to screen your patients understanding and education needs and develop a patient teaching program fit for your patient and then test them in a subsequent setting to see if the teaching was effective.

**219**

### **ONE BED AHEAD: ENSURING ONCOLOGY PATIENTS RECEIVE CARE BY ONCOLOGY NURSES**

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Patients with the diagnosis of cancer were often admitted to non-oncology areas. Therefore, they were not being cared for by oncology nurses with specialized knowledge and skills. Conversely, patients with non-cancer diagnoses were admitted to inpatient oncology and palliative beds. The purpose is to describe a process improvement project to ensure that oncology patients and palliative care/hospice patients are admitted to the oncology/palliative unit, where they are cared for by nurses knowledgeable and competent in oncology/palliative nursing. The American College of Surgeons Accreditation Standard 4.4: Oncology nursing care is provided by nurses with specialized knowledge and skills. Competency is evaluated annually. Each nurse completes 61 hours of oncology nursing education during their first year on the unit. Classes include: Cancer 101, Chemotherapy

Course for Nurses, Getting Started in Oncology, Caring for the End of Life and Palliative Patient, Radiation Oncology Experience, Palliative Care Experience, Oncology Nursing Skills Day, and Annual Chemotherapy Competencies. Baseline Audit May 2016: 52.75% of Patients on the Oncology/Palliative Unit with a Cancer, Palliative or Hospice Diagnosis 1. Criteria for admission to the inpatient oncology/palliative unit were developed: a) Patients under the care of a medical, gynecologic, or radiation oncologist b) Patients seen in consult by an oncologist for strong suspicion of a new cancer or complication arising from an existing cancer c) The patient's reason for admission is an active problem related to a cancer or its treatment, including but not limited to: febrile neutropenia, nausea and vomiting, superior vena cava syndrome, spinal cord compression, hypercalcemia d) Chemotherapy or biotherapy administration e) Palliative Care or Hospice Patient 2. Institute "Bed Ahead": (a) Reserve beds for chemotherapy and biotherapy patients. (b) Reserve an additional bed for any potential oncology admission that meets the established criteria. (c) Oncology unit charge nurse works with the Emergency Department and Bed Management to ensure patient admission to the oncology unit. (d) Data collection began May 2016 and continues to be collected Monday–Friday. Data presented is from May 2016–May 2017. As of May 2017, 82.65% of Patients on the Oncology/Palliative Unit with a Cancer, Palliative or Hospice Diagnosis. Reserving a "Bed Ahead" for potential admissions has increased the number of oncology patients who receive specialized oncology nursing care.

**220**

### **DEVELOPING A FALLS PREVENTION POLICY FOR OUTPATIENT INFUSION CENTERS**

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Our cancer center has three separate geographic locations that provide oncology treatments and infusion services. Incidence of falls or near falls were on the rise in all locations. There were inconsistencies in the identification of patients at risk for falling, in interventions being chosen or implemented, and documentation of falls prevention measures. The Falls Prevention Policy for inpatient areas was not feasible in the outpatient infusion areas which led to confusion for staff on what was the best plan for falls prevention. The purpose is to create a standardized process for identifying patients at risk for falling and decrease

the number of fall related incidents in the treatment areas. Interventions: (a) Project meeting to determine scope. Key team members identified including staff nurses, nurse leaders and quality staff. (b) Shadowing of staff at all locations to assess current practices and falls documentation. (c) Searched literature for best practices without success. (d) Drafted Outpatient Falls Prevention Policy. (e) Developed an audit tool to measure compliance. (f) Created and implemented staff Education plan. (g) New policy adopted. (h) Compliance audits conducted by team members with real time feedback given to staff nurses (i) Utilized staff suggestions to improve documentation compliance with the addition of specific easy to use screening sections in the EMR. A standardized falls assessment, interventions and documentation process was implemented at all locations. Within 6 months our goal was met to achieve 90% compliance to the new process. It is difficult to find a falls policy specific to high risk outpatient areas. To ensure staff compliance there is a consistent need to audit and give real time feedback until the process was hardwired. As a result of our success there is interest in adopting our new Falls Prevention Policy in other outpatient departments. Investing resources to develop and implement an outpatient falls policy can heighten safety for patients and staff awareness.

## 221

### CHEMOTHERAPY FLUSHING PROCESS

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Chemotherapy and Biotherapy infused via a primary line and how to infuse the residual amount of product that is left in the IV tubing once the bag is empty. The process was to manually flush the product in but this caused some safety concerns. Intervention: Determine an alternate method to flush the remainder of the chemotherapy without increasing the risk of exposure or contamination of the line. We first tried to flush the line by having the chemotherapy and /or biotherapy administered via a secondary line and using the primary line as the flush line. This process provided a way for all of the chemotherapy to infuse and would provide an adequate flushing of the line after the product was done infusing. The second option was to maintain the infusion on a primary

line and utilize the BD Phaseal port on the base of the chemotherapy bag. To facilitate this process, the nurse primes a secondary flush bag with a BD Phaseal at the end. The pump is set for the volume of flush and the remainder of the chemotherapy is flushed through the patient and line left over product in the line will be the flush solution. Comparison: The first option with the chemotherapy and/or biotherapy infusing as a secondary became problematic because the Alaris® pumps operate via gravity. The challenge of having the primary flush bag at a low enough level in order for the secondary to infuse was causing the fluid to pull from the primary versus the secondary. No infusions or breaks in care were disrupted but meticulous monitoring made it challenging. The second option with having the primary line as the chemotherapy and using the BD Phaseal port to connect a flush bag was implemented. The process allows all of the chemotherapy to infuse and provided an adequate flush of the entire IV line. Outcome: After both options were implemented, the process was decided to maintain the chemotherapy and/or biotherapy on a primary infusion line and utilize the BD Phaseal port to flush the remainder of the chemotherapy out of the primary line. Time: Chemotherapy and/or biotherapy as a secondary done from 1/23/17 – 3/17. Current practice of infusing via a primary line since 3/17 with no issues.

## 222

### CARING FOR OUR PATIENTS THROUGH PREGNANCY, CHEMOTHERAPY, DELIVERY, ALL THE WAY THROUGH STEM CELL TRANSPLANT

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It is a myth that pregnant women with cancer should terminate their pregnancy. More pregnant women with cancer are choosing to continue their treatment while pregnant. A diagnosis of cancer is always traumatic but being diagnosed while pregnant adds substantial fear and challenges to the patient, her family and her care team. Cancer during pregnancy is uncommon, one out of every 1,000 pregnancies. The diagnosis of hematological malignancy during pregnancy is rare. Acute leukemia accounts for 1:75,000–1:100,000 pregnancies and lymphomas 1:1000–1:6000 pregnancies. Making them the most frequent hematological malignancy. There is

insufficient data on the care of pregnant women with cancer. In this case report we will present information the oncology nursing staff on 7a at Brigham and Women's Hospital have learned in caring for two pregnant women who were diagnosed with acute leukemia while pregnant, received chemotherapy, delivered healthy babies and went on to have a stem cell transplant post-partum. The oncology nurses utilized our relationship based care model at Brigham and Women's Hospital that values the patient/family relationship. It is based on providing patient and family centered care, recognizing and appreciating differences among us. The nurse knows the patient as a person and is able to develop an individualized plan of care to meet the patient/family needs. By working collaboratively with the multi-disciplinary team, the nurse advocates with and for the patient/family to achieve optimal outcomes. The nurses were committed to knowing the patient and their family so they felt known and cared for. They partnered with the patient when making clinical judgments based on the patient's needs, helped resolve concerns and engaged in caring practices. They responded to the patient's specific needs. They worked with and lead others to act responsibly and courageously on the patient's behalf. Relationship based nursing care model guided the nursing care and helped to lessen the trauma, fear and challenges while supporting our patients through pregnancy, chemotherapy, delivery and transplant. In sharing these case reports it is our hope to emphasize the need for collaborative efforts to expand the basic and clinical research needed to fully understand the challenges in caring for the pregnant oncology patient.

## **223**

### **IMPLEMENTATION OF A DELIRIUM PROTOCOL FOR SURGICAL ONCOLOGY PATIENTS 65 AND OLDER: A PILOT PROJECT**

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Delirium is a common, serious medical problem which is under-recognized by healthcare providers and can lead to poorer outcomes, including: functional decline, greater morbidity and mortality, increased nursing home placements, longer lengths of stay, and higher healthcare costs. According to the

American Psychiatric Association, delirium affects 51% of post-operative patients and 10% to 40% of hospitalized patients. Early recognition and treatment can improve outcomes. The purpose of this pilot study is to improve delirium recognition among nurses in an oncology medical surgical telemetry unit by measuring knowledge levels of the Confusion Assessment Method (CAM) screening tool and delirium interventions and to implement a delirium protocol for at risk patients. Nurse driven Delirium Protocol included initiation and documentation using the CAM screening tool and prevention measures in the electronic healthcare record (EHR). The CAM is a standardized evidence-based tool that enables trained clinicians to identify and recognize delirium quickly and accurately in the clinical setting. Oncology nurses on the pilot unit were trained (n= 42) on the use of the CAM tool and interventions to improve recognition and management of delirium. Of the 42 trained, 37 are active staff. Training included in-services, assigned online education, and a pocket reference card. Initial collaboration was initiated with the urology surgical team prior to implementation of the protocol. Pre (n=24) and post surveys (n= 32) of oncology nurses' knowledge of the CAM screening tool, delirium prevention measures, and confidence in their ability to care for delirious patients were collected (1=low, 10= high). Their confidence in caring for a delirious patients improved (pre-mean 5.75 vs. post-7.28), familiarity of the prevention measures increased (20.83% vs. 100%), and use of the CAM screening tool in the EHR increased (8.33% vs. 90.63%). Chart review of CAM and prevention measures documentation in the EHR is pending. Identifying at risk patients, intervening to prevent delirium, and treating delirium are important considerations for surgical oncology patients. The oncology nurse is in a key position to recognize risk factors and signs of delirium, assess patients to intervene early and minimize the occurrence and duration of delirium. Implementing a nurse driven delirium protocol is essential to improving recognition, prevention and management of delirium in the postoperative cancer patient.

## **224**

### **A PREPARATORY LETTER AND CAREGIVER CONVERSATION TO DECREASE DISTRESS AND SUPPORT FAMILY ENGAGEMENT WHEN CHILDREN ARE INITIATING PROTON BEAM THERAPY**

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Distress experienced when a child has cancer can negatively impact families. How caregivers cope and manage the stresses of their child's treatment influences their ability to support their child. The demonstrated link between caregiver and child distress suggests an area of need for ongoing research and consideration for evidence-based, family-focused interventions. This quality improvement (QI) project was an interdisciplinary effort to better prepare and support caregivers of children undergoing proton beam therapy (PBT) to decrease distress and promote family engagement. An evidence-based, theory-guided Preparatory Letter sent electronically at the time of scheduling and a follow-up structured interview following a Caregiver Conversation Guideline (CCG) to reinforce the Preparatory Letter comprised the intervention. Intervention effect was assessed with the Patient Education Evaluation form and content analysis of meaning units in the CCG interview. Ten caregivers of ten different children receiving anesthesia for PBT participated in the CCG interview during the pilot time period. None of the participants had read the Preparatory Letter despite having received it with the child's scheduling message; the Letter was reviewed during the interview. Participants (n = 10) reported two themes of their experience of the Preparatory Letter during the CCG interview: "Being overwhelmed" and "Focusing on the practical". Mean satisfaction with the Preparatory Letter, after its review during the interview was 4.2 on a 1–5 scale from "not at all satisfied" to "very satisfied" with education provided. Mean satisfaction with overall preparation was 3.8 and mean confidence in ability to provide support to the child was 4.9. The small number of participants limits generalizability of the work. Participants in this project were satisfied with the Preparatory Letter once it was reviewed and confident in their ability to support their child. The interdisciplinary nature of the project resulted in an effective intervention implementation process. Yet, it is possible that the overwhelming nature of PBT precludes focus on preparatory education. Guided review during initial PBT appointments may be needed. This was a pilot project for an enterprise level educational video. Lessons learned will be used in the implementation of the video. Clinicians may want to consider additional methods of implementing and supporting multimodal educational materials in practice while being mindful of caregiver distress.

## 225

### ZERO CLABSI: IT TAKES A VILLAGE TO MAKE IT HAPPEN

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Central Line Associated Blood Stream Infections (CLABSIs) contribute to increased morbidity/mortality, prolonged hospitalizations, and increased healthcare costs. On a 26-bed inpatient oncology unit, eight CLABSIs were identified within nine months, well above the hospital and national average. An interdisciplinary team and the hospital's Lean Six Sigma staff convened to analyze contributing factors: central line (CL) dressings were becoming wet during bathing, patients with CLs were assigned to float staff, hand hygiene lacked compliance, housekeeping staff practice varied, impregnated caps/line cleaning was inconsistent, and daily bathing/bed linen changes were lacking. The purpose of this project was to reduce CLABSIs on the inpatient oncology unit. Interventions: Nurses were surveyed regarding CL knowledge which revealed significant gaps; CLABSI education followed. A real-life story of one patient who became critically ill from a unit-associated CLABSI illustrated the importance of infection control. Evidence-based practice interventions were implemented including use of water impermeable dressings when bathing patients with CLs, daily bathing followed by a Chlorhexidine Gluconate (CHG) wash, and daily linen changes. Each shift's charge nurse confirmed compliance with CL policy standards through daily audits. A CLABSI awareness board with "days without CLABSI" and monthly metrics of audits were displayed on the unit for all staff, patients, and families. The unit has sustained zero CLABSIs for nine months. CLABSI awareness continues via change of shift huddles with announcements of CLABSI-free days. Staff noted several patients refusing CHG bathing. To increase compliance, a patient education handout was created resulting in better patient understanding. Nurses reported improved accountability for CLABSI prevention and increased collaboration between RNs and CNA regarding patient hygiene. Learning opportunities were abundant including the importance of examining care basics, engaging the team before making changes, posting audit data visually to illustrate progress, and consistently reviewing current literature for potential practice changes; the team was previously unaware of daily CHG bathing in reducing CLABSI. Next steps include developing an electronic

order for CHG treatment as documentation drives practice. Involving patients, staff, and leadership in interventions to reduce CLABSI ultimately contributed to success. Awareness boards illustrating trends and celebrating milestones engaged staff in sustained interventions to decrease CLABSIs. Nurses should consider including many of these elements when developing quality improvement initiatives.

## 226

### ASSESSING INTRA- AND INTER-PROFESSIONAL COMMUNICATION EFFECTIVENESS AMONG ONCOLOGY NURSING STAFF

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Communication is one of the fundamental aspects of professional nursing. To be effective in their roles, nurses need to master aspects of both intra- and inter-professional communication. Research has shown that ineffective, disruptive communication in healthcare settings poses a threat to patient safety and adversely affects patient outcomes. Recognizing the importance of communication, nurse educators include communication skills training in nursing curricula and nurses are instructed further on communication skills in postgraduate programs, through in-service education programs, and in workshops. Still, putting communications skills into practice has proven to be rather challenging. Results from a recent Employee Engagement survey at the Karmanos Cancer Center (KCC) showed that employees perceived that there was room for improvement in communication in the work environment. However, data from the survey were not reported in a way that allowed one to determine whether nurses' intra- and inter-professional communication skills were or were not in need of improvement. The twofold purpose of this process improvement initiative was (1) evaluate, by survey, nurses' perceptions of their own intra- and inter-professional communication effectiveness, and (2) identify aspects of intra- and inter-professional communication in need of improvement. An author developed, brief, self-report questionnaire was developed. With administrative approval, nurses and nursing assistants working in in patient settings completed questionnaires while at work. Questionnaires were modified slightly, as needed, to accommodate the environment of care (ICU or med-surg) and the respondent role (nurse or nurse assistant). In total

107 questionnaires were returned. Findings from the survey were remarkably consistent across environments of care and roles. Specifically, nurses and nurse assistants both reported low levels of confidence in giving constructive feedback to others when on the receiving end of disruptive communication. Findings from this survey are comparable to those reported in the literature. However, we were somewhat surprised to see that communication self-efficacy (confidence) was consistently the most prominent barrier to effective communication across environments of care and roles. In order to promote more effective communication, interrupt disruptive communication behaviors, and minimize the risk to patient safety, nurses might benefit from targeted instructional programs that help them increase their communication self-efficacy (confidence).

## 227

### MUSIC THERAPY INCREASES PATIENT AND STAFF SATISFACTION

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Hospitalized oncology patients are faced with many painful procedures, medical issues and possible complications. The nursing staff on 5800 were caring for a patient who was becoming increasingly depressed due to an extended length of stay and multiple complications. One of the nurses told this patient she was going to sing to her in an attempt to brighten her mood. The patient smiled for the first time in weeks. The family was so overjoyed by the change in their mother's mood that they cried. The family requested the nurses to sing to their mother for the rest of the hospital stay. Unfortunately the patient passed away, but when the staff attended the memorial at the funeral home, the family asked the staff to sing "Delta Dawn" one more time in memory of their mother. From this experience, the music therapy program on the oncology unit was born. The patient care staff enhanced "the music therapy program" by adding props including microphones, boas, wigs, toy instruments and various costumes. Staff now provides music therapy to any patient they feel will benefit including those who have minimal visitors, those with a prolonged hospitalization or have gotten a discouraging diagnosis. Staff will also sing "Hit the Road Jack" to those patients who complete their course of chemotherapy. One patient was so touched by this rendition of "Hit the Road Jack" that she videotaped it and posted it to YouTube. While the patient care staff started the music therapy program to increase patient

morale, the program has united the staff and added to the personality of the nursing unit. Although anecdotally patients and staff have commented positively about this program, a survey was developed to evaluate patient and staff satisfaction. Survey results will be compiled and shared with staff members. Impact has been reflected in patient satisfaction scores. This type of program is going to be rolled out to other units because all patient types may benefit from Music Therapy.

## **228 THERAPEUTIC HUMOR: HOW FUNNY CAN IT BE?**

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Humor with laughter has been espoused as being good medicine, supporting socialization as well as a diversion from pain and stress. A review of the literature reveals truth to this claim. The relationship of behavior associated with emotion and the impact on cardiovascular disease, the immune response, endorphin release and decreases in stress hormones is well documented in the scientific research literature. Beyond a sense of well-being, humor and laughter have physiological benefits such as relaxing smooth muscle, enhancing oxygen intake and balancing blood pressure. Incorporating humor and laughter into our daily lives is challenged by barriers, including thoughts that humor has no place in healthcare. This didactic presentation includes a review of the current literature regarding the psychologic and physiologic benefits of humor and laughter. Attendees will hear various hypotheses as well as concrete results from scientific inquiry. Passive humor from observation as well as more active humor whereby one creates or finds humor within unpleasant or stressful situations will be discussed. Strategies for the appropriate implementation of humor are outlined. The use of case studies and examples of humor therapy is included. Participation from attendees is encouraged. The significance of attending this presentation allows for a better understanding of the place for humor in healthcare that also provides strategies for its implementation. Understanding that humor goes beyond telling a joke, that to find humor within the setting of stress or illness can have benefits that go beyond socialization or diversion is clarified. The complimentary use of humor and laughter therapy in the setting of stress or illness provides diversion, a feeling of well-being but also has been shown to improve health by a multitude of physiologic and psychologic

processes. By understanding the usefulness of humor as a nursing tool should decrease barriers to implementation. Attendees learn that laughter and humor are human responses that can promote quality of life and adaptation to illness. The provision of evidence based research on the psychologic and physiologic benefits of humor and laughter should lessen barriers to its use in practice. More research is needed to best associate cause and effect, which is ongoing.

## **230 OPTIMIZING THE UTILIZATION OF ELECTRONIC MEDICAL RECORD SYSTEM BY NURSES AND FOR EFFICIENT DATA COLLECTION BY RESEARCH TEAM**

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Duke University Health System implemented an electronic medical record (EMR) for clinical records in 2012; the clinical research team began EMR use same year for study source documentation of research-related activities. For thousands of research studies conducted annually at this large academic center, study-specific electronic data capture (EDC) systems and the EMR do not communicate; thus, research teams continue to require additional study-related information from clinical staff, often transcribed on paper, to complete source documentation. However, paper-based documentation sources are being eliminated, creating challenges for the research team to obtain study-specific data. The purpose was to demonstrate the use of 'smartphrases' within the EMR as a means to communicate study-specific encounter information, provide source documentation for clinical research EDC system, and avoid use of paper-based documentation. A work flow was developed for optimizing the EMR by: 1. Building study-specific smartphrases by the research team, 2. Sharing smartphrases with clinical staff working with research patients through EMR encounter notes. 3. Including study clinical research coordinator (CRC) contact information with study-specific smartphrases for clinical staff questions and trouble-shooting. 4. Using study-specific smartphrase for real-time documentation by the clinical team taking care of the patient. 5. Data extraction from smartphrase documents/notes for completion of research study. For example, a smartphrase would contain information regarding a scheduled pharmacokinetic lab draw and anticipated time of collection from the CRC, while the nurse completes the actual time of collection.



CRC and clinical staff report improved communications with the smartphrase use. As a result, there were substantially less calls made between research and clinical staff to relay study-specific information. Workflow for both staff have eased and improved satisfaction. Additionally, research-related documentation has been obtained 100% through the EMR, eliminating paper documentation. Development and implementation of study-specific smartphrases to communicate study-specific information between research and clinical staff has been very successful. Staff report improvements in workflow for research study patients and research teams complete study participation without additional contact required with clinical staff. Next steps are to train more research teams to use smartphrases for implementation. This intervention is an innovative method to capture and transfer research data from the EMR to the study-specific EDC system.

### 231

#### **INTRAPERITONEAL CELLULAR THERAPY: NURSE DEVELOPED ADMINISTRATION STRATEGIES ACT TO OPERATIONALIZE RESEARCH PROTOCOLS**

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Intraperitoneal (IP) instillation of chemotherapy has remained a mainstay in treatment of ovarian and peritoneal cancers, while cellular therapy (CT) has emerged in recent years as an accepted immunotherapy for numerous malignancies. This phase I protocol was developed by physician investigators to assess safety and toxicity associated with the administration of autologous monocytes coupled with interferons alpha and gamma via the intraperitoneal route. Nurses in our organization have extensive experience administering CT intravenously due to the increasing trend in cancer research to study adoptive cell transfer. Likewise as directions in research shift, the same nurses have not had the opportunity to routinely administer any instillations via the IP route in over 5 years. In order to support the implementation of this cutting edge protocol, we sought to expand on current nursing knowledge regarding administration, care and management of patients undergoing CT. A novel route for CT, refreshing knowledge related to IP

administration techniques as well as care and maintenance of IP catheters was required. As members of the interdisciplinary research team, nurses are integral in translating conceptual research protocols so they can be applied to research participants (RP). As such, the Oncology Clinical Nurse Specialist (CNS), Oncology Nurse Educator, Research Nurse Coordinator, and Clinical Research Nurses (CRNs) developed an expanded institutional procedure for administration of CT via the IP route incorporating evidence based practices. Additionally, this team collaborated to provide up front as well as “Just in Time” teaching, using a “Train the Trainer” model and mentoring to direct care CRNs. As with many “First in Human” trials, our team sought to prepare CRNs with information from foundational research and animal models, coupled with knowledge of managing both CT and IP approaches individually. Bringing “Bench to Bedside” is a key role for nurses in research. Adding to the complexity of this role is the irregular utilization of some procedures in active protocols, therefore, nurses need to benchmark best practice and regularly learn new procedures. After initial implementation, rapid cycle performance improvement and nursing recommendations influenced a change from inserting percutaneous IP catheters to subcutaneous IP ports. Warming fluid prior to instillation of the cells was also eliminated due to patient complaints. Nursing facilitation of procedure development supported successful implementation of the research protocol.

### 232

#### **JUMP ON THE PATH TO THE HEAD AND NECK CANCER PATIENT'S JOURNEY**

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The National Comprehensive Cancer Network (NCCN) has guidelines regarding baseline testing and supportive care for newly diagnosed head and neck patients. These guidelines were analyzed prospectively over 3 years to see if our institution met the baseline guidelines. The biggest question we asked was, if the guidelines were not met, what was the cause. What we found was the

reason that we were not compliant with some of the guidelines, was not due to lack of resources; the problems were either documenting the resources or building the interdisciplinary relationships to complete the guidelines. Analysis showed that we were only 35%–75% compliant with the areas looked at. This was the start of the pathway that we now use for all our diagnosed head and neck patients. There are three different pathways to put into place; a new patient pathway, an on treatment pathway and a follow up pathway. The creation of the pathways was through interdisciplinary meetings with specialties involved in the care of the head and neck patient. We have put the monitoring and the compliance into an assessment with triggers to the specialty areas that need to be consulted. A planning committee was put into place. After analyzing the guidelines, the following areas have been put into an assessment which is performed before treatment starts, and a weekly monitoring assessment. The areas looked at in the prospective analysis; weight, dental, visual swallow evaluation, smoking cessation, nutrition- including or excluding tube feeds, and support groups. We have also added to assess referrals to social work, ONN palliative care, survivorship and interdisciplinary care rounds. The assessment with triggers to subspecialties has been put into place in the 2nd quarter of 2017 with many modifications of how assessment and triggers work. The evaluation of the process will be taking place at the end of 2018. We feel this will give our patients a more comprehensive experience and increase outcome with less side effects and/or better management of their side effects. It is known, patients being properly monitored and followed can have better outcomes.

### 233

#### MANAGING PATIENT EXPECTATIONS ABOUT CHEMOTHERAPY WAIT TIMES

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Much of life's discontentment stems from discrepancies between expectation and reality. At the Karmanos Cancer Center (KCC) Press Ganey (PG) indicators suggest that patients experience some dissatisfaction with their chemotherapy experience; especially when it comes to wait times. Dissatisfaction with chemotherapy wait times is a pervasive problem that plagues many Comprehensive Cancer Centers. Thus this is not a problem peculiar to KCC alone. In order to achieve greater congruence between patient experience and

reality it is important to improve reality and manage patient expectation. In the past, unilateral steps have been taken to improve reality (e.g., by decreasing lab wait times) with little attention given to modifying patient expectations. Managing the patient expectations through excellent and timely communication can help improve patient satisfaction with care. The purpose of this process Improvement initiative was to improve the patient's chemotherapy experience by modifying patient expectations related to chemotherapy infusion wait times. A new standard of care was introduced wherein chemotherapy patients received (1) a brief explanation of the chemotherapy experience before starting chemotherapy and (2) a newly developed chemotherapy "What to Expect" brochure when they sign consent for chemotherapy. In order to evaluate the impact of the new standard of care, one PG indicator (PG #1 = "Wait time for chemotherapy") was tracked in three infusion centers for six months prior to launching the new standard of care and for six months after launching the new standard of care. There was no demonstrable improvement in patients' perceptions related to chemotherapy wait times. Findings from this process improvement initiative may reflect a loss of understanding on the part of the patient due to delays between the time the information was initially received and the time chemotherapy was started. Further work is underway to determine whether reinforcement on the first day of chemotherapy might have a greater impact on patients' perceptions about chemotherapy wait times. Managing the patients experience and expectations is a dynamic and ongoing process. Nurses should consider giving and/or reinforcing experiential and expectation information as close to the event as possible.

### 234

#### NURSING IMPLICATIONS AND MANAGEMENT FOR PATIENTS WITH VITAMIN D DEFICIENCY IN MULTIPLE MYELOMA PATIENTS

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Multiple myeloma (MM) patients commonly suffer from severe skeletal abnormalities, which often predict a poorer prognosis. Vitamin D is a known promotor of skeletal metabolism and bone mineralization, which help maintain bone strength and reduce the risk of fractures and other skeletal complications associated with MM. Several studies have demonstrated the prevalence of vitamin D deficiency 25(OH)D level less than 20 ng/mL is around 40% in MM patients. Other studies

correlate vitamin D deficiency with inferior outcomes from autologous stem cell transplant as well as overall poor prognosis. Patients with vitamin D deficiency had higher mean values of serum C-reactive protein (CRP) and creatinine, and had lower serum albumin compared to patients without vitamin D deficiency. The prevalence of vitamin D deficiency increased in parallel with International Staging System (ISS). Association of vitamin D deficiency with higher serum CRP, serum creatinine and ISS stage at time of diagnosis suggests that vitamin D deficiency may portend poorer outcomes in patients with MM. The review searched key databases including Medline, British Nursing Index, Cochrane, and meeting abstracts to ascertain the extent of literature in this field. Patients with the diagnosis of MM should all have a baseline screening for vitamin D deficiency followed by level monitoring every 3 months following supplementation. One vitamin D level should be checked one month following the loading dose of vitamin D supplementation. Treatment: American Academy of Family Physicians 2009: oral ergocalciferol (vitamin D<sub>2</sub>) at 50,000 IU per week for eight weeks. After vitamin D levels normalize, experts recommend maintenance dosages of cholecalciferol (vitamin D<sub>3</sub>) at 800 to 1,000 IU per day from dietary and supplemental sources. Endocrine Society Guidelines 2011: oral ergocalciferol (vitamin D<sub>2</sub>) or Cholecalciferol (D<sub>3</sub>) 50,000 IU weekly (or 6000 IU daily) for 8 weeks to achieve 25(OH)D level above 30 ng/m. Maintenance with 1500–2000IU daily. The National Osteoporosis Society 2013: loading regimen of 300,000 IU given over 6 to 10 weeks in either daily or weekly doses followed by maintenance of 800 to 2000 IU daily. Vitamin D deficiency is associated with poor outcomes in patients with MM. Monitoring and treatment is essential to provide patients with optimal, evidence based care. Maintaining adequate serum levels of Vitamin D may reduce patients' risk of negative outcomes associated with MM.

## 235

### SUCCESSFUL MANAGEMENT OF REFRACTORY DISRUPTIVE BEHAVIOR WITH ART

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Anxiety of various degrees is virtually present in 100% of adult patients with cancer and is often associated with a variety of physical manifestations as well as psychosocial distress. Severe anxiety that impacts patient

behavior negatively makes it difficult for the nurse to provide care during chemotherapy treatment and may be observed in up to 10 or 20% of the patients. It may contribute to a delay or neglect of treatment and once identified, pharmacological therapies are commonly administered. However these agents are not always effective and can impede cognitive and social functioning. For some patients, high levels of anxiety may preclude them from receiving cancer therapy. Oncology nurses are in a unique position to help identify patients with anxiety and implement complementary measures to help manage this devastating symptom. One non-pharmacologic evidence-based intervention is the use of art as a therapy. Through a case-study example, the purpose of this project was to utilize an art program to improve anxiety among adult patients undergoing treatment for cancer at a large urban comprehensive cancer center. The use of the art program began with a 56 year old female with advanced ovarian cancer who had a complex mental health history coupled with severe anxiety. Her history included disruptive behavior that precluded her from being able to receive treatment from several other facilities. After initially refusing care, the oncology nurse referred her for therapeutic art making. A marked decrease in her anxiety was noted and the patient was able to successfully receive treatment. This case study set the foundation for referrals to non-traditional modalities for psychosocial symptoms among patients with cancer. Such supportive services can provide extended emotional support. It also fosters the interdisciplinary process which improves patient safety, quality and patient experience. Our case study demonstrates that the therapeutic use of art should be considered in the management of patients with anxiety or mental health concerns. As patient care delivery becomes more complex, the nurses' ability to coordinate care between different disciplines is crucial.

## 236

### EMPOWERING NON-CHEMOTHERAPY CERTIFIED NURSES TO MANAGE CHEMOTHERAPY/BIOOTHERAPY INDUCED HYPERSENSITIVITY REACTIONS

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At this NCI-designated comprehensive cancer

center and Magnet recognized organization, three percent of the chemotherapy/biotherapy is administered in inpatient adult units. The majority of these inpatient treatments (53%) are administered in hematology and bone marrow transplant units. All Registered Nurses (RNs) who work in these units are chemotherapy certified (21% of inpatient RNs). The Chemotherapy Research Team, an expert group of RNs for chemotherapy/biotherapy and clinical trials, administers chemotherapy on all other units. A chemotherapy/biotherapy education program is available for all nurses but attendance is not mandatory for those who aren't administering these high risk infusions. Therefore, non-chemotherapy certified nurses (79%) often feel uneasy to initiate treatment measures when their patients experience Chemotherapy Induced Hypersensitivity Reactions (CIHRs). Prior to initiating treatment for CIHR, this organization provides its nurses with standing medical orders and a pre-packaged medication kit for treating CIHRs. Despite these provided resources, the RNs verbalized their lack of knowledge and hesitancy to manage CIHRs. They await a response from a Licensed Independent Practitioner before managing patients' symptoms, leading to treatment delay or potential negative patient outcomes. The purpose of this educational series is to improve chemotherapy knowledge among the RNs and to empower them to manage CIHRs at the onset of symptoms. This new knowledge will promote optimal patient outcomes and increase nurse satisfaction level. The Chemotherapy Research Team consists of nine nurses, a Clinical Nurse Specialist, and a Nurse Leader all of whom are Oncology Certified. An institution-wide educational series was developed for RNs by this team highlighting the mechanisms of hypersensitivity reactions, signs and symptoms, potential drugs causing CIHR, use of the pre-packaged medication kit, and the importance of prompt symptom management as per institutional policies. A pre and post survey was conducted to assess their knowledge and the nurse satisfaction level. One hundred RNs completed the surveys. Overall CIHR knowledge improved from 86% to 96%. The comfort level in the management of CIHRs increased from 30% to 92% post intervention. The education empowered the nurses and strengthened their knowledge and satisfaction. Rapid growth and the expansion within this organization make it necessary to recruit new RNs on an ongoing basis. The chemotherapy research team's decision to provide this education was effective in improving knowledge of CIHR and patient safety.

## 237

### **“ORAL CHEMO STARTER KITS”: PROMOTING SAFE HANDLING OF HAZARDOUS DRUGS FOR NON-ONCOLOGY UNITS**

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With the recent surge of oral chemotherapy/biotherapy hazardous drugs (HDs) to treat cancer and non-cancer conditions, administration of these agents has expanded into non-oncology settings. Many oral agents, prescribed by physicians in the outpatient setting, are not listed on hospital pharmacy formulary, are brought into the acute care setting from home, and may be prescribed by non-oncology providers for patients “to continue home meds”. Oral HDs may go unverified and are dispensed by nurses who are not aware these may be hazardous agents requiring safe handling and disposal practices. The purpose was to educate, promote and provide personal protective equipment (PPE) for safe handling, administration and disposal of oral chemotherapy/biotherapy agents across the hospital system. The Oncology Clinical Nurse Specialist (CNS) and Oncology Pharmacist developed “Oral Chemotherapy/Biotherapy for Cancer and non-Cancer Conditions: Ordering, Preparing, Administering, Safe-Handling and Disposal, Adult and Pediatric”, a new hospital policy clarifying who can prescribe, the verification process, and nursing administration of oral agents for cancer and non-cancer conditions, on adult or pediatric units, addressing safe handling, administration and disposal practices. To help in the educational roll-out of the new policy, the CNS created the Oral Chemo Starter Kit containing PPE supplies for non-oncology units. The Oral Chemo Starter Kit contains chemotherapy gowns, chemotherapy gloves, mask with face shield, water soluble bags and linen bags to hold soiled linens, a chemotherapy spill kit, chemotherapy signs for posting outside patient rooms, chemotherapy travel tags for patients leaving unit for tests or procedures, yellow chemotherapy trash bags, how to order supplies, and includes the new policy, with a skills checklist for RNs and CNAs on safe handling practices and donning/doffing of PPE. Over a period of ten months, sixteen Oral Chemo Starter Kits have been distributed. Kits are owned and maintained by each patient care area. Multiple unit-based skills fairs and educational in-services have been provided to review the contents with staff, demonstrate PPE use, and review administration practices. The Oral Chemo Starter Kit provides access to PPE for safe

administration of oral chemotherapy/biotherapy hazardous agents and safe handling of patient waste up to 48 hours post-final dose administration. The Kits can be easily maintained and replicated for all clinical areas.

### **238** **PEER REVIEW TO IMPROVE CENTRAL VENOUS CATHETER CARE**

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Peer review is cited by American Nurses Association as a key part of safe nursing care. Peer review is defined as registered nurses methodically assessing and evaluating the quality of care provided by peers, using professional standards and evidence based guidelines as the comparison measure. In July 2016, an audit of CVC care revealed practice gaps, including overdue care, misuse of products, and inconsistent handoff communication. This audit presented an opportunity to use peer review to change practice. The purpose was to create consistent practice for CVC care, including communication and real-time feedback. A nursing workgroup formed; upon reviewing the literature and benchmarking data, a multi-pronged intervention was created (including team approach for all CVC care). A group of “observers” (RNs from the unit) was identified and trained. During all dressing changes, two RNs remain at the bedside: one procedural, and one observer/coach. A tool was created to capture data (completed by observer after each dressing change): type of line, peer review, and duration of dressing change (in minutes). Other elements within the multi-pronged intervention include: two RN verification at shift handoff; staffing worksheet for patients with CVC care due each day; Sterile Procedure in Progress sign; and real-time RN notification of all positive cultures. The data from observation forms were compiled from October 2016–June 2017. During this time, 388 forms were completed; observer feedback/coaching trends were grouped by category. The categories include sterile technique, dressing application, securement, alcohol/chlorhexidine, dry time (wet solutions), hand hygiene/masking, skin-prep, EVL, and chlorhexidine gel/disk. Over time a positive change occurred: consistent practice (from observers teaching/coaching, to positively reinforcing proper technique). This shift has been sustained over time, and continues to be monitored. Nurses working with cancer patients play a vital role in CVC

maintenance and monitoring. This project highlights the value of peer review and a team approach to care. A single episode of CLABSI may cost \$37,000 and increase hospital length of stay. This project enlisted nurses to serve as champions for their peers, working side by side, reinforcing proper technique, and providing useful practice insight. The value of peer review and potential to decrease CLABSI likely offsets the cost of two RN dressing changes.

### **239** **SHIFTING GEARS ON PATIENT EDUCATION FROM STANDARD OF CARE TO CLINICAL TRIALS: A CLINICAL TRIALS NURSE PERSPECTIVE**

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Approximately three percent of adult cancer patients partake in clinical trials. Barriers to enrollment include: concern for impact on quality of life, apprehension about receiving placebo therapy, potential toxicities, and the unknown efficacy of clinical trial therapy. Patients shifting modalities from standard of care to a clinical trial require continuous and detailed education. Dedicated clinical trial nurses (CTN) are in a unique position to meet the educational needs of newly consented clinical trial participants. Purpose is to describe the processes and tools developed by a team of Phase I CTNs to meet the educational needs of newly consented clinical trial participants. CTNs play a pivotal role educating and engaging patients enrolling in early phase clinical trials. Newly consented patients undergo comprehensive screening, increased mandatory visits, frequent venipuncture, extended treatment and observation time. In addition, the process of deciding to participate in a clinical trial can be anxiety producing. Our team developed processes and tools to guide patients undergoing clinical trials. At the time of consent, these tools were implemented to orient the participant to the clinic, to explain the treatment schedule, and to describe the administration of investigational medications. Education of the clinical trials participant by the CTN is integral in

improving understanding of the intricacies of a protocol which allows a shift in patient perception of understanding how standard therapies work to early phase modalities. By utilizing the tools developed by CTN we hope to reduce the barriers and decrease patient's anxiety while enrolled on clinical trial. Clinical trial enrollment can be improved by providing a thorough extensive education and open dialogue with the CTN team. Nursing implications include an assessment of each patient's learning needs and utilization of educational tools to provide individualized and tailored education. Providing a proper education on fulfillment of protocol requirements improves protocol preservation and ensures high quality care. In addition, the CTN as liaison between the patient and clinical trial provides a seamless transition from standard therapy to the clinical trials model. Utilizing a variety of approaches tailored to clinical trial participant can improve patient outcomes.

## 240

### ACUITY BASED STAFFING IN COMMUNITY PRACTICE

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Like many outpatient oncology clinics, Tennessee Oncology, PLLC, used nurse to patient ratios as a staffing guideline. Tennessee Oncology identified that it needed a staffing model that more accurately reflected nursing work load in the treatment room. A team was formed to look at different staffing models available and considerations for use of each model. None were quite what was needed so the decision was made to develop one. The first step was to determine the scale of the acuity model. It was decided that the scale should be simple. The team chose a scale of one to five; one being the simplest treatment room patient, and five being the most complicated treatment room patient. Next, a list was created of all the tasks that nursing staff perform in the treatment room. A meeting was held with a nursing representative from each region to assign a number to each work task. Finally, using this point system, a model was created to convert RN per patient ratio to RN per acuity points. Staffing guidelines were created using the new acuity scale. Currently, the nursing staff guidelines are 20 to 25 points per treatment room nurse and 16 to 20 points per injection nurse. Nurses can adjust the assigned acuity to a patient, if needed, for special considerations. Acuity points are recalculated at the

end of each day to reconcile projected acuity to actual acuity. Once the staffing acuity model was completed, the model was piloted in a large clinic in the East Tennessee region. Since the model was successful in the pilot, nursing staff were educated on the use of the acuity staffing model and the tool was rolled out to all 30 Tennessee Oncology clinics. An essential lesson learned during implementation is communication is key. Leadership did not sufficiently convey the importance of consistent use of the tool to the nursing staff. Nurses did not comprehend the positive benefits to them of use of the tool which slowed adoption of the staffing guidelines change. Overall, the acuity base staffing model has been a huge success for our clinics.

## 241

### NURSE COORDINATORS-LED HUDDLE IMPROVES THE NEW BREAST CANCER PATIENT INITIAL VISIT

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At the Smilow Cancer Hospital Breast Center, a NCI National Cancer Institute Comprehensive cancer center, 4 breast surgeons and 7 medical oncologists see over 1500 new cancer patient visits each year. Our three Intake Specialists schedule and retrieve all outside medical records for the initial visit. Over 25% of patients are referred from outside facilities. Previously established new cancer patient guidelines were loosely followed. Providers observed that records were frequently incomplete, outside images were not always reviewed and last minute visits were often added to the schedule resulting in a care team that is unprepared for the visit. Based on these observations, an opportunity was identified to improve coordination of care and communication. A certified breast care nurse coordinator- led huddle was implemented that includes the intake specialists and nurse manager employing the Six Sigma Kaizen Lean® methodology of daily huddles model. During the huddle, new patient visits are reviewed one week in advance and are presented by the intake specialist. The twice daily huddle allows the nurse coordinators to review the records for completeness and identify any patients that would be eligible for neoadjuvant chemotherapy or a clinical trial, thus requiring a coordinated surgical and medical oncology visit. In addition, outside images are reviewed in advance of the appointment, which saves the patient a return trip to the breast

center. Having all key players at the table ensures clear delineation of responsibilities. Patient information is sent to the clinical teams at least 48 hours prior to the visit for review, allowing them time to prepare for the patient visit. Prior to implementation of the huddle, 66% of the surgical oncology and 90% of the medical oncology records were available to the team at least 48 hours prior to the visit. After huddle implementation, availability of complete medical records rose to 96% compliance for both surgical oncology and medical oncology. Our physicians and care team are better prepared for new cancer patient visits since the inception of the certified breast care nurse coordinator-led huddle. By holding all staff accountable, communication has improved and preparedness has enhanced patient flow in the clinic. This process improvement has strengthened quality of patient care and enhanced the work environment through a motivated collaborative care team.

## 242

### MAKING BETTER CONNECTIONS WITH PATIENTS EQUALS A WIN-WIN FOR STAFF AND PATIENTS

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We continually strive to ensure a positive patient experience and seek ways to improve our performance. Oncology staff acknowledge the spiritual and emotional needs of patients to ensure a positive experience throughout their cancer care journey. Staff and patient surveys showed current practices were not adequately meeting these needs. Partnered with a consultant to implement a ‘Sacred Moment’ program to allow Staff Nurses and Radiation Therapists to build personal connections with patients. A Sacred Moments program encourages staff to make uninterrupted, purposeful connections with patients at key moments in their care to understand immediate needs and reassure the patient and loved ones that they are in the right place. The ‘Sacred Moment’ happens during consults, simulations, and first day of treatments. Interventions: Identified champions for Radiation Oncology and Infusion Center to pilot process; Developed strategies to overcome staff perception of “we already do this” and “we don’t have enough time”. Champions shared feedback during staff meetings of positive experiences. Gave staff permission to take the necessary time and provided resources to make a ‘Sacred Moment’ feasible.

Standardized process: Ensure uninterrupted time by: Hand off phone or tell colleague, Shut door/pull curtain, Sit down with patient/family, Use eye contact, use touch if comfortable, Review planned treatment for the day with patient, explain what to expect. Ask patient biggest concern question—“What is your biggest fear?” Ask patient—“What is something I can do for you?” “What can I do to make your day better?” Staff were convinced they would not have enough time to implement this program, however, they found it takes a short amount of time to make a personal connection with the patient. Staff didn’t realize how much they were multitasking during conversations with patients which was being perceived as impersonal. Overall, staff feedback is that it has clearly made a difference in how it makes them feel about the care they are providing to patients and families. Monitoring of patient satisfaction metrics to determine impact is currently underway. Small actions have the potential to significantly impact the patient experience and improve staff satisfaction.

## 243

### KEEPING COMMUNICATION OPEN: A STRUCTURED HANDOFF PROCESS BETWEEN AN AMBULATORY ONCOLOGY CLINIC AND AN INPATIENT UNIT

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Within an academic medical center and a stand-alone ambulatory oncology clinic, there is not a current standard practice to formally give report from the ambulatory clinic. The Joint Commission recommends standardizing critical content to be communicated during handoffs using standardized tools in order to reduce the risk of patient harm and promote best patient outcomes. The purpose was to increase efficiency, accuracy and improve patient safety outcomes for unplanned oncology admissions from the ambulatory oncology clinic to the inpatient hospital setting with the development of a standardized handoff tool. A standardized protocol was implemented so every registered nurse accepting a patient from the clinic received a thorough report from the outpatient nurse. A handoff tool was created to increase patient safety by documentation of the acuity of patients for appropriate triage of symptoms

and issues specific to each case. A system for standardized email communication between the inpatient charge nurse and outpatient staff was established to communicate care needs and anticipated care needed for unplanned admissions. A PDF document was created which could be easily filled out, saved and sent to the inpatient charge nurse email box. The document is printable and serves to document patient specific information to the inpatient nurse assuming care of the patient. Prioritization of patient care needs with a contact number facilitates dialogue between inpatient and outpatient staff. Analysis via surveys with staff to gauge ease of use and perceived effectiveness is ongoing to evaluate the standardized tool and handoffs between inpatient and outpatient staff. Standardized electronic handoffs from the clinic to the inpatient increased ease and efficiency of handoff reports. This increased safety in patient handoffs and assured improved outcomes for patients and staff in complex oncology care.

#### **244** **IMPLEMENTING 2 RN SKIN CHECKS TO REDUCE HOSPITAL ACQUIRED PRESSURE INJURIES**

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Millions of patients are affected by pressure injuries and billions of US dollars are spent on treatment of these preventable injuries every year. Furthermore, if a pressure injury is deemed hospital acquired, the hospital will not be reimbursed for the cost of treating that pressure injury. An increasing number of hospital acquired pressure injuries (HAPI's) were observed on an inpatient oncology unit totaling 16 HAPI's in 2016. It was brainstormed that pressure injuries were possibly not being identified upon admission and/or transfer. The purpose of this project was to decrease the number of HAPI's by initiating two registered nurse (RN) skin checks for all new patients to the unit, including admissions and transfers, and increasing staffs' knowledge of the steps to take when pressure injuries are found. To initiate this new practice, staff was notified that two RNs would now be required to assess the skin of all new admissions and transfers to the floor. Education was also provided on where and how to document the skin check in the electronic medical record (EMR) and steps to take if a pressure injury was found during their assessment. Patient chart audits were conducted to ensure compliance with this new procedure and the data collected during unit skin rounds was used to evaluate the effectiveness

of 2 RN skin checks at decreasing HAPI's. The results collected after implementation were compared to the previous year's data and showed a decrease in HAPI's from 11 in 2016 to 5 in 2017 for January thru September. Overall, this data shows that the practice of having two RN's assess the skin of all admissions and transfers to the floor was effective in decreasing the number of HAPI's on an inpatient oncology unit. It was suggested that this practice be used for not only oncology units, but all inpatient units to ensure staff is aware of skin early in their patient's stay. Due to its early success, this practice of 2 RN skin checks is now required system wide for admissions and transfers to all floors and specific fields for documentation were officially added to the EMR.

#### **245** **AMBULATORY IMPLEMENTATION AND COMPLIANCE OF ALARIS PUMP INTEROPERABILITY**

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Adverse medication events are a main contributor to overall patient harm and usually involve medication administration. Making medication administration safer is crucial for quality and safety improvement. Alaris, a new pump technology, was introduced to ambulatory infusion allowing for interoperability. Interoperability helps to improve medication safety by ensuring that the pump programming matches the computerized physician order entry resulting in reduced medication errors. The purpose was to minimize the potential for medication errors, improve patient safety and quality of care; and achieve 90%+ compliance rate in all ambulatory infusion sites. In collaboration with the MCIT (Medical Center Information Technology) team, this was the first "Go live" in an ambulatory care setting. Interventions: Assessed the current practice; planned, developed, and implemented education on new workflow; monitored the effectiveness of the strategy. Education consisted of mandatory instructor-led classes and videos on an electronic learning management system to ensure success. Application began with a staged roll out in all ambulatory infusion sites. This allowed for extra



guidance at each site to assist with implementation into the new process and to troubleshoot in the case of unexpected problems. Compliance monitoring reports were generated in December 2016. These reports are reviewed and shared with staff monthly; overall compliance rates were just below the 90% goal for the first full month of monitoring. Monthly reports revealed 6 of 8 units were consistently above 90%. The remaining 2 sites ran consistently above an 86% monthly. Some drugs are black boxed and need further investigating. Investigational drugs do not yet have interoperability. Pharmacy and EPIC are working to resolve issues as they arise. Monthly monitoring continues for each ambulatory site. Staff is directed to report any issue that affects compliance daily. Nurse Managers meet with staff as a group and individually to share results and to help resolve their issues with compliance.

## 246

### IMPLEMENTING A PATIENT EDUCATION COORDINATOR TO IMPROVE PATIENT EDUCATION, PATIENT SATISFACTION, THROUGHPUT, INPATIENT TO OUTPATIENT CARE COORDINATION, AND READMISSION RATES

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Implementing a Patient Education Coordinator to improve patient education, patient satisfaction, throughput, inpatient to outpatient care coordination, and readmission rates. Improving the discharge process has an impact on multiple areas within an organization, including patient education, patient satisfaction, nurse satisfaction, throughput and readmission rates. Research shows that improving the discharge process reduces readmissions and increases nurse satisfaction. As an organization we were challenged to discharge more patients before 11 am to improve overall flow of patients in and out of the hospital. After researching ways to impact these important metrics, it was determined that a dedicated patient education nurse could help improve outcomes. Patient education coordinators focus on discharge needs, facilitate patient centric, focused education, allow for individualized education to the patient needs, time and learning requirements. These nurses only do discharge education and have no patient load. They work to coordinate care with other disciplines such as case management, pharmacy, and outpatient teams. From the time of the Patient Education Coordinator has been implemented the inpatient surgical floor has seen improvements in our

target goals. Including but not limited to discharging patients before 11am, decreasing readmission rates, improving patient and nurse satisfaction. Our unit averaged 2 discharges before 11am at a rate of 5-7%, with the Patient Education Coordinator role, they now discharge 2 patients at an almost doubled rate of 11-13%. Readmission rates have also dropped, Prior to the Patient Education Coordinator role, our unit averaged a readmission rate of 17%, with our role, we now average a readmission rate of 10%. Our role has been mentioned as a patient satisfier in multiple press ganey comments and our scores show improvements as well. Staff overall continue to be very satisfied with the position as it decreases their workload and allows them to spend quality time with their more acute patients. Since permanently implementing to role on the high volume days (Tuesday thru Friday) we have seen the role evolve to include opportunities to give meaningful input into hospital processes, and develop expanded education materials.

## 247

### REPOSITIONING FREQUENCY IN PALLIATIVE/HOSPICE PATIENTS IN PROMOTING COMFORT

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Patients at end-of-life are at significant risk for soft tissue ulcerations. Pressure ulcers (PrUs) can develop quickly and advance to stages III and IV quickly. One of the major risk reduction strategies is pressure-reducing mattresses and frequent turning of patients at end of life. The palliative care unit's standard of care has been to use pressure-reducing mattresses and a 2 hour turning schedule for end-of-life patients whether a specific order was present or not. However, this is sometimes a burden for the patients when this requires waking the patient up or repositioning is a painful procedure. A review of the white paper from the National Pressure Ulcer Advisory Panel, indicated that the recommendations for turning/repositioning at end-of-life was repositioning at periodic intervals. The recommendation is for every 4 hours on a pressure-redistributing mattress and every 2 hours on a non-pressure-redistributing mattress. Due to some hesitancy by certain providers, we implemented an every 2-3 hour turning regimen in June and followed the mean hours between repositioning and number of PrUs developed through August. The mean hours between repositioning were 2.5/2.5/2.8 for the day, evening, and night shifts respectively. There were no preventable PrUs that developed during this time

period. Our next step is to share this information with the providers and encourage the providers to extend the regimen to an every 3–4 hour turning schedule to be in line with the national recommendations. We would track the mean hours between repositioning and the number of PrUs developed. We would track this for a period of 6 months to ensure the safety of this intervention. Quality of life at the end of life is important for our patients and for nursing satisfaction. One of the primary goals of palliative/hospice care nursing is to ensure our patients' quality of life is optimized.

#### **248** **NURSE-LED CLINICS—IMPROVED PATIENT OUTCOMES IN THE SETTING OF FISCAL RESPONSIBILITY: AN AUSTRALIAN HOSPITAL EXPERIENCE**

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With the increasing prevalence of cancer diagnosis coupled with an increase in survival rates, never has it been more important for cancer nurses to work to their full scope of practice to meet the needs of patients and their families. This increased burden of disease requires organisations to respond with fiscal accountability and responsibility in attending to those people that enter the health system. In collaboration with the business manager within the Division of Cancer Services located at the Princess Alexandra Hospital avenues to enhance and capture outpatient capacity has improved revenue with the introduction of nurse led clinics. The utilisation of a nurse-led model has realised a decrease in admission rates specific to certain tumour streams due to early intervention by these advanced practice nurses. The purpose was to highlight the role of nurses led clinics in response to the health care needs of cancer patients and their significant others whilst achieving and maintaining fiscal responsibility. The implementation of tumour stream cancer specific nurse led clinics has demonstrated the important role of advanced practice nurses within the Division of Cancer Services at the PAH. This has led to the expansion of nurses led clinics for each tumour stream from the initial nurse-led clinic in 2012 to over 10 additional nurse led clinics, in which costings and revenue are generated from these activities. Fiscal accounting has led to over 1.6 million dollars of

revenue being attributed to the activities of the nurse led clinics, since May 2015. These activities have led to a 42% decrease in admission to the inpatient units within the division within one tumour stream. This innovative practice change with fiscal input has led to the generation of additional advanced practice nurse led clinics with positive patient outcomes.

#### **249** **SAFETY TOOLS IN THE CANCER CENTER INFUSION AREA**

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Being prepared for hypersensitivity reactions in an infusion area is a priority. Coming up with a plan in a busy center required a committee to design effective safety tools to handle hypersensitivity reactions. The Reaction Protocol Process began. This committee consists of RNs, APNs, pharmacist and the nurse educator. The protocol became a priority after a patient had a hypersensitivity reaction in the infusion area. The nurse came upon the patient in the middle of the reaction and was not aware of what premeds were given, when the drug was started or which room the nurse in charge of this patient could be found. The first task designed a dry/erase IV Placard to hang on each IV pole indicating patient initials, physician, allergies, any premedication and medications hung, including uptimes. If a reaction were to occur, nurses can step in and make quick decisions in caring for the patient. The second part of this project is adding laminated cards that describe the class of drug the patient is receiving and treatments for any type of reaction, including grading reactions. The pharmacist will attach the correct card to the drugs to hang on the IV pole. The nurse practitioner or physician called to evaluate the patient for any reason; especially a patient having a reaction has all the necessary information available on the card immediately. Assessing and treating the patient becomes the priority. This was a new work flow for the nurses; they found the process to be important in patient safety and continuity. Future work on this project include charting templates, providing one place for documenting reactions. Standardized charting allows the pharmacist, physician or nurse to be prepared for any future reactions and make any recommendations in the care of

the patient. By utilizing the expertise of the infusion nurses, nurse practitioners, pharmacist and medical/nursing journal articles, this project has buy in from staff. This project is sustained by using the IV Placards for each patient and keeping up to date on each class of drug given in an infusion center. In the future, providing CEs for new drugs will keep nursing education fore front and continued interest in this project. Using nurse, patient surveys and chart audits will help determine improvements to this project.

## 250

### **SPECIALIZED NURSING CARE MAKES A DIFFERENCE FOR ENT PATIENTS**

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Patients undergoing complex ENT surgeries at Seidman Cancer Center typically were admitted to the Surgical Intensive Care Unit (SICU) for 24–72 hours prior to being transferred to the surgical oncology division (SOD). In 2012, ENT care was transformed, patients were admitted directly to the SOD, bypassing the SICU. This change endorsed nursing to provide specialized coordinated care, focusing on the patient's clinical, educational, emotional, and social needs throughout the entire hospitalization. Part of the specialized nursing care and ENT care path includes "OTO Care", a term designed to describe a higher level of care with frequent monitoring and interventions. This innovative specialized care has been essential for the ENT patient population because the SICU is not designed to provide concentrated care. Since 2012, modifications to the ENT care path have been formulated based on trended data to sustain the specialized care. While working on the ENT transformation project, the multidisciplinary team assembled information about the current process and mapped out the current state on paper. The team then created a future state, mapping out the transformation, care on one division for the entire hospitalization. The team addressed implementation, cost, time and impact for this new process. Goals set for this transformation were to decrease SICU days, cost, and length of stay and increase patient education and patient satisfaction. Data was collected and analyzed by the quality department to ensure that the ENT specialized care maintained quality. Based on the data, findings support that specialized care does make a difference. Since the transformation in care, length of stay has decreased, 30 day readmission rate has decreased, SICU utilization has decreased, cost per case has decreased, and education and care

coordination has increased. During transformation, the environment and care was altered for the ENT patients. This change created a balanced approach for specialized care, allowing nurses to tend to patient needs, re-evaluating goals and review post-discharge care coordination needs. Specialized care has made a difference for many ENT patients since implementation, validating that patient outcomes can be improved while cost controlled. Interventions implemented to support the ENT initiative has allowed the SOD to develop efficient and effective processes related to caring for the ENT patients.

## 251

### **STANDARDIZING A COMPREHENSIVE PAIN ASSESSMENT PROTOCOL IN AN ADULT OUTPATIENT ONCOLOGY CLINIC**

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Staff in this busy health-system satellite adult oncology clinic, with over 150 patient encounters per day, exceeded facility metrics for documenting the pain score >95%. However, it was observed that HCAPHS patient satisfaction scores reflecting adequate management of pain were not meeting expected metrics. Therefore, a nursing team opted to explore pain assessment and management literature and best practices to offer clinic recommendations and standardize care for all patients. The purpose was to implement an evidence-based standardized process for 1) pain assessments and 2) pain management/strategies with patients. The Pain Committee reviewed the literature and various pain assessment tools; they opted to pilot use of the Brief Pain Inventory (BPI) for 3 months with patients they specifically provided care for. As all clinic patients are asked the Pain Scale (PS; 0=none-10=severe) with their vital signs, they implemented comprehensive pain assessment screening of all patients reporting PS>4 by utilizing the BPI. It was further decided that patients indicating a BPI pain management score <50% for the prior 24 hours would benefit from a nurse-led discussion on pain management strategies to improve their home pain management; this included medication adjustments, adding nonpharmacologic strategies, and referrals

to pain/palliative care specialists. In this 3-month pilot, 28 patients met criteria for a comprehensive pain assessment. Of those, only 19 (68%) reported their pain was relieved 60% or more. Their weekly pain scores ranged from 2–10 with BPI Pain Severity Scores averaging 5.95 (SD 1.7). They reported greater Pain Interference with scores averaging 6.2 (SD 1.9). All 28 patients, despite how well they perceived their pain was managed, expressed their gratitude for the comprehensive assessment and requested to discuss additional pain management strategies. Patient satisfaction scores on how well their pain was managed for this interval increased >95%. From this brief pilot, the Pain Committee has recommended adoption of a standardized comprehensive pain assessment/management protocol. Use of the BPI is easy and patients are not burdened by staff asking the questions. Both nurses and patients have been satisfied with the comprehensive assessment and discussions on pain management. While further evaluation is ongoing, this pilot is successful and easily replicated.

## 252

### MAXIMIZING EFFICIENCY OF PATIENT CHEMOTHERAPY EDUCATION

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Evidence-based chemotherapy patient education for managing cancer-related symptoms is best done in a standardized manner with scripts for quality patient outcomes. Oncology nurses play a pivotal role in the education and preparation of patients for chemotherapy and symptom management. In a large ambulatory oncology clinic in the Western United States, it was discovered that inconsistencies existed between oncology nurses with the information provided to newly diagnosed patients and their families. Additionally, it was noted that education documentation was without clarity of content covered. Patients expressed concerns regarding inconsistencies in teaching, acknowledging an increased anxiety level as they are started chemotherapy. The purpose was to create Standardized Chemotherapy Education tools for optimal delivery of essential information for oncology patients to assure universal consistency in both delivery and content of chemotherapy education. An evaluation of current state of chemotherapy teaching methods and effectiveness was performed. Nurses and Pharmacists were observed performing chemotherapy education sessions with patients. Observation results were compiled and gaps identified in issues of

symptom control, risks for neutropenia, pain, constipation, nausea, and fatigue. From these specific metrics, standardized education tools were developed and a training program implemented for multidisciplinary staff. Establish standardized, evidence-based symptom management education to set the stage for a descriptive study to evaluate patient-centered outcomes of oncology nurse-led cancer patient education for newly diagnosed patients receiving chemotherapy. A standard clinic-wide patient chemotherapy education resource was implemented into daily practice providing consistent standard work. Evidence-based chemotherapy standardized forms and processes improved oncology patient satisfaction with chemotherapy education. Effective chemotherapy teaching requires not only a standard process and appropriate content but also sufficient time allotted for chemotherapy education sessions. The standardization of evidence-based chemotherapy teaching was successful but more work is needed for continued improved patient satisfaction and outcomes. The next steps for continued improvement are: 1) To engage IT department for standardization of documentation. 2) To allow appropriate time for gathering resources for the chemotherapy teach, the chemotherapy session and for documentation. 3) To measure patient satisfaction of their chemotherapy education experience.

## 253

### PREVENTION OF PHYSICAL, SOCIAL AND PSYCHOLOGICAL COMPLICATIONS THROUGH THE UTILIZATION OF MULTIDISCIPLINARY ROUNDS

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Patients with cancer have multiple concerns related to care. Cooper University Healthcare is located in Camden NJ where 39.9% live below the poverty level. Financial issues can reduce a patients' compliance with treatment. Increased financial burden as a result of care costs can be a predictor of poor quality of life among survivors. The institution sought to address potential patient's issues by utilizing standardized multidisciplinary rounds (MDRs) on the oncology inpatient unit. The goal of MDRs is to facilitate communication within the healthcare team. The unit sought to create an MDR

format that addressed patient's complex diagnoses and multiple providers along with their physical, financial and psychosocial issues. MDRs are a best practice and theorized to be a way to improve patient outcome. A workgroup met and created a template for the roles and process for each MDR member. Nursing, oncologist, hospitalist, nursing leadership, social work formed the core group for the rounds. For the oncology unit additional members were added such as a dietitian, palliative, outpatient scheduler, pharmacy and along with other healthcare members as needed. The expectation was the rounds would focus on care plan barriers and facilitate patient discussion. A flowsheet was created in EPIC to access necessary information. This allows members a single view of information to help prioritize patient's care. An electronic rounds attendance tracking system with reporting capability was also created. MDRs have enabled the nursing staff to quickly access multiple members of the healthcare team at once and address concerns. This has reduced time to intervention implementation. They've increased communication related to financial concerns for the patient population. For managed care patients knowledge in advance of needs and has helped decrease length of stay. For charity care patients we have been able to streamline the documentation process. Insurance issues are complex, awareness is important to reducing patient cost. Management of insurance issues early can decrease cost and in theory reduce stress. MDRs are the way that members of the health team can communicate, coordinate care, and make shared decisions regarding care efficiently. This prevents complications by creating a forum for early recognition. Utilization of MDRs in an underserved area has helped reduce patient's financial distress in certain cases.

## **254** **POST-OPERATIVE VITAL SIGNS: HOW OFTEN IS TOO OFTEN?**

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Current protocol for post-operative patients admitted to medical-surgical/telemetry units states vital signs

are taken every 15 minutes for 1 hour, every 30 minutes for 2 hours and then, every 4 hours for 24 hours. To date, published evidence-based research regarding the frequency and duration of vital signs to safely monitor post-operative patients is limited. The goal is to determine best practice in post-operative vital sign monitoring to ensure safe patient care. The purpose of this review is to determine what frequency and duration of vital signs is required to identify a deviation greater than 20% of patient baseline to ensure safe post-operative monitoring of patients. A total of 742 post-operative patients' charts were evaluated. A time frame in which vital signs deviated greater than 20% from patient baseline was established from the data collected. A chart was created depicting these results; listing the total deviations by individual vital sign and time frame. Results show blood pressure and heart rate are the vital signs that have the greatest deviation from baseline, followed by pulse-oximetry. Temperature deviations are widespread, while changes in respiratory rate are seen within the first hour. When looking at specific percentages, it was noted that 65% of the total patients reviewed had a 20% deviation from their baseline vital signs. Blood pressures made up 50% of those deviations, while heart rates made up 45%. A total of 9% of deviations occurred 1.5 hours after admission, 27% of the deviations occurred 4-8 hours after admission, 13% of deviations occurred 8-12 hours after admission, and 7% of deviations occurred 12-16 hours after admission. Based on these results, the best times to take post-operative vitals, while still detecting deviations, are: every 15 minutes for 30 minutes upon admission, 1.5 hours after admission, 4 hours after admission, and then every 4 hours for 20 hours. Findings indicate vital signs can be taken less frequently in post-operative patients and deviations will still be detected.

## **255** **THE GRAB-AND-GO RESILIENCY KIT**

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Oncology nurses experience multiple patient losses, putting them at risk for secondary traumatic stress. This can lead to compassion fatigue, decreased job satisfaction, turnover, and interference with personal well-being. Nurses can use these challenging experiences as opportunities for personal and professional growth, but must be effectively resilient to do so. On one inpatient oncology unit, several

resiliency-building activities were offered outside of work, yet few took advantage related to time constraints. A recent survey confirmed the struggles of coping with care for these patients and lack of awareness of resiliency resources. The purpose of this project was to develop a portable grab-and-go resiliency kit packed with resources and tools for staff to use while working on the unit. An interdisciplinary team convened of staff nurses, nursing assistants, unit clerks, case managers, unit leadership, and the supportive care team. A literature review was conducted in pursuit of resiliency-building methods which can be utilized while staff are on a short break or away from the workplace. Items were gathered and placed in a colorful suitcase. Included were lists of free downloadable mindfulness/meditation apps that offer short exercises, coloring books, prayer beads, a bible, and a bible study guide. Stress-relief toys (stress balls, fidget spinners, magnet sculpture), notebooks for journaling or drawing, and books with poetry, comics, and nursing humor were also included. A bulletin board in the staff lounge was created for writing positive affirmation statements to encourage staff members. Staff were unaware of the effects of secondary traumatic stress. Nurses were highly satisfied with the kit and used resources while at work. Increased morale occurred after project implementation. A post-survey regarding the kit and its outcomes will be conducted at the end of the year to further explore outcomes. Organizations should consider incorporating resiliency activities into the workplace, as many millennials and others prefer to separate work from home. Oncology nurses in any setting can easily create a similar inexpensive, portable resiliency toolkit as an effective way to prevent and manage secondary traumatic stress. Further research about evidence-based interventions to promote resiliency would be of benefit to oncology nursing.

## 256 PRACTICAL PHYSICAL EXERCISE FOR CANCER SURVIVORS: WALKING

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Most survivorship visits include discussion of health promotion activities such as eating diverse balanced diet, sleeping an adequate amount every night and participating in daily physical activity. We counsel patients on the many benefits of physical activity (weight loss, bone health, stress management, etc.) and educate them on the recommended amount of daily exercise required for adults (150 minutes/

moderate exercise/week). Many patients state that they do not engage in any physical activity. Reasons that patients often offer are busy daily schedules that prevent regular physical activity or that they are more easily fatigued since their diagnosis and do not have any energy to exercise. Others state that they simply don't enjoy engaging in physical activity of any kind. The purpose as to cultivate an interest in walking as a form of physical exercise that can be integrated into anyone's busy schedule to improve health. During a survivorship visit patients are often counseled to meet physical activity requirements. In our young adult cancer survivorship clinic we were assessing our patients' level of physical activity by asking patients to recall how active they were in the past week/month. This measure of physical activity is subject to recall bias. As providers, we realized that at clinic visits almost every patient carried a smart phone on them. Providers demonstrate how the patient's smart phones health apps automatically track one's daily activity. Almost anyone of our survivors can walk more, even those with disabilities. This measurement of activity is objective. Together we started setting goals of 10,000 steps with our patients. This goal seems to be attainable for almost all patients. Patients are actively engaged in goal setting with this innovative strategy. They leave the office visit energized and ready to track their steps and challenge themselves to achieve their goal. We reassess their commitment at follow-up visits. One of the goals of Step It Up! The Surgeon General's Call to Action to Promote Walking and Walkable Communities (2016) is to cultivate a walking culture in the United States. Ultimately, individuals make the decision whether to walk more. As health care providers we should encourage this important public health strategy.

## 257 DEVELOPING A FALL PREVENTION PROGRAM IN THE OUTPATIENT CHEMOTHERAPY INFUSION SETTING

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Patients who receive care in ambulatory settings are not routinely considered at risk for falling. However, patients who have cancer can be at risk for falls in any setting. Side effects such as peripheral neuropathies, and cancer related fatigue, place them in a unique situation. Prior to the beginning of 2017, our

hospital based chemotherapy infusion center had no fall prevention guidelines. Then, we had a patient fall. This prompted the development of a team of nurses to review the literature for fall prevention guidelines. The search resulted in literature on fall risks specific to the oncology population, but nothing tailored to fall prevention in the ambulatory setting. The purpose of this project was to develop a protocol for use in the chemotherapy infusion center to screen patients for fall risk and implement fall prevention strategies. After reviewing literature on fall prevention in the Oncology patient population, a list of possible fall risk criteria was developed. Nursing staff were asked to review the criteria for feedback. This process resulted in a finalized screening tool. A protocol for fall prevention was then created. This included: a yellow tag attached to the patients infusion pole in a visible spot for care team; patient and visitor education on the fall prevention procedures; and meaningful rounding by the nursing team. Nursing specific interventions included: placing the chair call light in patient reach; instructing them to call for assistance with ambulation; assuring that the patient was escorted to the bathroom and waiting outside the door or with the patient depending on circumstances. Prior to implementation all staff attended a fall prevention seminar. No falls have occurred in the nine months since program launch. It is vital that Oncology nurses continue to focus on patient safety. The outpatient fall prevention program we developed and implement has positively impacted the safety environment in the infusion center. This program was developed in response to a gap in the current Oncology nursing literature. We pulled the foundational principles of the screening tool from the information available about patients who have cancer and their fall risks. We then adapted fall prevention strategies that are commonly used in the inpatient arena.

## 258

### **INNOVATIVE TECHNOLOGY COMES TO THE RESCUE FOR AFTER-HOURS CALLS**

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A new innovative technology is revolutionizing the way after hour clinical calls are managed. Reaching physicians after hours is a known challenge for a variety of patient care settings. Challenges include: incorrect notifications to physicians, increased hold times for callers, human error and notification delays. Tennessee Oncology adopted a new innovative system

that reduces these types of situations while improving patient care, satisfaction, efficiency, and reducing the liability of undocumented calls. A web based App was chosen to replace our traditional answering service. The App was uploaded on the cell phones of all providers and nurses who take call. (a) Calls received after hours are automatically routed to the App (b) The caller selects options from an automated menu. This ensures the request is sent to the right provider. (c) The caller next records a message detailing their needs and flagging it as urgent or non-urgent (d) The provider on call receives a text, email, or phone call notifying them of the incoming call and voicemail. (e) The on-call person logs into the application to hear the recorded message and/or read the dictated message. (f) The provider responds to the patient via phone call, text or recorded message. Non urgent messages can be flagged for follow up by clinic staff during normal business hours. (g) The provider documents instructions given to the patient and details of the call through the App. In the moment recording of this information reduces liability from undocumented calls and notes of patient care. Use of this App has improved the efficiency of managing after hour calls for patients, physicians, hospitals, and managers. This system provides an online dashboard for clinic managers to access all urgent and non-urgent calls received, physician notes, and the on-call schedule. The managers can easily make revisions to on-call schedules and providers' contact information in real time. The App provides the physicians and on-call nurses, convenient access to urgent after hour calls from any location. Use of the after-hours call App has been successfully rolled out to 60+ providers and the Tennessee Oncology on-call team. There are no plans to return to use of a traditional answering service.

## 259

### **SURVIVORSHIP CARE: WHAT DOES IT TAKE AND WHERE IS IT HEADED? THE EXPERIENCE AT SYLVESTER COMPREHENSIVE CANCER CENTER: UNIVERSITY OF MIAMI HEALTH SYSTEM (UHEALTH)**

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Our institution faces obstacles similar to many programs throughout the country challenged with the development of a comprehensive cancer survivorship program. During the implementation of the

survivorship program, Sylvester Comprehensive Cancer Center faced numerous barriers. Informatics is one of the major limiting resources in continuing to improve and move the survivorship program forward at a large academic institution. An electronic order referral system is pivotal for a programs continued success. Sylvester at UHEALTH has seven different campuses spread out over 60 miles in a heavily populated area of South Florida. UHEALTH developed a workflow that allowed providers to enter order referrals for identified patients. At UHEALTH, within EPIC, patients have order referrals placed for their many needs and the scheduling department contacts the patient to arrange their appointments. With the assistance of our EPIC team and our oncology scheduling service, we developed a survivorship order referral. Its purpose was to streamline the process from identification of appropriate patient, entering order referral and then scheduling patient into open templates throughout the institution. This order referral is a useful tool within the electronic health record that assists in tracking and scheduling patients for the survivorship clinic visit type created. The centralized survivorship clinic established itself at the same time the order referral pilot started. UHEALTH piloted the order referral at main campus and one of our six satellite locations. The pilot showed that from the period of January 2017 through June 2017, providers referred 142 patients to a survivorship clinic. Patients had the right to refuse the Survivorship visit, but it was important to offer the clinic and explain its purpose. After a successful 6-month period, we expanded the order referral to include three other satellite locations. It is our recommendation to other institutions who use EPIC to create an ambulatory order referral process for referring and scheduling identified patients to a survivorship clinic. An EPIC order referral increases patient referrals to survivorship. Institution specific analytics are tracked through order referrals placed and survivorship visit type appointments made. Further research is necessary to understand reasons for patients refusing or cancelling survivorship appointments.

## 260

### **STEM CELL BLESSING, NURSES AND CHAPLAINS COLLABORATE TO ADDRESS THE SPIRITUAL CARE NEEDS OF THE STEM CELL TRANSPLANT PATIENTS**

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In large epidemiologic studies religiosity and spirituality have been associated with better survival rates. Hematopoietic stem cell transplant is a high risk life saving treatment for patients with hematological malignancies including, lymphoma, leukemia, and multiple myeloma. There is a high risk of morbidity and mortality. Brigham and Women's/Dana Farber Cancer center does over five hundred transplants per year. Back in the 1990's at the request of a patient to have a pray said with the administration of their bone marrow infusion the stem cell blessing has evolved. It is a service that is now offered to all patients receiving a stem cell transplant regardless of their religious faith. The chaplain service has adapted the prayer based on the patients religious beliefs. The nursing staff let the patient know the blessing is available. Using Partners eCare electronic record the nurse enters a consult to the chaplain service with the request for a stem cell blessing. The Chaplain will customize the blessing based on the patients individual needs and religious beliefs. The nurse communicates the time of the stem cell infusion so the chaplain can make themselves available for the blessing regardless of the time of day or night of the infusion. The nurse, patient, family and chaplain are present for the blessing. It is carried out so there is no delay in the stem cell infusion. The patients are given a copy of the pray and the chaplain documents in the patients chart. As a quality improvement project to gain a knowledge regarding the offering of the blessing and barriers that result in the blessing not being offered the nursing staff in the hematology /oncology /stem cell transplant units have been surveyed.

## 261

### **THE PEER EBP MENTOR: INCORPORATING AND SUPPORTING EVIDENCE-BASED PRACTICE FOR NEW NURSES ENTERING A SPECIALTY FIELD**

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Although incorporating evidence-based practice (EBP) improves patient outcomes and reduces cost, nurses do not consistently implement EBP or understand their resources. A national survey in 2012 of more than 1,000 nurses suggested that resistance from nursing leaders, organizational culture and lack of related education are barriers that prevent nurses from implementing EBP. Also, 76% of respondents indicated it was important for them to receive more education and



associated skills. The survey concluded that educators and nurse leaders must provide learning opportunities for EBP and facilitate a supportive culture to achieve the Institute of Medicine's 2020 goal that 90% of clinical decisions are evidence-based. The purpose of completing an EBP project in a residency program is to increase new graduates' knowledge of EBP, implement their EBP projects in their clinical setting, and most important to introduce a EBP mentor into a clinical setting. The Huntsman Oncology Nurse Residency (HONR) is a 12-month program to educate and support new graduate nurses entering the specialty field of oncology. One main objective is for nurse residents to participate in EBP workshops that will incorporate their own research-based questions into oncology clinical nursing practice. Having been taught the fundamental components of EBP and having been supported by a Residency Coordinator to complete and present their own EBP projects, these residents on graduation now become peer EBP mentors. This project supports the assumption that having a peer EBP mentor in a clinical setting helps nursing staff recognize potential topics, look at current unit practices, identify reasonable recommendations for practice and connect with appropriate stakeholders. Also, EBP mentors will help the residency coordinator in future EBP workshops. Through education and project support, these peer EBP mentors are integral in decreasing the resistance to evidence-based practice at the bedside. Structured EBP workshops for new graduates in a residency program will create strong peer EBP mentors. This mentor will be a part of the changing culture and environment that encourages nurses to be strong leaders of evidence-based practice.

## 262

### **ARMING OUR ONCOLOGY NURSES: CREATING AN ONCOLOGY BOOT CAMP TO INCREASE STAFF COMPETENCE**

Kristen Walden, RN, BSN, OCN®, Duke Raleigh Cancer Center, Raleigh, NC

Transitioning a general med-surg unit to one specializing in oncology was undertaken due to the tremendous explosion in our oncology patient population. Thus, an intensive yet comprehensive education program was needed to equip nurses with little-to-no oncology experience with the proficiency to provide care for complicated patients often receiving medications with a high potential for harm. A multidisciplinary team convened to create and implement a one-day "Oncology Boot Camp" aimed to educate staff on the essential points to safely and competently care for patients

receiving chemotherapy. The purpose was to provide staff with the necessary training in a comprehensive yet efficient session while ensuring safety and competency in caring for the oncology patient while staff complete a longer intensive chemotherapy course. Nine key areas were identified: extravasation management, hazardous spills, hypersensitivity reactions, medication errors, oncologic emergencies, patient assessment, port access, treatment-associated toxicities, and sepsis. Didactic education materials were developed for each key area and utilized various resources, specifically the ONS Chemotherapy and Biotherapy Guidelines and Recommendations for Practice. The course was approved for 8 continuing education credit hours. Educators and experts from across the facility skillfully presented the material and provided their insights and knowledge gleaned from years of practice. Participants then spent 40 hours working in the outpatient oncology infusion clinic to cement key concepts. To date, 88 nurses have attended the one-day Oncology Boot Camp. All attendees were required to take a chemotherapy test prior to being allowed to administer chemotherapy with 98.9% pass rate on first attempt; 100% with the second attempt. Course evaluations collected from participants strongly showed that nurses felt more comfortable after attending boot camp: 87% felt participation in Boot Camp was meaningful and 75% recommend the course to others. This highly successful program of an 8-hour didactic class, followed by an exam and a rotation through our outpatient oncology infusion center, has provided a strong foundation for our nurses as they transition to the oncology scope of practice. Expanding the outpatient rotation from 8 hours to 40 has allowed for nurses to better cement the information learned in Boot Camp and to become even more comfortable with chemotherapy administration and assessment of the oncology patient.

## 263

### **MANAGEMENT OF ADVERSE EVENTS IN PATIENTS WITH BRAF V600E-MUTANT NON-SMALL CELL LUNG CANCER TREATED WITH COMBINATION DABRAFENIB PLUS TRAMETINIB**

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The combination of dabrafenib (D), a BRAF inhibitor, and trametinib (T), an inhibitor of downstream MEK,

demonstrated marked survival benefit in patients with BRAF V600-mutant metastatic melanoma, leading to US FDA approval in 2015. Oncogenic BRAF V600E mutations, observed in 1%–2% of patients with non-small cell lung cancer (NSCLC), drive tumor growth and proliferation. In a multicohort, single-arm, phase 2 trial, D+T demonstrated a high overall response in patients with previously treated (67%) and treatment-naïve (64%) BRAF V600E-mutant metastatic NSCLC, with a median progression-free survival  $\approx$  10 months. Based on these results, the US FDA granted approval for the combination in patients with BRAF V600E-mutant metastatic NSCLC, regardless of prior treatment. Although the safety profile of the combination is generally manageable, some adverse events (AEs) common to the regimen may be novel to thoracic oncologists and nurse practitioners. In the pivotal trial, pyrexia was the most common AE, observed in both previously treated (46%) and treatment-naïve (64%) patients. Pyrexia is associated with dabrafenib treatment and can be exacerbated when used in combination with trametinib. Generally, pyrexia is managed through dose interruption, antipyretics (eg, acetaminophen and nonsteroidal anti-inflammatory drugs), and supportive care. Corticosteroids are preferred as secondary prophylaxis to prevent recurrent pyrexia when antipyretics and/or dose reduction are not successful. Cutaneous toxicities were also commonly observed with D+T, including dry skin (22%–26%), rash (21%–22%), and pruritus (11%–16%). These events can often be distressing to patients and may occur rapidly; therefore, patient education and communication with the clinical team are crucial to early intervention to ensure quality of life is not impacted and to maximize patient adherence with dosage. D+T may also rarely cause decreased cardiac ejection fraction or ocular toxicities. Some AEs may increase or decrease in incidence or severity when dabrafenib or trametinib are used as monotherapy, so it is important to understand the AEs specific to each drug and how interrupting a drug may affect the emergence of AEs. The safety profile from the pivotal trial, management strategies for notable and unique AEs with D+T, and educational guidance for nurses will be presented. Although the combination of D+T is typically well tolerated, proactively managing some AEs that are novel to thoracic specialists can help improve patient outcomes.

**264**

### **SPECIALIZED NURSING EDUCATION AND SUPPORT FOR PATIENTS PARTICIPATING**

### **IN A HIGH RISK BREAST CANCER SURVEILLANCE PROGRAM CALLED RISE (RISK ASSESSMENT, IMAGING, SURVEILLANCE AND EDUCATION)**

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Women at high risk for breast cancer (BC) experience increased anxiety. Their anxiety is magnified by knowledge gaps and prior negative experiences with loved ones with BC. Our cancer center initiated High Risk Breast Cancer Surveillance (RISE) to provide comprehensive care for patients with history of atypia, chest wall radiation, BC associated mutations or strong family BC history. Nurses in RISE assess educational/supportive needs of patients and provide focused intervention. We describe the specialized role of RISE nurses in providing education, symptom management and emotional support to women at high risk for BC. The RN obtains a detailed new patient history and uses a risk assessment model to calculate BC risk. Following the physician's exam and treatment plan, the nurse assesses the patient's understanding, answers questions and provides breast-self-awareness resources and strategies for BC risk reduction (exercise, nutrition, Integrative Medicine Center resources). Targeted patients receive additional information about their diagnosis and symptom management. Patients starting chemo-preventive medication are educated about symptoms and closely followed for symptom management. If needed, referrals are made to Social Work, Psychiatry, Nutrition, Sexual Health and/or Integrative Medicine. Additionally, the nurse responds to a large volume of calls from anxious patients concerned with new symptoms (breast lumps, pain, medication side-effects). Nursing recommendations are provided by telephone and patients are reassessed in two weeks to insure improvement of symptoms. We recently initiated quarterly webinars to share information among a larger audience. Topics included exercise and mindfulness to reduce stress/anxiety. Patient feedback of RISE has been extremely positive. In particular, patients cited the value of individualized nursing support (in person and phone follow-up) to alleviate anxiety and help manage symptoms. In addition, although our webinar series is new (nine patient participants), all attendees felt the experience contributed positively as part of their overall care. Nurses

in RISE are integral in providing individualized education, symptom management, psychosocial support and targeted specialty referrals to decrease anxiety and enhance global well-being in women at high risk for BC. We will continue to develop our webinar series, integrating suggestions provided by our high risk patients, with the goal of further enhancing our program. Nurses at other institutions can adapt our focused educational/supportive role in their own practices, particularly when caring for women at high risk for BC.

## 265

### **CLOSING THE LOOP: REDUCING FALLS IN ONCOLOGY PATIENTS RECEIVING LOOP DIURETICS**

**Helen Webb, RN, NewYork Presbyterian Hospital–Weill Cornell, New York, NY; Christina McCourt, RN, NewYork Presbyterian Hospital–Weill Cornell, New York, NY**

Patient falls can prolong an inpatient stay and cause unwanted injuries. Loop diuretics, including furosemide (Lasix), may inadvertently lead to unwanted falls due to the action of increasing urine production, leading to urinary urgency and frequency. If patients requiring assistance do not get the help they require in a timely manner, they may attempt to go by themselves, which may result in a fall. A recent review of the fall events on an adult hematology/oncology unit at a large urban academic medical center revealed that a large portion of the falls events occurred in patients receiving loop diuretics. The purpose of this project is to reduce the number of falls in oncology patients receiving loop diuretics by increasing the frequency of rounding for these patients. A literature review was performed to identify best practices for reducing falls in an inpatient setting, specifically through purposeful rounding. Based on findings, the nursing team decided to implement every 30 minute rounds on patients receiving loop diuretics. Rounds will focus on offering proactive assistance with toileting in order to increase the number of opportunities to use the bathroom with assistance. Nurses and patient care assistants will provide communication to patients receiving loop diuretics on the need for an increased rounding frequency. Additionally, in order to encourage collaboration and teamwork, the nurses and patient care assistants will alternate which 30 minute round they perform. The workgroup will continue to monitor patient fall events through an internal event reporting system in order to track impact of the interventions. The team will perform a root cause analysis after each event in order to continue to identify trends. Oncology

nurses have an important role in ensuring high quality care is provided to their patients. Use of purposeful and proactive patient rounding can have a positive impact in improving quality metrics such as patient falls. Through a team-based, collaborative approach, patients receiving loop diuretics will be able to receive assistance with toileting in a more timely fashion, thus decreasing the likelihood of sustaining a fall.

## 266

### **A HUDDLE DASHBOARD CAN ENHANCE TEAM MENTALITY FOR A MULTI-SITE PRACTICE**

**April Weis, RN, BSN, OCN®, Tennessee Oncology, Nashville, TN; Dawn Jones, RN, BSN, OCN®, Tennessee Oncology, Clarksville, TN**

Tennessee Oncology is a large privately-owned community-based cancer specialist practice with over 30 clinics and outpatient infusion suites in rural and metropolitan areas across the state of Tennessee. Historically, each clinic was staffed and managed individually by on-site management or physicians with a centralized float pool for critical staffing needs. Inter-clinic leadership communication was minimal regarding day to day operations, and staffing issues were usually worked out amongst each clinic's manager and the float pool manager. With continued growth of the company, a sense of community and interdependence was needed to assure the same standard of safety and excellence in quality of care, support staffing, communicate vital issues, and foster a sense of connectedness between the many clinic locations. It was decided that improved communication between clinics was essential to promote trust, teamwork, and create a common understanding of needs throughout the organization. An online huddle dashboard was created and placed on the company intranet for managers or appointed designees as a means to share daily patient loads, staffing ratios, and potential or actual challenges. The dashboard was coupled with a "morning huddle" call to discuss the status of each clinic. A representative from each clinic participates in the call every morning and provides the group with an overview of their expected status for the day, an update on the actual outcome of the day before, and a projection of the next day. This huddle call takes no more than 15 minutes with all open locations reporting. The resulting outcome of the huddle dashboard /call implementation was positive. Managers and staff have a better understanding of organization-wide needs, resulting in an increased willingness to share employees between

clinics in times of need. The morning huddle call provides the perfect opportunity for communication between departments and allows managers at the clinic level to work out staffing and other problems together. This process promotes trust, teamwork, and creates a better working relationship. The dashboard also provides a means to easily extract historical data regarding staffing trends such as staff mix, staffing ratios, and frequency of float pool utilization for budgeting and approval of positions.

## **267** **REDUCING CLOSTRIDIUM DIFFICILE THROUGH PATIENT EDUCATION**

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In 2016 there were 11 cases of hospital onset clostridium difficile within the Saint Joseph Hospital oncology unit, costing roughly \$8618 per case and lengthening patient's stay by five days. The oncology population is more susceptible to developing clostridium difficile infection (CDI), colonization and recurrence due to multiple risk factors. These risk factors include: immunosuppression, chemotherapy, antibiotic use, prolonged and frequent hospitalizations, advanced age, administration of proton pump inhibitors (PPI) and steroids, and use of feeding tubes. According to the Centers for Disease Control (CDC), 94% of CDI cases are related to health care exposures. Because clostridium difficile spores can live on a surface up to 60 days, exposure from a contaminated environment plays a significant role in transmission to a high-risk population. Oncology nurses can help prevent transmission of CDI utilizing patient centered education. The purpose of this project was to decrease transmission of clostridium difficile within the oncology unit by increasing compliance of isolation precautions among visitors and hospital staff. The unit's shared governance council created kits that included signage with pictures and instruction of proper use of personal protective equipment (PPE) and hand hygiene, covers for alcohol based sanitizer dispensers, disposable bleach wipes, disposable stethoscope, and a "frequently asked questions" page about clostridium difficile. These kits were available in English and Spanish and were reviewed by the hospital's health literacy team to ensure plain language at a fifth grade

comprehension level. Use of the kits has decreased the oncology unit's hospital onset clostridium difficile cases from eleven patients to one patient year to date. This significant reduction translates to a savings of approximately \$95,000. Given the transmission potential and increased risk factors for the oncology population, it is essential that correct isolation precautions are followed. Oncology nurses remain one of the best lines of defense against infection prevention. By employing education for patients in plain language, compliance with PPE has increased while incidents of clostridium difficile transmission has drastically reduced.

## **268** **IMPORTANCE OF DENTAL HEALTH KNOWLEDGE FOR SICKLE CELL ANEMIA PATIENTS IN US COMPARED TO SICKLE CELL ANEMIA PATIENTS IN LOW SOCIOECONOMICAL AREAS WITH LACK OF KNOWLEDGE IN US IN ORDER TO IMPROVE QUALITY OF LIFE**

**Michelle Wells, RN, BSN, ONC, The James Cancer Hospital, Columbus, OH**

Across the United State (US), Cancer Hospitals provide hematological services for Sickle Cell Anemia patients. Sickle Cell Disease is the most common genetic disorder and hemoglobinopathy found with high prevalence in many populations across the world. One of the most common systems to be neglected by providers is the dental system for Sickle Cell Anemia patients' due to associated complications of Sickle Cell Anemia. Sickle Cell patients are known to have more problems with dental caries due to inadequate oral hygiene, high amounts of sugary drinks, and low socioeconomic status. Poor dental care can lead to infection and precipitate a painful crisis in Sickle Cell Anemia patients. The project will evaluate dental care practices in the Sickle Cell Anemia patients that visit the Sickle Cell Day Hospital due to associated complications of sickle cell disease. Increasing the patient's knowledge of dental care will assist in the prevention of unwanted infections and pain related to poor dental hygiene. Nursing recommends a screening tool for the patient to complete. The patient will answer a 5-question survey about their dental care, based on the patients' response the nurse will educate the patient on the proper dental care and give the patient dental resources. The patient would be reassessed with the same survey thirty days after the first survey to obtain data if the education received improved their dental care. There is a lack of sufficient information on the appropriate treatment

for dental complications in people with Sickle Cell Disease; with no clear guidelines available. Oncology nurses caring for sickle cell disease patients need to establish an education plan for dental care. There are few studies identified, therefore, unable to conclude as to implications for nursing practice. The project will emphasize the importance of dental health education to the patient as taught by the nurse and foster collaboration with the provider. Nurses providing knowledge and resources for dental care to the patients will improve the patient's quality of life by decreasing preventable dental infections.

## 269 PRELIMINARY DISCUSSION ON THE EFFECTS OF EMOTIONAL SCREENING IN BREAST CANCER PATIENTS

**Chun Fang Wen, MHA, Tainan SinLau Hospital, Tainan**  
According to literatures over 50% of cancer patients suffer from different levels of emotional distress, which could affect the cancer's course of disease, the patient's quality of life, compliance to the physician's advice, and even prognosis. This study uses scale ratings such as Distress Thermometer (DT) and Brief Symptom Rating Scale-5 (BSRS-5) to screen for cases with moderate or above levels of emotional distress to carry out referral assessment. With the sum of DT and BSRS-5 scores of over 15 points or a suicidal ideation of over two points as the segmentation point, a total of 30 newly diagnosed breast cancer patients were assessed to be at a moderate or above level of emotional distress. These patients will begin psychiatric treatment and intervention care and will be assessed with a post-test after three months. With these cases, in addition to receiving counseling and drug therapy, nurse navigators will also refer to spiritual care providers and cancer support groups to provide pastoral care and opportunities for patients to share and cheer for each other. In effect, the average sum of DT and BSRS dropped from 19.6 points to 7.5 points. After intervention of the emotional screening scale, the emotional distress levels in patients did lower. This study is only directed at breast cancer cases, and should be expanded to other cancer groups in the future. In the future, the emotional screening scale can be used to assess hospitalized or outpatient cancer patients and the referral mechanism can be utilized to activate multidisciplinary team work to increase the patients' ability to adjust to the disease and treatment compliance, allowing for a successfully companioned fight against cancer.

## 270 MINIMAL SEDATION BONE MARROW BIOPSY IN THE OUTPATIENT WILMOT CANCER INSTITUTE

**Elizabeth Wensel, RN, BSN, OCN®, University of Rochester Medical Center James P. Wilmot Cancer Institute, Rochester, NY**

Bone Marrow Biopsy (BMBX) is a common procedure for patients with hematological malignancies. It is used to evaluate blood abnormalities, diagnose, and assess disease status. BMBXs can be performed with local lidocaine only, however, current Wilmot Cancer Institute (WCI) practice for patients who do not tolerate lidocaine alone, requires assistance from Interventional Radiology (IR) where sedating medication is administered with nursing observation. The WCI was experiencing a significant delay from time of request for sedation BMBX, to completion of procedure, typically 4–6 weeks. This resulted in delayed diagnosis and initiation of treatment, violation for research protocols and dissatisfaction for patients and providers. Review of the patient records showed that about 25–30 patients per month required IR BMBX, either due to sedation needs or body habitus. As a result, the WCI pursued minimal sedation BMBX to help patients that cannot tolerate lidocaine alone, but does not need to be scheduled in IR for IV moderate sedation where two or more agents are used. Minimal sedation is a drug induced state during which patients respond normally to verbal commands. Although cognitive function and coordination may be impaired, airway, spontaneous ventilation, and cardiovascular functions are unaffected. The administration of minimal sedation generally does not require the level of monitoring above that of routine patient care and consists of a single sedating agent, either anxiolytic OR analgesic. The sedation BMBX clinic operates one day per week in the WCI with a designated RN and APP. The clinic has four slots, allowing 2 hours per patient from arrival to recovery. One single agent Versed is delivered. Using minimal sedation BMBX criteria a patient is identified as eligible, they are scheduled into the minimal sedation BMBX clinic. Patients receive a pre-procedure call from a RN the week prior to review the procedure, medications and ensure that the patient will have a driver. The WCI has created a guideline and procedural checklist to standardize our process. This innovative process has increased access for BMBX for patients that require minimal sedation. Patients are safely and efficiently receiving faster diagnosis, and evaluation of disease status. Creating the sedation BMBX clinic has helped

offload delayed access for IR, thus, increasing the satisfaction providers and staff and ultimately improving patient outcomes, satisfaction and safety.

## 271

### **A PROCESS IMPROVEMENT PROJECT TO INCREASE SMOKING CESSATION SUPPORT AMONG ACTIVELY SMOKING PATIENTS IN AN OUTPATIENT ONCOLOGY CLINIC**

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The U.S. Surgeon General Report (2014) affirmed evidence of a negative causal effect between tobacco use and cancer patient prognosis, specifically that cigarette smoking increases all-cause and cancer-specific mortality. Furthermore, there is suggestive evidence of a causal effect between cigarette smoking and the reoccurrence of cancer and response to treatment. With this knowledge, oncology health care providers have a responsibility to offer smoking cessation support to patients willing to engage in quitting tobacco use. The purpose of this DNP project was to improve assessment of tobacco cessation willingness and cessation support offered to oncology patients who are current smokers in an outpatient oncology practice. A retrospective chart review was performed to evaluate the percentage of patients screened for tobacco use, assessed for willingness to quit, and offered a cessation intervention. The audit found 99.9% of patients were screened for smoking status. However, among patients reporting tobacco use, no assessment of patient's willingness to quit or cessation assistance was documented on these encounters. Though this practice had remarkable compliance for tobacco screening, there was failure in assessing patient willingness to quit and offering a cessation intervention. A process change using the World Health Organization's 5As of tobacco cessation tool was implemented to standardize tobacco use screening for this clinic. In addition, an electronic referral to the state quitline using electronic medical record system, EPIC, was incorporated as a cessation intervention approach for smokers expressing interest in cessation. The goal of this project was to improve patient assessment of willingness to quit and to increase quitline referrals for those expressing readiness. Another retrospective chart review was performed two weeks after the 5As of tobacco cessation process was implemented to show 99.3% of patients were screened for smoking status. Among those who reported to be current smokers, 86% were assessed for willingness to quit and electronically referred to the state quitline

for cessation support by clinic staff. Standardizing tobacco screening with the 5As of tobacco cessation tool and incorporating an electronic quitline referral increased the number of patients who were assessed for willingness to quit and offered a cessation intervention.

## 272

### **INTEGRATING TECHNOLOGY TO OBTAIN PATIENT-REPORTED OUTCOMES IN A RADIATION ONCOLOGY HEAD AND NECK PATIENT CLINIC**

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Head and Neck Cancer (HNC) patients report a surfeit of toxicities related to radiation therapy treatments. These toxicities include pain, mucositis, dysphagia, odynophagia, xerostomia, fatigue, and radiation dermatitis. When inadequately managed, these toxicities often lead to decline in function and quality of life. Patient-report outcomes (PROs) have many benefits in daily clinical practice, including engaging patients in their plans of care, enhancing communication, standardizing patients' questions, and allowing patients a voice without interpretation by healthcare staff. Our radiation oncologists sought a multimodal approach to best identify HNC patients experiencing toxicities due to the treatments they are receiving. They implemented electronic PROs (ePRO's), where patients report current symptoms through a self-administered, electronic questionnaire during consultation, weekly treatment, and follow-up visits. Nurses in the HNC Radiation Oncology clinic assist with the ePRO by educating patients about the completion of the questionnaire. Once a patient is checked-in, a nurse provides the patient with an electronic tablet and instructions on completing the questionnaire. The nurse review the patient's score, trends the scores week to week, and reports changes to the patient's radiation oncologist. The ePRO software calculates and transmits the scores into the patient's electronic health record. This eliminates the need for nurses to manually document the data, and reduces time charting and risk of transcription error. A retrospective chart review identified that after transitioning from a paper PRO to the ePRO there was a significant increase in PROs completed within the HNC clinic. During July–October 2015, an average of 59% of PROs were completed using a paper form; from July–October 2017, following the implementation of the ePRO, the average completed increased

to 79%. The successful implementation of technology to obtain ePROs in the Radiation Oncology HNC clinic set a new standard for meaningful patient assessment. By correlating patient-reported data with clinician-derived information, clinic staff are able to investigate warning signs of toxicities and impending patient decline earlier and intervene accordingly. Ideally, the successful implementation of ePROs will encourage other areas of healthcare to increase the use of ePROs to improve the quality of patient care.

### **273 IMPLEMENTING A NURSE-DRIVEN DISTRESS SCREENING PILOT IN A RESEARCH-BASED RADIATION ONCOLOGY DEPARTMENT**

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Distress screening has become the standard of care in oncology centers across the country per accreditation standards published in 2015 by the American College of Surgeons Commission on Cancer (ACoS CoC) requiring cancer centers to screen for distress. While there is a wealth of literature on distress screening, less data exists on the implementation of nurse-driven screening programs conducted in research-based institutions. With the implementation of distress screening programs many challenges are present including coordination of multi-disciplinary stakeholders and feasibility of screening, education and care in busy, complex environments. This pilot explores these challenges and hopes to break new ground by implementing a nurse-led screening pilot where patients are also research participants (RP) with health-based and research-specific requirements for care. Nurses are essential to the provision of care in any setting and particularly in a research institution as nurses are the front-line of care but also are central to coordination of research and related stakeholders. The purpose of phase one of our pilot assesses the feasibility and acceptability of a nurse-driven distress screening program in one outpatient radiation oncology clinic in a large research institution. Over a two-week period, all adult RPs enrolled on a research protocol in radiation oncology receiving treatment or being seen for a medical visit were screened for distress using an adapted Distress Thermometer (DT) and Problem List (PL) modeled after the National Comprehensive Cancer Network's (NCCN) Distress

Management Guidelines. If positive RPs were provided with further assessment, education, counseling or referral. RPs completed DT and PL in the waiting room prior to being seen by the nurse. If the RPs scored moderate to high-risk for distress, nurses performed a concise assessment, identified key issues and utilized the pilot's algorithm as a reference to guide distress-specific care. RP education included distress plan and problem-specific resources. Team collaboration generated referral(s) to specialized provider(s). Pilot outcomes and findings including demographic and survey data are currently under review as pilot was completed on August 18, 2017. Future directions of this research will expand nurse-driven distress screening to additional outpatient clinics serving more diverse RP populations with varying follow-up requirements based on both care and research needs.

### **274 UTILIZING THE ELECTRONIC MEDICAL RECORD TO NOTIFY THE INFUSION ROOM OF PATIENT'S TREATMENT STATUS**

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Patients and Infusion Room (IR) Registered RNs (RN) have wasted treatment time due to wait time (WT). Decreasing amount of WT should increase patient satisfaction and increase productive time (PT) of IR RN. In the outpatient clinical setting at Vasicek Cancer Treatment Center (VCTC) the electronic medical record (EMR) is the official medical record. Currently our EMR does not support chemotherapy orders. Therefore; chemotherapy orders are hand written, signed, and physically hand carried to IR from examination clinic area creating significant delays in treatment starts. The purpose of the project was to decrease WT of patient waiting to start treatment and to increase PT of RN delivering treatment by using an approved standardized nomenclature in the EMR appointment scheduling note box (ASNB) which are immediately visible to all staff. This would inform IR RN that all components of patient's treatment plan were complete and the patient could safely begin treatment. All clinical RNs were trained on the approved nomenclature for the EMR ASNB. This nomenclature would allow the Clinical RN to communicate to the assigned IR RN the status of the patient for chemotherapy. For example: the patient is "OK" for chemo and only physician signed and hand carried

orders to the IR are needed, then OK would appear in the EMR ASNB. The assigned IR RN could then prepare for the patient's arrival by preparing fluids, and upon patient arrival, the intravenous access could be obtained. This system would reduce the WT of the patient and increase the PT of IR RN. At the beginning of this project the patient WT was 14.5 minutes from arrival to IV start time. Using the EMR notification method, the WT was decreased to 7.2 minutes, a 50% reduction. The treatment room schedule was reviewed daily for utilization compliance of the EMR process and adjusted as needed. To cancer patients, time is precious, valuable and directly impacts their quality of life. To the IR RN time directly influences expenses to the institution. By decreasing the WT of the patient and increasing the PT of the IR RN, both received positive benefits of the project. Due to these results, this project has been implemented at VCTC.

## **275 NURSE ROLES AND RESPONSIBILITIES IN NAVIGATING PROSTATE CANCER CARE—ARE YOU DELIVERING AND MANAGING TREATMENTS CORRECTLY?**

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Nurses' responsibilities for administering treatments to prostate cancer (PCa) patients have grown over the years, especially with the explosion of new therapies over the last decade. However, there is no accepted, standardized assessment list for navigating to the best therapy option for each patient, which could result in suboptimal disease management and a consequent lower quality of life. The aim of this abstract is to highlight six important elements of patient management that nurses should utilize to personalize treatment for PCa patients. 1. Efficacy and Adverse Events 2. Mode of Drug Delivery 3. Classes of Therapy 4. Advancements in Treatment 5. Treatment Monitoring 6. Pharmacoeconomics 1. Efficacy and Adverse Events: Understanding and monitoring efficacy and safety of drugs is important for managing an individual patient's disease and potential treatment side effects. 2. Mode of Drug Delivery: Having comprehensive knowledge of treatment delivery options, such as oral dosing, IV injections, and intramuscular (IM) or subcutaneous (SC) injections, and their pros

and cons, enable nurses to influence decisions that fit patient preferences and expectations. 3. Classes of Therapy: Comprehending the wide-range of therapy options such as androgen deprivation, androgen pathway inhibition, immunotherapy, chemotherapy, and other adjuvants enables optimal patient care based on disease stage and individual patient circumstance. 4. Advancements in Treatment: Staying up-to-date with treatment and technology advances related to PCa patient management such as therapy order/combinations, longer acting formulations, etc. allows nurses to consider adoption of the newest technologies and provide the best care. 5. Treatment Monitoring: Recognizing the importance of monitoring patient disease advancement and therapy efficacy via patient interactions, treatment compliance, and timely tests such as testosterone and PSA level measurements, ensures the prescription of appropriate treatment. 6. Pharmacoeconomics: Examining the total costs incurred by treatment options, insurance coverage, travel for treatment, and data from Health Economics and Outcomes Research enables consideration of the most cost-efficient option to enhance each patient's quality of life. As a key member of the medical team, nurses should implement the six important elements mentioned above when personalizing PCa treatment. More importantly, staying knowledgeable about all currently available options to personalize treatment is crucial in providing the highest quality of care to PCa patients in an environment of rapidly changing treatment paradigms.

## **276 STREAMLINING THE PROCESSING OF BONE MARROW BIOPSY SPECIMENS**

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The significance of this project stemmed from the increasing demand for Multiple Myeloma bone marrow biopsies at our out-patient program at a large NCI-designated comprehensive cancer center. This demand impacted our staffing needs, as well as the need to revise the organization's current SOP for the proper handling of bone marrow specimens (including labeling, packaging, and transporting). In our program, procedural support for biopsies has been provided by Medical Assistants (MA). Historically, our desired outcomes were not consistently being met due to ongoing MA staffing issues. Prior to this project, there were only three MAs that were trained to assist with the proper care of the specimens. When staffing



issues occurred, untrained MAs were being assigned to handle these specimens, causing an increased risk of error, as well as additional time needed per procedure. The purpose of this project was to create an innovative educational tool that depicts all required components of a specimen's journey from pre-procedure setup to the specimen drop-off, mirroring the organization's revised SOP. By using this tool, any clinician would be able to safely assist with bone marrow specimens with a single, consistent process and minimal one-on-one training. This innovative tool consists of laminated pocket cards that include a short description of vendor-specific testing, required documentation per vendor, and pictures of required specimen containers. The tool has been given to all clinicians within the Myeloma clinic. Since implementation, the number of trained clinicians able to safely assist with biopsy specimens has increased tremendously. The revised SOP is also readily available to all clinicians. Many of the Myeloma clinicians have been able to assist with biopsy specimens when there are staffing issues without compromising the specimens. Since this project has been successful in streamlining the desired outcomes of biopsy specimens within the Myeloma clinic, it has recently be shared with the Pathology and Radiology departments at Mount Sinai, and we are collaborating to improve the bone marrow biopsy process across all disease groups and procedural departments.

**277**

### **OPTIMIZING ERECTILE FUNCTION IN MALES AFTER PELVIC RADIATION FOR ANAL AND COLORECTAL CANCER**

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The risk of erectile dysfunction (ED) is not well established in the setting of pelvic radiation (RT) for anal and colorectal cancer patients. 1 of every 4 men who are treated with pelvic radiation will notice that their sexual function decreases months to years later. Male patients with a risk of radiation-induced ED should be evaluated before beginning pelvic radiotherapy and appropriately counselled. Too often this vital issue and its' effect on the patient and sexual partner is overlooked by healthcare providers. We propose an ED algorithm for integration into the radiation oncology nursing practice model to optimize the prevention and management of ED. Educate healthcare

providers on the potential for ED development as a late effect after receiving pelvic radiotherapy and to help determine the best resources to assist in improving their sexual function. Upon review of the patient's medical history, the nurse evaluated comorbid diseases and current medications that could affect sexual function. Results of PSA and serum testosterone were reviewed for signs of decreased hormone levels. Baseline sexual function was determined with regards to sexual activity prior to treatment, adequacy of erections, presence of libido, satisfaction with intercourse, relationship with partner, importance of adequate sexual function to patient and partner and use of PDE-5 inhibitors. First line therapy included management of co-morbidities and physiological support with oral PDE-5 inhibitors. Second line included vacuum erection device therapy, penile injection/pellets therapy, and transurethral prostaglandin suppository administration. Third line therapy is an implantable pump. In addition, by discussing physical intimacy without traditional intercourse, nurses created a safe environment where the patient/partner brought up how these issues affected their emotional life. Early interventions anecdotally have shown to improve long term management. Evaluation tools; Sexual Health Inventory Tool for Men (SHIM), baseline sexual function assessment, comorbid diseases, concurrent medications, serum PSA/testosterone results and lifestyle were all examined as contributing factors. Individualized ability to maintain physical intimacies were achieved. Through teaching, coaching and support, the oncology nurse played an important role in helping men with ED retain their sexuality and the highest quality of life possible. The quality of life of our male long term survivors was greatly improved by the nurse's open communication and willingness to discuss topics that affect their physical, mental and social wellbeing.

**278**

### **EVALUATION OF THE IMPACT OF NAVIGATION PROGRAM TO BREAST CANCER CARE AND SERVICES AT COMMUNITY MEDICAL CENTER**

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Among US women in 2017, an estimated 252,710 of women were diagnosed with breast cancer for all ages. Out of these total new cases, 99,250 women ages 65

and older were diagnosed with the disease. Based on Community Medical Center Cancer Registry (2016) data, there were 241 new breast cancer cases diagnosed. The new emerging role of nurse navigators will play a significant role in the lives of the elderly population because of the complexities brought about by the various cancer care modalities and treatment. The primary objective of this study is to evaluate significant impact of the breast navigator on cancer care coordination and breast cancer related services since its implementation in 2015. From January 2015 to August 2017, a total of 405 newly diagnosed breast cancer patients were seen by the Clinical Breast Navigator with a total of 2,989 encounters. The following data were collected by the Clinical Breast Navigator on a monthly basis on areas such as number of new patients seen, number of follow up phone calls, number of patient visits, referral sources and referral types identified from 2015 to 2017. Analysis of the data from 2015 and 2016 showed that the number of phone calls made by the nurse navigator increased almost 16% and there is also an increase of 48% on the number of patient visits. Data in 2016 and 2017 showed that there were a total of 39 Radiation Oncology referrals which generated approximate total return of investment of \$522,000.00. In 2017, a total of 35 diagnostic mammograms and 31 breasts MRI scans referrals were made which generated a total return of investment of \$22,219. Our results indicate that the Clinical Breast Navigator has a significant impact on breast cancer related services and care coordination. There is a need for more research on the roles and the scope of the work of oncology nurses on patient navigation. Navigation should also be explored on illnesses such as CHF, diabetes and other chronic conditions. Patient navigation by Clinical Breast Navigator enhanced access to services for all patients, increased referrals of new patients to the system. It also plays an important role in assisting patients and their families during cancer care journey.

**279**

### **PREVENTION AND INTERVENTION OF MALNUTRITION IN HOSPITALIZED ADULT PATIENTS**

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The high prevalence of malnutrition among the hospitalized patients and promotion of optimal nutritional status represent significant challenge in the care of hospitalized adult patient. It is estimated that twenty to fifty percent of hospitalized adult patients are malnourished. The costs of treatment associated with malnutrition are estimated to be higher than \$11 billion annually. The National Association of Clinical Nurse Specialist (NACNS) convened a Malnutrition Task Force (TF) with the purpose of providing recommendations on activities and resources necessary for the clinical nurse specialist (CNS) as advanced practitioner and as a member of the interdisciplinary clinical team to provide leadership on prevention of malnutrition and improvement of nutritional health of this population. The TF's first work was to define malnutrition and create the conceptual framework. Malnutrition is defined as a condition that occurs when more than two of following characteristics are present: insufficient energy intake, weight loss, loss of muscle mass, loss of subcutaneous fat, localized or generalized fluid accumulation, and decreased functional status. Three etiologies of malnutrition were identified; starvation-related, chronic disease-related, and acute disease-related, and these etiologies consider the presence and degree of inflammation as well as the time frame within which malnutrition develop. A conceptual framework was developed to delineate the role of the CNS in risk assessment, identification, and treatment of malnutrition in the hospitalized adult patients in collaboration with other interdisciplinary team members. Expected outcomes of this conceptual framework is the increased knowledge regarding risk assessment, identification, and treatment of malnutrition in the hospitalized adult patient as well as identification of the collaborative role of the CNS in improving this clinical issue. It is vital to approach malnutrition along a continuum, from normal nutrition and health, to abnormal nutrition, and malnutrition and illness. Provision of a conceptual and philosophical framework for nutrition practice based on the four areas of intervening variables of duration, socioeconomic, processes, and system dysfunction, guides the CNSs and all nurses on recognizing, treating, and evaluating nutrition interventions and knowing when the treatment may have greater risk than benefits. The CNS is very well positioned to directly manage and prevent malnutrition using the three spheres of influence which include the patient, systems and particularly nurses and nursing practice.

280

### **INTEGRATE HEALTH LITERACY WITH THE FOCUS ON GERIATRIC ONCOLOGY PATIENTS**

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**Kim Marchand, RN, OCN<sup>®</sup>, UTSW, Dallas, TX**

Incorporating health literacy when caring for older patients continues to be a challenge for oncology nurses. Although age is not the only factor in the decision-making process, nurses must understand risk factors associated with an aging population as half of cancer survivors are above 65. National Comprehensive Cancer Network (NCCN) developed an extensive tool for practitioners to utilize when working with older adults. While health literacy is emphasized heavily in literature, many oncology nurses feel inadequate as how to integrate this concept during care of an aging population. Knowledge, misconception, attitude and emotional state, barriers to adherence, time management and empowerment were identified as key factors in understanding health information. Applying the results from previous health literacy presentations, two oncology infusion nurses decided to integrate this concept using the NCCN Older Adult Oncology Guidelines and developed a presentation to share with infusion nurses. The content of the presentation consists of four sections: health literacy definition, describing the identified key factors, an overview of NCCN guidelines, and the application to educate patients as how to make healthy decisions. Knowledge gained from this presentation gave new insight to nurses. For example, older patients need to consider different treatment options if they have difficulty traveling to treatment centers. Additionally, assessing basic knowledge of older adults when distinguishing between curative and palliative treatment directly correlates with their decisions. Older patients may also experience sensory limitations that affects decision-making capabilities. Furthermore, clear communication and avoidance of complicated medical terminology assists with their understanding of the treatment plan. Assessing and utilizing teach-back skills to inspect the patients' ability to perform tasks such as trouble-shooting infusion pump at home is essential. Utilizing NCCN guidelines, oncology nurses understood how to address the concept of health literacy by taking time and providing significant facts when discussing treatment with older adults. Empowering patients and researching available tools for adherence to treatment leads to a successful experience. Integrate health literacy with the focus on older oncology patients using the NCCN

Older Adult Oncology Guidelines provided in-depth examination as how to communicate, assess and empower patients. Oncology nurses continuously work to enhance patient-care. Reviewing current practices and exploring options such as NCCN guidelines, nurses are seeing positive outcomes in patient-care.

281

### **APPLICATION OF QUALITY CONTROL CIRCLE IN IMPROVING THE AWARENESS RATE OF CHEMOTHERAPY RELATED KNOWLEDGE IN BREAST CANCER PATIENTS**

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The objective is to improve the awareness of breast cancer patients with chemotherapy. To carry out Quality Control Circle (QCC) in 42 patients with breast cancer, chemotherapy related knowledge, about chemotherapy were analyzed, and formulate an improvement. There are 8 members in the QCC. The team used a self-designed questionnaire to investigate the knowledge about chemotherapy among the breast cancer patients during 4-5 months of 2015. The lack of relevant knowledge about chemotherapy drugs accounted for 33.12%, the lack of dietary nutrition accounted for 25%, etc., according to the 80/20 principle, the first three items accounted for 81.24%, so it will be the focus of this activity. The specific measures included the instruction of strengthening education and chemotherapy related knowledge to the patients, and strengthening the training of the related knowledge about breast cancer chemotherapy among the nurses. In the light of the lack of nursing knowledge related to chemotherapy in breast cancer patients, standardized training should be carried out after systematic evaluation and standardized training, including adverse reactions such as breast cancer chemotherapy drugs. The awareness of breast cancer patients with chemotherapy increased from 73.81% to 94.9%. Target yield rate is 132.14%, improvement rate was 28.57%. Circle part in this method, team spirit, professional knowledge and so on six intangible fruits grow value is 2-4.98 points. The quality control circle activities can improve knowledge awareness of breast cancer in patients with chemotherapy, and improve the quality and ability of nursing staff.

282

### **IMPLEMENTATION OF A CHAIR MONITORING NURSE TO OPTIMIZE CHAIR USE, REDUCE**

## **PATIENT WAIT TIMES, REDUCE NURSE WORKLOAD, AND GATHER OBJECTIVE DATA IN AN OUTPATIENT SETTING**

**Eric Zawacki, BSN, RN, OCN®**, New York Presbyterian-Weill Cornell, New York, NY

New York Presbyterian's (NYP) outpatient infusion center is a large 42 chair clinic which typically treats 65–100 patients per day. Patients get labs drawn, see the physician, then are electronically designated with a blue dot to indicate to floor nurses (FN) to proceed with treatment. Each FN has 3–4 chairs with which to treat their typical workload of 7–10 patients. Previously, the charge nurse (CN) assigned patients to FNs as they arrived at the clinic. It was the FN's responsibility to monitor their patients for the blue dot and subsequently treat. As the amount of time varies between patient's arrival to start of treatment, the majority of a FN's workload may be ready for treatment simultaneously. The FN must then find an unoccupied chair in their co-worker's section and treat 5 or more patients at a time, leading to unsafe practice and/or patient delays. To ensure that nurses are given a safe steady workload, optimize chair utility, and reduce patients' wait times, a new system was implemented where patients were assigned to chairs as they became blue-dotted. As NYP has no chair tracking software, the position of Chair Monitor Nurse (CMN) was created to monitor for open chairs and blue dots. In addition to physically monitoring chairs, the CMN used an Excel spreadsheet to predict when chairs will open and collect data. The CFN received informal verbal feedback from FNs on perceived workflow. The patient care director received formal written electronic feedback from patients on perceived wait times. FNs verbalized a significantly steadier workflow and an increased ability to perform their primary core responsibilities (safe chemotherapy administration). FNs did note, however, that continuity of care with their regular patients had diminished. There was also, unfortunately, a significant increase in the CN workload that was only partially off-set by the CMN. Patients' perceptions of wait times were either noticeably improved or no change was noted. The most interesting results, however, came from the data collection. NYP could now compare what was planned via scheduling versus what occurred in practice, while also obtaining objective data on patient's actual wait times. Future projects include using non-clinical personnel instead of a CMN, and using Google Sheets as a chair-tracking and data-gathering system.

**283**

## **THE OUTCOME OF CASE MANAGEMENT FOR CANCER PATIENTS**

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In Taiwan, there are about 150,000 newly diagnosed cancer patients every year. In addition, since 1982, cancers have become the top 10 causes of death. Cancer patients face a long-term and arduous treatment process. In recent years, the medical system has successively established cancer case management and care systems. Through the effective integration of medical resources by the cancer case manager, the quality of medical care is improved and leads to positive doctor-patient relationship. This study carried out an analysis of cancer registration database from a hospital in south Taiwan from 2011–2016 and examined the effectiveness markets of cancer case management. The study results shows that treatment completion rate rise from 90.03% to 96.26%, loss to follow-up rate decreased from 0.21% to 0%, and hospital stay rate increased from 74.35% to 83%. The navigate intervention by cancer case managers not only decreases uncertainty in patients diagnosed with cancer and can also increase the treatment compliance rate in patients and proportion of patients undergoing routine follow-up. Cancer treatment is a long and tortuous process. During the case management process, we found that existing medical care often focus on disease symptoms and treatment and management, while the psychological and mental problems of patients were difficult to detect at the first instance. This resulted in neglect and inability to provide timely assistance. In the future, simple psychological and mental evaluation tools can be used for comprehensive evaluation of cancer patients, so as to identify high-risk populations as early as possible and provide appropriate management measures.

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## **INDUSTRY-SUPPORTED POSTER SESSIONS—THURSDAY**

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**IS-1**

## **MANAGEMENT AND CARE FOLLOWING TREATMENT WITH VENETOCLAX AND RITUXIMAB FOR PATIENTS WITH RELAPSED CHRONIC LYMPHOCYTIC LEUKEMIA**

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Venetoclax is a potent, selective BCL-2 inhibitor approved for certain patients with relapsed chronic lymphocytic leukemia (CLL). The 24-month progression-free survival rate was 49% when given as monotherapy. This increased to 88% when combined with rituximab (anti-CD20 antibody). Thus, durable responses with venetoclax (monotherapy or combination) suggest the possibility of maintaining response even after stopping venetoclax. Here, we report the outcomes and management of patients who discontinued venetoclax in a phase 1b study of venetoclax and rituximab (NCT01682616). Response assessment was performed 7 months after completion of combination therapy. Patients achieving complete response (CR) or minimal residual disease (MRD) negativity could discontinue venetoclax and remain on study. Forty-nine patients were enrolled (08/06/2012–05/28/2014). As of July 2016, sixteen patients (fourteen MRD-negative) with relapsed CLL at enrollment discontinued venetoclax and remained on study. Median time on venetoclax was 16.3 months (range: 5–38). Four of sixteen patients discontinued without evidence of progression after achieving MRD-negative CR: two due to inconvenience, two due to myelodysplasia and a neurologic disorder, neither of which were considered related to venetoclax. Twelve of sixteen patients remain in follow-up. Two patients had asymptomatic progression with increasing absolute lymphocyte count (ALC) approximately 24 months after venetoclax discontinuation. Both restarted venetoclax-rituximab. One patient achieved partial response (PR) but subsequently progressed; the other achieved CR and remains on venetoclax (4.4 years total). The ten MRD-negative patients (eight CR, two PR) still have no evidence of progression. This study has shown that responses can be maintained after discontinuation of therapy when patients have achieved a deep response. Patients should be monitored for progression with a physical examination and ALC. Importantly, nurses should discuss with their patients symptoms associated with progression (B symptoms or those due to marrow infiltration), including fever, fatigue, bruising, bleeding, night sweats, and weight loss. The presence of any of these, palpation of an enlarged lymph node, rising

ALC, or in some instances decrease in hemoglobin or platelets, merit evaluation for disease progression. Finite duration of therapy with venetoclax and other agents is being tested in clinical trials. Nurses should be aware that once treatment is stopped, a detailed history and physical examination are imperative to identify those patients who may benefit from retreatment with venetoclax.

## **IS-2**

### **USER EXPERIENCE WITH NEW, AESTHETICALLY IMPROVED TRANSDUCER ARRAYS FOR ADMINISTRATION OF TUMOR TREATING FIELDS FOR GLIOBLASTOMA MULTIFORME**

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Tumor Treating Fields (TTFields) are low-intensity, intermediate frequency alternating electric fields with anti-mitotic activity that are approved for the treatment of adults with newly diagnosed and recurrent supratentorial glioblastoma multiforme (GBM). TTFields are administered using the portable home-use Optune<sup>®</sup> system, which is comprised of two main components—a preset electric field generator and the insulated transducer arrays (TAs). The current TAs provided to patients consist of 2 opposing pairs of TAs having ceramic disks (transducers) arranged within a white adhesive bandage designed to hold the TAs tightly to the shaved scalp at carefully predefined locations to optimize TTFields delivery to the tumor. In response to patient and healthcare provider requests, Novocure is evaluating TAs with tan colored bandage material to minimize the stark appearance of the white TAs for patients and making the TAs more amenable for use in public settings. The purpose of this study is to evaluate the patient user experience with the change in color of the TAs from white to tan. The study will also assess the patients experience using the TAs with a newly designed adhesive liner and hydrogel used to insure good contact between the ceramic arrays and the skin. This study will be carried out in patients receiving Optune therapy for GBM. Twenty-five patients in Germany will be enrolled prospectively and asked to complete a questionnaire at regularly scheduled follow up visits. The questionnaire will assess patient satisfaction with the comfort, aesthetics and convenience associated with the new tan TAs. The questionnaire will also specifically address the use and convenience of the newly designed adhesive liner. Other endpoints

include adherence of the TAs to the scalp and metrics related to treatment duration and device performance to ensure that treatment delivery is unchanged. The Optune device is designed to minimize the treatment effect on patients' activities of daily living. Results from Phase 3 clinical trials show that efficacy of TTFIELDS is correlated with an optimal daily duration of treatment (>18 hours/day). Therefore, improvements addressing the GBM patients' user experience with the TAs, including aesthetics that minimize calling attention to the patients' medical condition, may help improve treatment compliance. Results summarizing the user experience with the new tan TAs will be reported.

### **IS-3 EFFECTIVENESS OF THE JOHNS HOPKINS' MANAGING CANCER AT WORK® PROGRAM**

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Johns Hopkins' Managing Cancer at Work® (MCAW) program was developed as a web-based resource for any employee and family member diagnosed with cancer or caregiving for someone with cancer. The program provides a web portal in addition to a workplace nurse navigator who provides education, resources, and support. The goal of the MCAW program is to help their employees prevent cancer, recognize early warning signs of the disease, and understand and manage cancer treatment. The purpose is to measure the utility of the MCAW program in helping employees navigate their experience with cancer (as patient or a caregiver) through web-based resources and the services of a workplace nurse navigator. The MCAW program was evaluated with a qualitative study with convenience study sampling. Every participant was offered an opportunity to participate via Survey Monkey. Likert Scales were used to assess the participants' perception of the MCAW value to them. The survey consisted of eight Likert scale questions with one free response inquiry. The survey was offered to both patients and caregivers. Evaluation 115 invitations were sent using Survey Monkey to active users of MCAW services and 42 responses received (representing a 36.5% response rate). The most common themes that emerged were: (a) Having a work place navigator was very helpful 69.05%, video content was helpful (46%). (b) The diagnostic and cancer treatment section information was very helpful (46.43%). (c) For the purpose of improving time off, 78.7% of participants reported that the program reduced the amount of time off that was needed, and 57% found the program helpful in

communication with co-workers regarding their illness. Free text comments: "I am very grateful that the institution places value on its employees in this way. When things looked impossible, the program offered hope and reassurance that I was wanted for my skills and the hospital was willing to give me a chance to deal with my health issues and maintain my position." Very grateful!! This novel intervention available to cancer survivors or caregivers provides much needed support and resources to an under represented population. The working cancer survivors. Given the anticipated increase in the rate of malignancies, this program offers practical support to enable organizations to support employees and reduce unnecessary time off of work.

### **IS-4 MONITORING AND MANAGEMENT OF ADVERSE EVENTS ASSOCIATED WITH RIBOCICLIB COMBINATION THERAPY IN PATIENTS WITH HORMONE RECEPTOR- POSITIVE, HUMAN EPIDERMAL GROWTH FACTOR RECEPTOR 2-NEGATIVE ADVANCED BREAST CANCER**

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The cyclin-dependent kinases 4 and 6 (CDK4/6) inhibitor ribociclib in combination with letrozole significantly improves progression-free survival compared with letrozole monotherapy (25.3 vs 16.0 months, respectively;  $P=9.63 \times 10^{-8}$ ) in postmenopausal women with hormone receptor-positive (HR+), human epidermal growth factor receptor 2-negative (HER2-) advanced breast cancer (ABC). Ribociclib is well tolerated, and effective management of its adverse event (AE) profile is critical for treatment success. This review discusses best practices for oncology nurses in monitoring for and managing AEs on the basis of the ribociclib safety profile. MONALEESA-2 (NCT01958021) is a randomized Phase 3 trial of ribociclib (600 mg/d, 3 weeks on/1 week off) + letrozole (2.5 mg/d) versus placebo + letrozole in postmenopausal women with HR+, HER2- ABC and no prior therapy for advanced disease. The primary endpoint was median progression-free survival. As expected with a CDK4/6 inhibitor, neutropenia was the most common AE (all-grade, 74.3%; Grade 3/4, 59.3%) in the ribociclib group (n=334). Median time to onset (TTO) of Grade  $\geq 3$  neutropenia was 29 days, and median time to resolution (TTR) to Grade <3 was 15 days. There was a low incidence of febrile neutropenia (1.5%); growth-factor support is not required

for neutropenia except with concurrent fever. Complete blood counts are recommended during the first 6 cycles. Symptomatic AEs were mostly Grade  $\leq 2$ . The most common symptomatic AE in the ribociclib group was nausea (all-grade, 51.5%; Grade 3/4, 2.4%). Median TTO and TTR of nausea were 8.0 and 19.0 days, respectively. Taking ribociclib with food may reduce nausea. In the ribociclib group, all-grade increased alanine aminotransferase (ALT) and increased aspartate aminotransferase (AST) occurred in 15.6% (Grade 3/4, 9.3%) and 15.0% (Grade 3/4, 5.7%) of patients, respectively. Median TTO of Grade  $\geq 3$  ALT/AST elevation was 57 days and median TTR to Grade  $\leq 2$  was 24 days. Liver-function tests are recommended during cycles 1–6. Eleven patients (3.3%) experienced  $\geq 1$  average corrected QT interval (Fridericia's formula)  $> 480$  milliseconds after baseline, mostly in the first 4 weeks of treatment; all were reversible with dose modification. Recommended monitoring includes electrocardiograms at baseline, mid-cycle 1, and cycle 2 day 1 and electrolyte assessments during cycles 1–6. Oncology nurses play an important role in effectively managing AEs within the well-characterized ribociclib safety profile.

## IS-5

### SAFETY PROFILE OF NIVOLUMAB + IPILIMUMAB COMBINATION THERAPY IN PATIENTS WITH DNA MISMATCH REPAIR-DEFICIENT/MICROSATELLITE INSTABILITY-HIGH (DMMR/MSI-H) METASTATIC COLORECTAL CANCER (MCR) IN CHECKMATE-142

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Nivolumab (NIVO), an immune checkpoint inhibitor, is approved for treatment of previously treated patients with dMMR/MSI-H mCRC. Dual checkpoint inhibitor therapy with NIVO plus ipilimumab (IPI) results in durable clinical benefit (ORR, 55%; DCR, 80%; 9-mo OS rate, 87%) and a manageable AE profile in previously treated dMMR/MSI-H mCRC patients. Checkpoint inhibition is associated with treatment-related adverse events (TRAEs) that differ from chemotherapy-related AEs; early identification and management of these AEs may lead to improved outcomes. The purpose was to report details on the TRAEs of NIVO+IPI in Checkmate-142, the management algorithms used and the outcomes of these TRAEs. Patients with dMMR/MSI-H mCRC received

NIVO 3 mg/kg + IPI 1 mg/kg Q3W for 4 doses followed by NIVO 3 mg/kg Q2W. TRAEs and select TRAEs (sTRAEs; defined as dermatologic, endocrine, gastrointestinal, hepatic, pulmonary, and renal AEs with a potential immunologic etiology) were assessed. sTRAEs were managed using protocol-specified algorithms, which could include corticosteroid treatment. Of the 119 patients treated, 73% experienced TRAEs; grade 3/4 TRAEs occurred in 32% of patients. TRAEs of any-grade or grade 3–4 that led to discontinuation were reported in 15 (13%) and 12 (10%) patients, respectively. The most common ( $\geq 10\%$ ) sTRAEs were dermatologic (29%), gastrointestinal (23%), and hepatic (19%). Most sTRAEs were grade 1–2. Grade 3–4 sTRAEs ( $\geq 5\%$ ) included increased AST (8%) and ALT (7%) levels. The median time to onset of any-grade sTRAEs ranged from 5.2 to 12.6 weeks. Median time to resolution (TTR) of any-grade sTRAEs, excluding endocrine sTRAEs, ranged from 1.5 to 9.0 weeks; median TTR for endocrine sTRAEs was not reached. Most sTRAEs (gastrointestinal, 96%, dermatologic 71%; hepatic, 74%; renal, 83%; endocrine, 40%) resolved using protocol-specified algorithms. No deaths due to TRAEs were reported. NIVO+IPI demonstrated a manageable safety profile in previously treated dMMR/MSI-H mCRC patients. Management of sTRAEs with evidence-based algorithms can improve patient quality of care. Across sTRAE categories, the use of algorithms for early detection and intervention led to the effective management and resolution of most sTRAEs. In the largest cohort of patients with dMMR/MSI-H treated with an immunotherapy regimen, NIVO+IPI demonstrated durable responses, encouraging OS, and a manageable safety profile. Evidence-based AE management is critical for patient quality of care.

## IS-6

### BURDEN OF PREVENTABLE ADVERSE EVENTS AND ERRORS ASSOCIATED WITH CLOSED SECONDARY CLAMPS FOR INFUSION THERAPY

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Secondary intravenous (IV) infusions are a common practice in the management of oncology patients. In addition to the growing complexity of patient

management, clinicians may be required to manually open a roller clamp on the secondary infusion sets depending on the type of infusion device. Failure to open this roller clamp on a secondary infusion set is classified as a preventable Adverse Drug Event (pADE) and a user error. Managing multiple IV medications appropriately, including chemotherapy, antibiotics and other important medications, presents a clear safety concern for patients and clinicians. The purpose was to analyze available literature on clinical and economic burden of pADEs associated with closed secondary clamps for infusion therapy. A literature search was performed in PubMed (Ovid Medline) using both MeSH terms and keywords, as well as, gray literature on the internet. Two hundred (200) articles were screened and 24 were finally included in this analysis. Articles were included if they provided primary data on secondary infusions, resulting medication errors or patient harm from secondary infusions, user errors on closed secondary roller clamps, clinical or economic burden from secondary infusion errors, or impact on nursing workflow and patient/nurse satisfaction with smart pump technology. IV infusion errors and pADEs threaten to pose a substantial burden within a healthcare system. Five (5) publications from 2003 to 2014 on secondary infusion errors ranged from 7.6 to 95.6%. A weighted average of these publications was calculated at 78%. Four (4) publications on specific errors tied to closed secondary clamps from 2010 to 2014 ranged from 9.38 to 25%. A weighted average here was calculated at 20%. These errors result in a range of consequences, from; inappropriate IV administration such as unintentional boluses, missed or delayed doses, and have been associated with additional healthcare resources like laboratory diagnostics and have been linked to serious patient harm. Several professional and safety organizations have published cautionary positions or recommendations for the management of secondary infusions; with some noting closed-secondary clamps specifically. Oncology patients represent an at-risk population for pADEs given their health status, acuity and potential complexities in medical management. End user errors related to secondary infusion set operation and secondary-clamp errors may resolve with appropriate training and the use of infusion technology.

## **IS-7**

### **SAFETY AND EFFICACY OF INTRAVENOUS (IV) NEPA, A NOVEL FIXED ANTIEMETIC COM-**

### **BINATION OF FOSNETUPITANT AND PALONOSETRON, FOR PREVENTION OF CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING (CINV) OVER MULTIPLE CYCLES OF HIGHLY EMETOGENIC CHEMOTHERAPY (HEC)**

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A recent survey of ~500 ONS nurses revealed that guideline-recommended antiemetics often are not administered to patients for CINV prevention. One potential barrier to use of guideline-recommended agents is perceived complexity of the multimodal antiemetic regimens. In the HEC setting, guidelines recommend the combination of an NK1 receptor antagonist (RA), 5-HT<sub>3</sub>RA, and dexamethasone, with ASCO guidelines adding olanzapine to the 3-drug combination. NEPA is an oral fixed combination of the NK1RA netupitant and 5-HT<sub>3</sub>RA palonosetron (PALO), simplifying prophylaxis by combining two antiemetic classes in one single capsule. Oral NEPA has shown superior CINV prevention over oral PALO plus well-established safety. To offer additional convenience for patients, nurses and healthcare providers, an IV formulation of NEPA (fosnetupitant/PALO) was developed and is under FDA review. This randomized, multinational, double-blind, Phase 3 study in chemotherapy-naïve patients with solid tumors was designed primarily to assess the safety of a single 30-minute infusion of IV NEPA prior to 4 repeated cycles of HEC. Patients received a single dose of either IV or oral NEPA, both with dexamethasone, days 1-4. Key safety assessments were treatment-related adverse events (TRAEs) and ECGs. Efficacy was assessed by complete response (no emesis/no rescue) during the overall (0-120h) phase. 203 IV and 201 oral NEPA patients were evaluated; 53% were male; mean age was 60; 96% received cisplatin, and lung cancer was the most common malignancy (55%). Overall AE profiles were similar for both groups, with 12.8% (IV NEPA) and 11.4% (oral NEPA) incidence of TRAEs throughout the study. The only TRAE with an incidence ≥2% in at least one cycle was constipation; there was no increased incidence over cycles (Cycles 1-4: 4.9%, 2.8%, 0.6%, 0% [IV NEPA] and 5.5%, 0.6%, 0.7%, 0.9% [oral NEPA]). No infusion site reactions nor cardiac safety concerns occurred related to IV NEPA. Overall CR rates were 76.8% (IV NEPA) and 84.1% (oral NEPA) in cycle 1, with sustained efficacy



in both groups in subsequent cycles. IV NEPA showed high CR rates and a safety profile similar to oral NEPA in patients receiving HEC. As a novel antiemetic targeting two pathways, single dose IV NEPA is convenient for patients, allowing for easier administration of guideline-recommended antiemetics by nurses and healthcare practitioners.

## IS-8

### ONCOLOGY DATA ABSTRACTION: LEVERAGING THE CLINICAL EXPERTISE OF ONCOLOGY NURSES TO UNLOCK THE VALUE OF DATA IN ELECTRONIC HEALTH RECORDS

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The vast majority of published oncology treatment data solely incorporates the experiences of 3% of adult cancer patients treated on clinical trials. Outcomes for the remaining 97% are poorly curated and difficult to analyze. Initiatives like the 21st Century Cures Act serve to facilitate utilization of real-world data (RWD) for generation of clinical and research evidence. And while electronic health records (EHR) are a major source of RWD, the majority of EHR data are unstructured (e.g. narrative notes, scanned documents), not searchable at an aggregate level, and lack real-time availability. Flatiron Health sought to bridge these gaps by leveraging experienced clinicians to review and translate unstructured information into aggregated, searchable and de-identified and searchable data. Oncology nurses are uniquely suited to this position due to in-depth clinical and EHR workflow knowledge, allowing them to extract data elements from the chart. In addition, based on an internal survey, our oncology nurse abstractors report that the continuous in-depth review of current clinical data provides learning opportunities beyond the areas that they would normally be exposed to in clinical practice. Oncology nurses, advanced practice oncology nurses and tumor registrars employed on a per diem basis by Flatiron as oncology abstractors (OAs) are rigorously trained to mine unstructured elements of the chart utilizing standardized data capture forms for collection of key data elements such as cancer staging, biomarker results, outcomes data, and oral therapy adherence. The data collection process leverages a proprietary, cloud-based, technology-enabled data capture platform with high quality search functionality, robust policies and procedures and a

thorough quality assurance program. Data is collected for initial tumor-focused cohort development and then patients are followed over time on a monthly or quarterly basis to ensure data recency. Currently the team is comprised of over 600 OAs with an average of eight years of clinical experience, who maintain a flexible schedule. To date, the team has collected comprehensive data on over 110,000 patients across 14 tumor types. In conclusion, oncology nurses play a critical role in converting key patient data from a siloed state into structured information available for use at individual oncology practices for treatment and research use. The OA role provides nurses a unique, flexible opportunity to influence patient outcomes away from the point of care.

## IS-9

### SUBCUTANEOUSLY ADMINISTERED LEUPROLIDE ACETATE CONSISTENTLY ACHIEVED AND MAINTAINED LOW T SUPPRESSION AND NADIR T LEVELS $\leq 5\text{NG/DL}$ REGARDLESS OF AGE AND WEIGHT

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Achieving and maintaining testosterone (T) suppression to castration level is the cornerstone of androgen deprivation therapy (ADT) for advanced prostate cancer (PCa). Using modern assay methodology, median T level after castration is 15ng/dL, and the European Association of Urology guidelines define castration as  $T \leq 20\text{ng/dL}$ . Studies demonstrated that reaching nadir  $T < 20\text{ng/dL}$  is correlated with improved clinical outcomes such as time to progression or disease specific survival (Klotz). As it is important to maintain castrate T levels during ADT, it is of interest to understand if factors such as age or body weight (BW) should be considered when selecting a therapy. PCa patients (age 40–86 and weight 49–146 kg) were treated with 7.5, 22.5, 30, or 45mg subcutaneous leuprolide acetate (SC-LA) lasting 1, 3, 4, or 6 months, respectively in 4 open-label, fixed-dose, pivotal trials. Blood was sampled at screening, baseline, 2, 4, 8 hours post-dosing, days 1, 2, 3, 7, and every other week until end of each study. T was measured 2–4 times on day of 2nd injection and once on days 1, 3, 7, 14, 28, 35 after the 2nd injection. The 45mg group had an additional measurement taken on day 2. Data were pooled and serum

T levels were evaluated by radioimmunoassay. Nadir T was the lowest laboratory value obtained during treatment. Across all SC-LA formulations, median serum LA was consistently between 0.1 and 1ng/mL. In all patients 90–96% achieved  $T \leq 20$ ng/dL by week 6 and 90–97% maintained  $T \leq 20$ ng/dL from weeks 6–24. When pooled, all age and weight subgroups achieved median  $T \leq 20$ ng/dL by week 4 and maintained until the end of the study. >90% of patients in all age groups and ≥92% of patients in all weight groups achieved  $T \leq 50$ ng/dL by week 4. Pooled analysis showed 99%, 97%, and 91% of patients reached nadir  $T \leq 20$ ,  $\leq 10$ , and  $\leq 5$ ng/dL respectively. These data suggest that SC-LA achieves consistent and prolonged drug delivery, resulting in favorable T suppression  $\leq 20$ ng/dL across all age and weight subgroups. Thus, age and weight do not appear to have an impact on consistent drug delivery and T suppression by SC-LA. SC-LA's ability to achieve nadir  $T \leq 5$ ng/dL means minimal testicular T is available to stimulate the prostate cancer cells, which may have implications for optimizing progression-free survival.

### **IS-10**

#### **SAFETY PROFILE AND MANAGEMENT OF SELECT TREATMENT-RELATED ADVERSE EVENTS IN PATIENTS WITH ADVANCED HEPATOCELLULAR CARCINOMA (AHCC) TREATED WITH NIVOLUMAB IN THE CHECKMATE-040 STUDY**

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Early identification and management of treatment-related AEs (sTRAEs) in patients receiving immune checkpoint inhibitors is necessary to prevent treatment delays and improve outcomes. Nivolumab, a PD-1 inhibitor (mAb), demonstrated long-term survival, durable responses, and a manageable safety profile in patients with advanced hepatocellular carcinoma (aHCC) in CheckMate-040. Nivolumab is approved in the United States in patients previously treated with sorafenib. The purpose was to assist practitioners in managing AEs with nivolumab, management algorithms were developed for categories of select TRAEs (sTRAEs; dermatologic, endocrine, gastrointestinal, hepatic, pulmonary, and renal) that have potential immunologic etiology requiring

more frequent monitoring. We present overall safety analyses and management algorithms for sTRAEs, including hepatic events, in CheckMate-040. Patients received nivolumab in dose-escalation (ESC; 0.1–10 mg/kg) and dose-expansion (EXP; 3 mg/kg) cohorts intravenously every 2 weeks. Primary endpoints were safety and tolerability (ESC) and objective response rate (EXP). Analysis of TRAEs included events occurring within 30 days of last dose. sTRAEs were managed using protocol-specified algorithms, which could include corticosteroid treatment. 262 treated patients were assessed (EXP, n=214; ESC, n=48); median age was 63 years and ECOG performance status was 0–1. Median duration of nivolumab treatment was 4.9 months (range, 0–33.7+). Any-grade (grade 1–4) and grade 3/4 TRAEs occurred in 76% and 21% of patients, respectively. Frequencies of ALT and AST elevations were 10% (any grade) and 3%–5% (grade 3/4). The most frequent sTRAEs were dermatologic (35%). Other sTRAEs were gastrointestinal (14%), hepatic (14%), endocrine (9%), pulmonary (1%), and renal (1%); most were grade 1/2. Grade 3/4 sTRAEs with incidence ≥1% were AST increase (5%), ALT increase (3%), and diarrhea (1%). Proportions of sTRAEs managed with immune-modulating medication were: pulmonary (67%), dermatologic (45%), gastrointestinal (17%), hepatic (16%), endocrine (8%). Nivolumab discontinuations due to hepatic sTRAEs occurred in <1% of patients. 66% of sTRAEs resolved; specific management algorithms will be presented. One treatment-related death occurred (pneumonitis; >100 days after last dose). Nivolumab demonstrated a manageable safety profile in patients with aHCC, consistent with that of nivolumab in other tumor types. Overall, sTRAEs were effectively managed with use of specific treatment algorithms. The PD-1 inhibitor nivolumab has demonstrated durable tumor responses and promising survival, with a manageable safety profile in patients with aHCC.

### **IS-11**

#### **LONG-TERM EFFICACY AND SAFETY IN PATIENTS WITH PREVIOUSLY TREATED CHRONIC LYMPHOCYTIC LEUKEMIA IN THE RESONATE STUDY: ONCOLOGY NURSE EXPERIENCE IN MANAGEMENT OF ADVERSE EVENTS**

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Ibrutinib, a first-in-class, once-daily Bruton's tyrosine kinase inhibitor, is FDA-approved to treat chronic lymphocytic leukemia (CLL)/small lymphocytic lymphoma (SLL). Long-term results from the phase 3 RESONATE™ trial of ibrutinib vs ofatumumab are reported. Oncology nurses are critical in helping to identify adverse events (AEs) and monitoring treatment. Patients with CLL with  $\geq 1$  prior therapy either received 420 mg ibrutinib orally until progressive disease (PD) or ofatumumab for  $\leq 24$  weeks. At interim analysis (median 9 months' follow-up), ibrutinib treatment was recommended for ofatumumab patients. Long-term efficacy is per investigator assessment. 391 patients (median age: 67 years) were randomized to ibrutinib (n=195) or ofatumumab (n=196). For ibrutinib (median follow-up: 44 months; maximum: 53 months), median progression-free survival (PFS) was not reached (3-year PFS=59%), 3-year overall survival (OS) was 74%, and overall response rate was 91%. Baseline cytopenias improved with extended ibrutinib therapy, ie, hemoglobin 85%, platelets 95%, and absolute neutrophil counts 95%. Discontinuations were most frequently due to PD (27%) and AEs (12%). During  $\leq 4$  years' follow-up, major hemorrhage, Grade  $\geq 3$  atrial fibrillation, and Grade  $\geq 3$  hypertension rates were 6%, 6%, and 8%, respectively. Incidence of most Grade  $\geq 3$  AEs decreased from year 1 vs year 2-3 (neutropenia: 18% vs 8%; pneumonia: 11% vs 4%; atrial fibrillation: 4% vs 2%). Many AEs occurring during ibrutinib treatment resolve over time while continuing treatment. AE-related dose reductions decreased from n=12-15 (year 0-1 and 1-2) to n=6-7 (year 2-3 and after). Oncology nurses may be the first health-care provider to recognize AEs. They provide patient education/support and may be involved with specialist referrals, concomitant medications, and/or ibrutinib dose reductions. Long-term ibrutinib treatment in this study was tolerable, with reduced AEs over time and sustained PFS and OS. The oncology nurse's approach to AEs during ibrutinib treatment depends on the AEs (type/severity) and how bothersome patients find them, while considering risk-benefit. Some AEs (eg, myalgias, bruising, fatigue) may require only patient education/reassurance to help patients cope until symptoms resolve. Some may be managed with standard OTC care (eg, diarrhea: anti-diarrheals;

rashes: topical corticosteroids). More serious AEs (eg, atrial fibrillation) may require additional treatments, specialist referrals, and/or ibrutinib dose reductions. Oncology nurses play an important role in educating patients in order to maximize ibrutinib's long-term treatment benefits.

## IS-12 SUBCUTANEOUS RITUXIMAB: IMPLICATIONS FOR NURSING PRACTICE

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Rituximab, which was FDA approved in 1997, is the first monoclonal antibody developed for the treatment of cancer. This revolutionized the treatment of CD20 positive, B-cell malignancies including follicular lymphoma, chronic lymphocytic leukemia and diffuse large B cell lymphoma. Over these last two decades, Rituximab has become part of the standard of care of treatment for all of these CD20 positive hematologic malignancies, and has impacted over four million patient lives. During this time, oncology nurses have mastered how to manage side effects and safely administer rituximab intravenously over approximately 1.5-4 hours. In June 2017, the FDA approved a subcutaneous formulation of rituximab. Subcutaneous rituximab is a combination of rituximab and hyaluronidase human, which allows patients to receive the same monoclonal antibody molecule of rituximab in a 5-7 minute subcutaneous, injection in the abdomen. The safety and efficacy of rituximab and hyaluronidase human are comparable to rituximab IV except for the potential of local cutaneous reactions, associated with the change in route of administration. Awareness of these reactions, as well as, dosing and administration differences are important educational needs for oncology nurses. Oncology nurses are an essential part of the comprehensive care team for the oncology patient. They manage and provide direct patient care while serving as the educator and advocate for both the patient and caregiver. It is important for oncology nurses to understand the clinical development program, safety implications, mechanism of action, dosing, and administration of subcutaneous rituximab/hyaluronidase human. This poster will educate the oncology nurse about safety, dosing,

and administration considerations. An overview of the mechanism of action, efficacy and patient preference studies will also be provided. A summary of the dosing and administration of subcutaneous rituximab in the indicated disease states, as well as efficacy and safety data from the clinical development program will be reviewed. This will give the oncology nurse an overview of information needed when caring for and educating patients receiving subcutaneous rituximab. Oncology nurses have a critical role in direct patient care and in education of both patients and caregivers. Providing them with the knowledge of dosing, administration, safety and efficacy data, allows them to competently and confidently treat and educate their patients on subcutaneous rituximab

### **IS-13** **PATIENT-CENTRIC APPROACH TO** **MANAGING CANCER TREATMENT-RELATED** **DIARRHEA**

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Diarrhea is a common, and sometimes severe, side effect of breast cancer therapies, but proactive management can minimize symptoms. Management strategies are often developed without patient input, which can result in confusing terminology, lack of important details, suboptimal diarrhea management and treatment discontinuation. Nurses play an important role in helping patients navigate their treatment, thus patient-centered management materials can support nurses and empower patients to discuss symptoms. The purpose is to understand patients' perspectives on treatment-related diarrhea, and obtain their feedback on educational materials to minimize diarrhea in cancer clinical trials. In May 2017, an online advisory board (24 US patients) and 1:1 interviews (3 patients each from Argentina, Italy, and Singapore) were conducted with 33 female patients with breast (23), RCC (4), MM (3) and carcinoid (3) cancers. Twenty-three had experienced anticancer treatment-related diarrhea. Participants were asked to share their experiences with treatment-related diarrhea; information they would like to have; and to provide feedback on

educational materials on diarrhea prevention and management. Patients often felt their medical team had not adequately prepared them to manage diarrhea, especially its intensity and potentially rapid onset without warning. Patients wanted specific information including expected diarrhea severity and potential for unexpected accidents; practical management advice including prevention and diet; and encouragement to report diarrhea and seek treatment help as soon as symptoms arise. Patients felt that educational materials could be improved with more explicit information on severity and characteristics, e.g. sudden or night-time onset. They recommended that information be provided before starting oncology medication and be discussed with a health care practitioner as well as be provided in various written forms across multiple study visits. Provision of a clinic contact person for guidance when diarrhea occurs was considered necessary. Knowledge gained from patients regarding their treatment experience can further inform nurses' support with treatment-related symptoms. Patients indicated that they view nurses as their closest guide during treatment, placing nurses in a unique position to influence patient behavior. To our knowledge, this is the first time a patient-centric approach has been used to develop diarrhea management materials for use in clinical trials. In addition, we sought feedback from patients residing in four countries, since culture can influence communication regarding treatment-related side effects like diarrhea.

### **IS-14** **THE NEED FOR TARGETED NURSE EDUCATION** **IN THE MANAGEMENT OF PEDIATRIC** **NEUROBLASTOMA**

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Neuroblastoma is the third most common childhood cancer characterized by diverse clinical behavior with poor outcomes despite aggressive therapy. It is a challenging disease that requires clinicians to work together in a multidisciplinary team to provide optimal care and support for patients and their families. The purpose of this study was to evaluate whether education focused on managing pediatric neuroblastoma was more effective when provided to physicians and nurses together in a single intraprofessional

program or in separate programs directed to each profession. Two live, online 1-hour video-based education activities on pediatric neuroblastoma were produced in 2016 and made available on-demand at OMedLive.com for 1 year; activities were intended for physician (MD degrees) and nurse (RN and NP degrees) learners (n=260 total). The education focused on diagnostic procedures, treatment regimens, management of adverse events and effective support and counseling of pediatric patients and their parents/caregivers through the treatment course. Self-reported survey responses from learners were analyzed and included knowledge- and competence-based quantitative data (pre- and post-activity). Self-reported measures identified that 44% of both physician and nurse learners were not confident on managing short- and late-term side effects from neuroblastoma treatment, and 40% were not confident in developing a comprehensive pain management program. Responses of physician and nurse learners diverged on select topics: physicians gained significant knowledge improvement on treatment selection, new scientific data, and side effect management following the education, but responses from nurse learners indicate additional education is needed on the management of short and late-term side effects from high-risk neuroblastoma treatment and guidance on supportive care strategies. Based on these results, two additional 1-hour education sessions intended specifically for nurses were developed in 2017. These programs focused on managing adverse events, improving supportive care during and after treatment, addressing and communicating the goals of care, and advocating for pediatric patients and their families affected by neuroblastoma. Data analysis regarding the improvement in confidence, knowledge, and competence from the nurse-focused education on enhancing neuroblastoma care is ongoing and the comparison between the 2016 multidisciplinary approach and the 2017 nurse targeted education will be presented.

## IS-15

### **ADVERSE EVENTS IN PATIENTS WITH METASTATIC PANCREATIC CANCER RECEIVING LIPOSOMAL IRINOTECAN: UNDERSTANDING THE OCCURRENCE AND HOW MANAGEMENT AFFECTS PATIENT OUTCOMES**

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In the phase III NAPOLI-1 trial (NCT01494506), liposomal irinotecan in combination with 5-fluorouracil/leucovorin (nal-IRI+5-FU/LV) improved overall survival (OS) vs 5-FU/LV (6.1 vs 4.2 months, hazard ratio [HR]=0.67, P=0.012) in patients with metastatic adenocarcinoma of the pancreas (mPDAC) previously treated with gemcitabine-based therapy. The prescribing information for nal-IRI has detailed recommendations for dose modifications for adverse event (AE) management. Nurses, as part of the interdisciplinary team, serve as patient advocates educating oncology patients regarding the incidence and management of AEs. The purpose is to assess the timing of common AEs and whether recommended dose modifications for AEs influence patient outcomes. The first occurrence (incidence) of selected AEs by treatment period (Weeks 1-6, 7-12, and >12) and the number of patients experiencing the AE during each period (prevalence) were analyzed. A separate analysis examined the effect on OS of dose delays or reductions for AEs occurring during the first 6 weeks of the study. Delays were defined as delays in dosing >3 days from target dosing date and dose reductions were reductions in dose from initial administered dose. Median OS was based on Kaplan-Meier estimates and Cox regression analysis was used to calculate HRs. Diarrhea, vomiting, nausea, decreased appetite, fatigue, neutropenia, and anemia were the most common AEs reported, and they occurred more frequently in the nal-IRI+5-FU/LV arm vs 5-FU/LV arm. In patients receiving nal-IRI+5-FU/LV, most first occurrences of neutropenia, diarrhea, nausea, and vomiting happened during the first 6 weeks of treatment, with the incidence and severity generally decreasing thereafter. The prevalence and severity were also highest in the first 6 weeks, tending to decrease over time. The difference in OS between the nal-IRI+5-FU/LV and 5-FU/LV arm remained significantly different when dose delays (8.4 vs 4.2 months HR=0.66 [0.46, 0.94]) or dose reductions (9.4 vs 4.2 months, HR=0.58 [0.38, 0.88]) during Weeks 1-6 were considered. These results suggest that AEs occur most frequently during the first 6 weeks of nal-IRI+5-FU/LV therapy and can typically be managed using recommended dosing modifications and AE management strategies while maintaining efficacy. This knowledge is vital for oncology nurses who educate, coach, and manage symptoms of those receiving this second-line therapy for mPDAC. Patients can be empowered by this information as they consider their goals and treatment decisions.

## IS-16

### MANAGEMENT OF MUSCULOSKELETAL EVENTS (MSEs) IN A PHASE 2 STUDY (HALO 109-202) OF METASTATIC PANCREATIC CANCER PATIENTS RECEIVING A NOVEL TREATMENT APPROACH OF PEGPH20 (PEGVORHYALURONIDASE ALFA) PLUS NAB-PACLITAXEL/GEMCITABINE (PAG)—A NURSING PERSPECTIVE

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Tumor microenvironment hyaluronan (HA) accumulation is associated with disease aggression and poor outcomes in patients with solid tumors. PEGPH20 (pegvorhyaluronidase alfa), an investigational agent, degrades HA and facilitates access of cancer therapies. MSEs (muscle spasm, arthralgia, myalgia) are well-documented during PEGPH20 treatment. We characterize MSEs observed in a Phase 2 study (HALO 109-202) of PEGPH20 (P) plus nab-paclitaxel and gemcitabine (AG) in patients with previously untreated metastatic PDA. Patients were randomized to PAG or AG alone in 28-day cycles. Patients received PEGPH20 3 µg/kg IV 2x/wk x 3 wks in Cycle 1, then 1x/wk x 3 wks in Cycles 2+, and AG according to standard dosing. Dexamethasone 8 mg was administered orally within 2 hours before and 8-12 hours after each dose of PEGPH20 to manage MSEs. We analyzed data relating to MSE frequency, severity, timing, and management in patients who received at least 1 dose of study medication. 279 patients were enrolled; 260 patients comprise the safety analysis population. The proportion of patients with treatment-emergent MSEs was higher with PAG versus AG for any grade MSEs (86% vs 46%) and for Grade 3 MSEs (19% vs 6%). The most common MSEs (any grade/Grade 3) were muscle spasms in the lower and upper extremities (58%/13% PAG vs 6%/1% AG) and, less frequently, arthralgia (28%/2% vs 14%/1%) and myalgia (27%/5% vs 12%/0). Median (range) time to onset for MSEs of any grade was 2 (0-287) days in the PAG arm and 8 (0-196) days in the AG arm. Median duration (range) of Grade 3 MSEs was 9 (5-14) days for PAG vs 8.5 (2-22) days for AG. Five patients (4%) experienced MSEs that led to PAG discontinuation (muscle spasms=4; myalgia=1). Medications (muscle relaxants, corticosteroids, NSAIDs, opioids) were administered in 57% (PAG) vs 20% (AG) of the MSE episodes, predominantly in patients with Grade 3 MSEs. MSEs are

commonly observed with PAG and AG treatment when administered at the specified doses, but with a higher incidence in patients treated with PAG. MSEs are primarily Grade 1 or 2 in severity and infrequently lead to treatment discontinuation. Nurse and patient education for early recognition and intervention for MSEs is key to safe incorporation of PEGPH20 into treatment paradigms for advanced cancers.

## IS-17

### NURSING MANAGEMENT OF PATIENTS RECEIVING IBRUTINIB FOR STEROID-DEPENDENT/REFRACTORY CHRONIC GRAFT VERSUS HOST DISEASE

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Chronic graft versus host disease (cGVHD) is a life-threatening risk after allogeneic stem cell transplantation. Our objective was to evaluate nursing practice patterns in managing complications, concomitant medications, and drug interactions in patients receiving ibrutinib, a first-in-class, once-daily inhibitor of Bruton's tyrosine kinase (approved in the US for the treatment of adult patients with cGVHD after failure of one or more lines of systemic therapy). Eligible patients (n=42 evaluable) with ≤3 prior regimens for cGVHD received 420 mg/day ibrutinib until progressive disease or intolerable toxicity. Nurses managed patient care of adverse events (AEs) and concomitant medications via an online messaging system and study visit forms. Treatment-emergent AEs (TEAEs) were managed per institutional guidelines. Best cGVHD overall response rate (primary efficacy endpoint) was determined by the National Institutes of Health Consensus Panel Response Criteria. Change in symptom burden (secondary endpoint) was measured by the Lee cGVHD Symptom Scale. The overall response rate was 67% ([28/42], 95% confidence interval, 51-80). The rate of sustained response for ≥20 weeks was 71.4% (20/28 responders; 95% confidence interval, 51.3-86.8). Among responders, Lee cGVHD Symptom Scale scores improved in 43% (n=12/28) at 6 months and 61% (n=17/28) overall. The most common TEAEs were fatigue (n=24/42; 57%), diarrhea (n=15/42; 36%), and muscle spasms (n=12/42; 29%). Pneumonia was

reported in 7/42 (17%) of patients. At our institutions, to manage fatigue, patients were instructed to increase their exercise routine as possible and take ibrutinib at bedtime. Patients were prescribed antidiarrheals for drug-related diarrhea. Muscle spasms were addressed by recommending physical therapy, stretching, and increasing electrolyte intake as possible. To prevent pneumonia, nurses recommended activity, pulmonary exercise, and continuation of prophylactic medications. Patients were taking a median of 13 concomitant medications, with the most frequent being prednisone (100%), Bactrim (79%), acyclovir (71%), oxycodone (45%), and fluconazole (43%). Thirty subjects (71%) were taking moderate or strong cytochrome P450 (CYP) 3A inhibitors during the study. Patients were instructed to alert their transplant providers of any new medications to enable assessment for interactions among concomitant medications (eg, ibrutinib with CYP3A modulators or anticoagulants). Ibrutinib reduced cGVHD symptom burden. Recommendations for managing TEAEs were made according to nursing best practice. Management of TEAEs and concomitant medications requires ongoing communication between healthcare providers and patients.

## IS-18

### CHIMERIC ANTIGEN RECEPTOR T CELL TREATMENT FOR AGGRESSIVE, REFRACTORY NON-HODGKIN LYMPHOMAS: NURSING IMPLICATIONS OF THE ZUMA-1 TRIAL OF AXICBTAGENE CILOLEUCEL

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Chimeric antigen receptor (CAR) T cells are developed by engineering a patient's own immune cells to attack tumor cells. In the pivotal ZUMA-1 trial (NCT02348216), axicabtagene ciloleucel (axi-cel; KTE-C19), an anti-CD19 CAR T cell therapy, was evaluated in adult patients with refractory, aggressive non-Hodgkin lymphomas (NHL). Axi-cel yielded an objective response rate of 82% including 54% complete responses. Cytokine release syndrome (CRS) and neurologic events (NE) are potentially life-threatening adverse events (AEs) associated with CAR T cells; grade  $\geq 3$  CRS and NE occurred in 13% and 28% of patients, respectively. Oncology nurses play a critical role in managing AEs, educating patients and caregivers, and

collaborating with the interdisciplinary team during CAR T cell therapy. The purpose is to describe the role of oncology nurses in managing AEs during ZUMA-1 and in educating patients, caregivers, and staff, during all stages of the CAR T cell treatment journey. Reference guides and treatment algorithms were developed to prepare the interdisciplinary team for monitoring, grading, and management of AEs, including patients requiring care escalations/transitions. Patient and caregiver education was developed for all stages of the CAR T cell treatment journey from leukapheresis through discharge. Information was provided as fact sheets on CAR T cells, CRS, and NE; AE treatment flowsheets; a personalized treatment calendar; 1:1 educational meetings; and group classes. In ZUMA-1, most CRS and NE were reversible and generally manageable with tocilizumab and/or steroids. Additional data regarding outcomes and management of other key AEs from the ZUMA-1 trial will be presented. Patient and caregiver education helped reduce anxiety, increase knowledge, and increase compliance with CAR T cell therapy process. Oncology nurses should be familiar with the unique aspects of patient management with CAR T cell therapies such as axi-cel. Due to the novelty of the therapy and the multiple touchpoints with patients during leukapheresis, conditioning chemotherapy, and infusion of cells, oncology nurses play critical roles in patient and caregiver coordination, management, and education. Axi-cel provided significant clinical benefit, with serious but manageable AEs, for patients with refractory, aggressive NHL. A comprehensive education program for patients, their families, novice staff, and the interdisciplinary CAR T treatment team can help to optimize the safe implementation of this new treatment paradigm.

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## INDUSTRY-SUPPORTED POSTER SESSIONS—FRIDAY

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## IS-19

### PATIENTS FIRST: NURSING BEST PRACTICES FOR THE NEW FORMULATION, DOSING, AND INDICATION OF OLAPARIB

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Although poly(ADP-ribose) polymerase inhibitors (PARPi) such as olaparib have become important treatment options for women with recurrent ovarian

cancer (OC), some oncology nurses may be unfamiliar with best practices for using these drugs. Furthermore, the indication, formulation, and dosing of olaparib recently changed to include maintenance therapy in patients with platinum-sensitive, recurrent OC. Recent and ongoing studies also point to a potential role for olaparib in selected patients with metastatic breast cancer. The purpose was to educate oncology nurses about the mechanism of action, clinical profile, nursing best practices, and proactive patient management for olaparib, particularly the expanded indication and new formulation/dosing. Olaparib was initially approved in patients with germline BRCA-mutated (gBRCAm) advanced OC after  $\geq 3$  lines of chemotherapy. Recently, results of SOLO-2 and Study 19 led to two important changes: the approval of olaparib as maintenance treatment in patients in complete or partial response to platinum-based chemotherapy for recurrent OC regardless of BRCAm status; and a new tablet formulation with improved bioavailability and lower pill burden than the previous capsule formulation. The recommended dosage of the new tablet formulation is 300 mg (two 150-mg tablets) twice-daily for both indications. Clinicians are cautioned that the formulations (tablets versus capsules) cannot be substituted for each other on a milligram-per-milligram basis because they have different dosing and bioavailability. A proactive approach is recommended for managing olaparib adverse events (AEs), including patient education, counseling, and periodic lab testing. Hydration, prophylactic antiemetics, and proton-pump inhibitors are options for nausea. Dietary modifications may reduce uncomplicated diarrhea and dyspepsia. Patient counseling and support programs should also focus on the importance of treatment adherence, especially when olaparib is used long-term for maintenance therapy. Olaparib is not currently approved for treatment of cancers other than ovarian. The OlympiAD study recently showed that olaparib (300 mg twice-daily tablet formulation) prolonged progression-free survival versus standard chemotherapy, with fewer AEs, in patients with HER2-negative, gBRCAm metastatic breast cancer, regardless of hormone receptor status. Because of recent updates to the product label, there is a gap in nurses' understanding of olaparib's clinical profile, which will be addressed, with an emphasis on proactive patient counseling and AE management.

## IS-20

### ANTHEM'S CANCER CARE QUALITY PROGRAM—IMPROVING PATIENT

## OUTCOMES THROUGH PROVIDER ENGAGEMENT

Jessica Neeb, RN, MSN, OCN®, CNML, Anthem, Inc., Greenwood, IN

The American Cancer Society estimated that 1.7 million individuals in the US will be diagnosed with cancer in 2017. The direct medical costs associated with cancer in the US in 2014 were 87.8 billion dollars. Cancer care is complicated requiring difficult treatment, and navigation of a complex healthcare system and resources. There is heavy burden on oncology providers and nurses to understand and provide the most current, evidence-based care available while monitoring patient progression, symptom management, cost, and shifting reimbursement structures. The Journal of Clinical Oncology found in 2011 that 1 in 3 regimens for cancer care was not consistent with medical evidence. In 2014, Anthem Inc. began designing a pathway program to support oncologists in treatment decisions by providing a repository of evidence-based regimens for common cancer diagnoses. The program has evolved and is today known as the Cancer Care Quality Program (CCQP). The program includes an innovative reimbursement structure and aims to transform cancer care by engaging providers directly to support the highest quality cancer care with minimal burden to practices. The Anthem CCQP has deployed provider clinical liaisons and a medical director who work directly with practices throughout 14 states. The team provides on-site support to practices to discuss strategic measures that serve as indicators of quality cancer care. Uniquely, Anthem partners with practices to support a bi-directional exchange of information to maximize care transformation. Since the CCQP's inception, over 8,000 unique providers are participating in the program submitting approximately 6,000 cancer cases for pathway approval per month. Current pathway adherence is approximately 66% outreaching the 2017 goal of 65%. Anthem believes it will save nearly \$220 million dollars per year by incentivizing evidence-based cancer care. ASCO's, "State of Cancer Care in America 2017," made recommendations for transforming cancer care. Nurses in all roles must understand and support these efforts. The recommendations included patient centered payment models, reduced administrative burden, efficient use of technology and data, and the development and delivery of new treatments. Anthem's Cancer Care Quality Program encompasses all of these initiatives. It is a unique and innovative model that continues to evolve with the landscape of oncology care.



## IS-21

### OVERCOMING OBSTACLES TO RECOMMENDED TREATMENT IN PATIENTS WITH ADVANCED BREAST CANCER

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When patients are prescribed treatment for hormone receptor-positive (HR+), human epidermal growth factor receptor 2-negative (HER2-) advanced breast cancer (ABC), the oncology nurse plays an essential role in educating these patients to ensure their comfort with and sense of ownership over their treatment. For postmenopausal women with HR+, HER2- ABC, national guidelines recommend combination therapy with a cyclin-dependent kinase 4 and 6 (CDK4/6) inhibitor and aromatase inhibitor as a first-line treatment option. The objective of this review is to survey treatment patterns and reasons for discontinuation in patients with ABC and present recommendations for proactive education to ensure that patients are able to remain on recommended CDK4/6 inhibitor therapy. A literature review of articles indexed in PubMed as of September 13, 2017, relating to real-world treatment patterns in breast cancer and published in the last 5 years identified 31 articles. Ten were related to HR+, HER2- ABC and were included for qualitative analysis. Although most US patients receive recommended care in the first-line setting, adherence to national guidelines is lower in later lines. Many physicians rate efficacy and safety/tolerability concerns as substantial limitations to treatment success. Furthermore, the fear of side effects is a dominant theme cited by patients when discussing whether to accept recommended treatment. Oncology nurses can play essential roles in alleviating safety concerns through effective patient education. At the Florida Cancer Specialists & Research Institute, best practices for patient education include dosing calendars, daily interactions with patients to address obstacles that may affect compliance, and frequent evaluations to review toxicities and appropriate treatments. A series of conversations may better support patients' comfort with treatment than a single educational session. Combining patient education with tools such as dosing calendars can familiarize patients with treatment-related toxicities, optimize treatment adherence, and facilitate a discussion of solutions to improve patient quality of life during subsequent CDK4/6 inhibitor treatment cycles. One of the goals of oncology nurses should be complete patient compliance with recommended treatment. Safety concerns comprise a significant treatment barrier in HR+, HER2- ABC. Oncology nurses can provide proactive, continuous education about the safety

of CDK4/6 inhibitor combination therapy to support patients' comfort with recommended treatment and help them achieve the progression-free survival benefits this therapy can provide.

## IS-22

### ROLE OF ONCOLOGY NURSES IN PATIENT EDUCATION FOR IMPROVING TREATMENT ADHERENCE AND OUTCOMES IN PATIENTS WITH ADVANCED BREAST CANCER

Patricia Ramos, RN, OCN®, Redlands Community Hospital, Redlands, CA

Ribociclib is an orally bioavailable, selective inhibitor of cyclin-dependent kinases (CDK) 4 and 6 approved for use with an aromatase inhibitor to treat postmenopausal women with hormone receptor-positive, HER2-negative advanced breast cancer that significantly improves progression-free survival (PFS) vs endocrine monotherapy. Achieving treatment benefit depends on maintaining adherence to the dosing regimen. This presentation identifies education topics and strategies to support adherence to ribociclib combination therapy. Oncology nurses often play a vital role in helping patients with treatment decisions and treatment adherence. Oncology nurses provide education and counseling about treatment options, intended duration of therapy, and management of anticipated adverse events (AEs). For ribociclib, important topics for patient education include (1) mechanism of action—ribociclib led to cell-cycle arrest and reduced cell proliferation in breast cancer cell lines and to decreased tumor volume and proliferation in rat models and breast cancer xenograft models; (2) safety—AEs observed with ribociclib are consistent with the CDK inhibitor class and manageable with adequate monitoring, dose interruption, or dose modification, as required; (3) dosing—the recommended dosage of ribociclib is 600 mg once daily (3 weeks on, 1 week off; efficacy is maintained during week off), taken with or without food, and is available as a copackage with letrozole with a single prescription; and (4) efficacy—in the second overall survival interim analysis (data cutoff, January 2, 2017), the median PFS rates were 25.3 months and 16.0 months for patients receiving ribociclib and placebo, respectively (HR=0.57; 95% CI, 0.46–0.70; P=9.63 × 10<sup>-8</sup>). Oncology nurses often serve as patients' first line of communication for questions about symptoms, side effects, and drug-drug interactions. Several best practices include (1) recording baseline medical history to assist in monitoring AEs after initiation of ribociclib or other drugs; (2) maintaining open and continuous communication with patients; (3) facilitating collaborations between

specialty pharmacies and patients; (4) providing calendars to optimize adherence to dosing regimens, document onset of AEs, and document initiation/termination of drugs; and (5) referring patients to other professionals or community resources, such as cancer support groups to encourage adherence. As new treatment options for cancer become available, adherence to the dosing regimen is necessary for treatment benefit. The role of oncology nurses in achieving this is indispensable and constantly evolving.

### IS-23

#### **S-TRAC: UNDERSTANDING THE ADVERSE EVENT (AE) EXPERIENCE IN THE ADJUVANT TRIAL OF SUNITINIB FOR HIGH RISK RENAL CELL CARCINOMA (RCC)**

Sarah Yenser Wood, RN, MSN, ANP, AOCNP®, Duke University Medical Center, Durham, NC; Joanne C. Ryan, PhD, RN, Pfizer Oncology, New York, NY; Andrew G. Clair, PhD, Pfizer Oncology, New York, NY; Daniel George, MD, Duke University Medical Center, Durham, NC

Surgical resection followed by observation is the standard of care for non-metastatic RCC. Adjuvant treatment for RCC is a clear unmet medical need as: 1) there are no currently approved adjuvant therapies for RCC patients following nephrectomy, 2) risk of recurrence is >40%, for patients where the tumor has spread outside the kidney, and 3) patients with disease recurrence have a median survival <5 years. In the U.S., sunitinib has been used to treat metastatic RCC (mRCC) for >11 years. S-TRAC, Phase 3 clinical trial assessed the efficacy of adjuvant sunitinib in delaying or preventing disease recurrence in patients with T3, T4, or node positive RCC post-nephrectomy. S-TRAC results demonstrated statistically significant and clinically meaningful improvement in disease-free survival versus placebo based on blinded independent central review. However, some AE profiles differed from those reported in mRCC. As nurses/NPs manage patient AEs, this poster reviews the AEs experienced by patients in S-TRAC trial.

### IS-24

#### **WHAT YOU WEAR MATTERS: ASSESSING THE FLUID REPELLENCY OF HEALTHCARE WORKER ATTIRE TO SIMULATED BODY FLUID AND HAZARDOUS DRUG EXPOSURES**

Taylor Wood, MS, University of Central Florida, Orlando, FL; Uncas Favret III, BS, Vestagen Protective Technologies, Inc, Orlando, FL

Providing care to patients being treated in the hospital or clinic can pose multiple occupational health

threats to the clinicians responsible for their direct care. This includes hazards associated with splashes or spills of blood and body fluids as well as chemotherapeutic agents. Currently, clinicians rely solely on work practice controls (careful administration via closed systems) and the use of personal protective equipment (PPE) including gloves, gowns and glasses. This current strategy of traditional non-protective scrubs and PPE has shown poor results. EPINet® reports that 51.9% of exposures occur at the bedside and 30.2% of all exposures touch unprotected skin. Urine and blood are the most common body fluid exposures. When an exposure is reported, a gown is worn only 10.4% of the time. Oncology nurses reporting a 16.9% unintentional skin and eye exposure to chemotherapeutic agents per year. The purpose is to assess the fluid repellency effectiveness of traditional healthcare worker apparel (ie. scrubs) compared to new Active Barrier attire. This study uses three American Association of Textile Colorists and Chemists (AATCC) test methods AATCC 193 Fluid Repellency, AATCC 22 Fluid Repellency Spray and AATCC 42 Fluid Resistance Impact Penetration to compare the fluid repellency effectiveness of traditional healthcare worker apparel (control), and active barrier attire (study garment) when exposed to simulated body fluids and hazardous drugs. The Control apparel failed to repel all simulated fluids in all three test methods thus are confirmed as completely non-protective. The Active Barrier Study attire successfully repelled all fluids tested using AATCC 193 Fluid Resistance and AATCC 22 Fluid Repellency Spray methods. The fluid repellent effectiveness of the Active Barrier Study attire was superior to the Control garments for all test and simulated fluids. However, the Active Barrier Study attire did not meet the performance specifications required for PPE as per AAMI Standards. Medical personnel should always take proper precautions to keep themselves safe from exposures by wearing PPE when needed. Healthcare professionals should evaluate Active Barrier attire as an additional means to minimize risks from accidental exposures to fluids. Active Barrier attire uses a combination of physical fabric properties with a fluid repellent technology to reduce the risks of liquid hazards that are common in patient care.

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### RESEARCH POSTER SESSIONS—THURSDAY

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### 432

#### **A FEASIBILITY STUDY OF MUSLIM CANCER PATIENTS' EXPERIENCE IN**

## THE U.S.: RECRUITMENT AND DATA COLLECTION

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An estimated five to seven million Muslims reside in the US<sup>1,2</sup>, and it is estimated the US Muslim population will double by 2030. Consequently, the number of Muslim cancer survivors encountered by US health professionals will increase. Because of their religious beliefs and cultural values, Muslim cancer survivors may have distinct and unrecognized health care needs and outcomes. In non-Muslim majority countries, Muslims expressed concerns regarding health care providers' lack of knowledge of their faith, religious practices, and culture. This lack of understanding may affect the patient-provider relationship and consequently negatively impact healthcare outcomes and patient satisfaction. Previous studies have had difficulties in recruiting Muslim participants post September 11, 2001. This study evaluated the feasibility of targeted recruitment and data collection strategies with Muslim cancer survivors residing in the US. Recruitment and data collection procedures were developed and analyzed considering the four levels of the Ecological Systems Theory. A purposive sample of male and female Muslim cancer survivors was recruited to gain an understanding of the experiences of Muslim cancer survivors within the context of their culture through individual in-depth, semi-structured interviews. Three recruitment approaches were piloted to determine timeliness, diversity in respondents, and success in completing the study: (1) posting flyers in areas frequented by Muslims; (2) contacting Muslim community religious leaders and physicians; and (3) snowball sampling. Participants had the option of face-to-face, telephone, or an online interview and to have the interview conducted in English, Arabic, or Urdu. Interviewers were Muslim. Eight Muslim cancer survivors participated (6 males, 2 females). Four Muslim were identified by community leaders, three by posted flyers, and one by a physician. Six interviews were conducted face-to-face, two by telephone. The average length of interview was 35 minutes. Five interviews were conducted in English and three in Arabic. Participants were eager to participate and to discuss their cancer survivorship experiences. No burden was voiced by the participants related to length, time, or location of interviews. This study demonstrated the feasibility of recruiting and interviewing Muslim cancer survivors.

Offering to conduct interviews in three languages depending on the participant's preference reduced a potential barrier to recruitment and participation. Identifying cultural factors that may enhance or prevent minorities from participation is crucial.

## 433

### ENGAGING PATIENTS AND CLINICIANS TO DEVELOP A WEB-BASED INTERVENTION FOR SURVIVORS OF HODGKIN DISEASE

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Most patients diagnosed with Hodgkin Disease (HD) have a 5 and 10-year survival rate of 80–91% and are living with risk for long-term and late effects from their cancer and cancer treatments. Providing HD survivors with resources for survivorship self-care and follow-up medical care can be a powerful adjunct to clinical services. To meet this need, the Dana-Farber Cancer Institute developed a web-based educational tool for HD survivors. Through results from an initial study with 63 patients, the study team demonstrated it was feasible to contact at-risk survivors and that the educational content was acceptable. Participants described important areas for further development. The purpose was to elicit HD health care providers' and survivors' feedback through focus groups to further develop a tailored, patient-centered psychoeducational website that meets the long-term medical and emotional needs of HD survivors. The study was a descriptive, qualitative design including survivors of HD (at least 2 years from treatment end) and clinicians who care for HD survivors. One-time focus group discussions (3 patient and 1 clinician) were conducted. Participant demographics were summarized and thematic content analysis of focus group transcripts was conducted in Nvivo11. 10 adult Caucasian HD survivors, 6 females and 4 males, ages 24–73 years and 8 clinicians, 5 Physicians and 3 Nurse Practitioners, participated. HD survivor participants mainly expressed fear of developing a secondary cancer and prioritized the inclusion of resources addressing physical and emotional wellbeing through both medical and self-care. They requested incorporating a resource to engage in communication with other survivors through the website, and for adding resources for families and caregivers. Specific feedback was provided to guide including the changes into future website development. Clinicians discussed tailoring

the website to specific clinical guidelines and integrating the site into current workflow within multiple healthcare settings. Survivors of HD want more information for themselves and their support network in areas related to physical and emotional wellbeing. Clinicians support the use of such a resource as an adjunct to clinical care. The continuing goal of this research is to improve HD survivor's knowledge of the long-term and late of effects and increase their utilization of survivorship care services, ultimately aiming to enhance psychosocial and medical health outcomes in this population.

#### 434

### **SELF-EFFICACY TO COMMUNICATE ABOUT SEX AND INTIMACY (SECSI): CONTENT VALIDITY ASSESSMENT OF THE SECSI SCALE BY WOMEN TREATED FOR CANCER**

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Self-efficacy (confidence in one's ability to perform the steps of a designated task) is a component of Social Cognitive Theory, a key theory guiding health behavior interventions. Research on interventions for improving sexual wellbeing after cancer treatment reveals that self-efficacy is a key factor. The purpose of this study was to refine the Self-Efficacy to Communicate about Sex and Intimacy (SECSI) scale based on cognitive interviews with women treated for cancer. This study builds upon initial content validation of the scale with four international content experts in self-efficacy, women's sexual health, and partner communication after cancer treatment. A convenience sample of twenty adult women cancer survivors provided feedback via semi-structured cognitive interviews and surveys. Each woman was asked questions regarding comprehension, clarity, and relevance of items from the 25 item draft instrument. Data collection ended based on saturation of responses (no substantively new information being gathered) for all candidate scale items. Cognitive interview feedback for each item was coded into seven categories: 1) irrelevant or unimportant, 2) didn't understand the question, 3) off-putting, 4) redundant, 5) not related to cancer, 6) makes assumptions, and, 7) wording too general and not consistent with (explained) intent. The research team revised wording to improve clarity and ensure emphasis on the context of cancer treatment, and removed problematic items that may not

be applicable to most women or that triggered strong negative emotional responses. The final instrument includes 10-items scored on a Likert-type response scale and summed for a total score ranging from 0 to 40 regarding a women's level of confidence to communicate with her partner about sex and intimacy in context of cancer treatment. The content of the Self-Efficacy for Communicating about Sex and Intimacy Scale was substantively revised based on feedback from women cancer survivors. The next step is evaluation of the psychometric performance of the refined 10-item scale before use in future intervention research. Self-efficacy is an important predictor of behavior, and should be a focus of future study of sexual adjustment in survivorship. Measurement of self-efficacy in this domain is important as a basis for designing interventions for effective clinical encounters and future research.

#### 435

### **ASSESSING VARIATION IN QUALITY OF CARE IN AMBULATORY CHEMOTHERAPY UNITS: A FEASIBILITY STUDY TO DEVELOP AND IMPLEMENT NURSE-SENSITIVE OUTCOME INDICATORS IN THE KINGDOM OF SAUDI ARABIA**

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The quality of patient care is a universal concern among healthcare managers, policymakers and consumers. In order to benchmark and improve patient outcomes and demonstrate the impact of high-quality care provided by ambulatory chemotherapy services (ACSSs), it is important to develop patient-reported nurse-sensitive indicators, specific to chemotherapy-related symptoms and experiences of supportive care. This study builds on previous work by Armes et al. (2014) who developed the Patient-Reported Chemotherapy Indicators of Symptoms and Experience (PR-CISE). This study aims to explore a range of methodological and feasibility issues that relate to the development and implementation of Nurse-Sensitive Outcome indicators (NSOIs) and associated tools in the Kingdom of Saudi Arabia (KSA). It also aims to establish whether variability exists in Nurse-sensitive Outcomes (NSOs) amongst ambulatory chemotherapy units in the KSA. A descriptive, cross-sectional survey with two preparation stages. In Stage I, instrument items were developed. Two rounds of cognitive interviews were conducted with 10 patients to ensure the clarity, comprehensiveness and appropriateness

of the proposed questionnaire (a translated Arabic version of the PR-CISE tool). In Stage II, the feasibility of delivering the protocol was evaluated and the questionnaire piloted with 30 cancer patients undergoing chemotherapy in a single centre. Moreover, a data collection tool that describes the characteristics of chemotherapy units and provides contextual data (on unit size, staffing, etc.) were tested. Finally, a small-scale survey was implemented. Survey data were collected from five ACSs, using the last version of the questionnaire and the aforementioned tool developed for this study. The cross-sectional survey confirmed that survey processes were efficient. The Arabic PR-SICE questionnaire was acceptable and may be used to generate evidence about NSOs in ACSs in the KSA and inform future policy and practice. A total of 748 completed questionnaires were returned and the response rate was 93%. Significant differences were observed in the distribution of the severity of symptoms between ACSs in six out of seven studied symptoms. A large-scale survey of NSOs is feasible, acceptable and recommended, and can be largely implemented as planned. The developed indicators can provide structured data on patients' symptoms and supportive care that could be used by the local authority to identify plans for action and design interventions.

#### 436

### A COMPARISON OF THE UNMET NEEDS OF GYNECOLOGIC CANCER SURVIVORS WITH A HISTORY OF ONE VERSUS MULTIPLE PRIMARY CANCERS

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Cancer is increasingly being treated as a chronic disease, placing growing long-term demands on survivors, providers, and systems. The Chronic Care

Model recognizes that quality care and positive health outcomes among individuals with chronic illnesses depend on organized, proactive, and integrated patient-centered care. Emerging evidence suggests that care and support needs may differ among survivors of one versus multiple primary cancers (MPC). Though gynecologic cancer survivors face increased risk for developing additional primary cancers, differences in support needs between one versus MPC survivors have not been evaluated in this patient population. The purpose was to describe unmet needs in women with gynecologic cancer and to compare domains of unmet needs among women with one versus MPC diagnoses. Cross-sectional design. Ongoing study of women receiving outpatient care for a gynecologic cancer diagnosis. Non-invasive skin cancer cases are excluded. Main research variables: Number and types of cancer diagnoses and domains of unmet needs from the adapted Survivors Unmet Needs Survey: finding information, financial concerns, access and continuity of care, relationships, emotional health, and sexuality. Descriptive statistics will be used to characterize the sample and domains of unmet needs. Group differences (one versus MPC diagnoses) will be evaluated for each domain using Chi-square and independent sample t-tests. Multivariate analyses will be conducted as appropriate to evaluate the influence of health and sociodemographic factors on unmet needs among single and MPC survivors. To date, 57 women with gynecologic cancer have been recruited in 7 weeks, including women with ovarian (n=25), uterine/endometrial (n=19), cervical (n=7), and vulvar/vaginal (n=6) cancers. Of these women, 11 (19.3%) are survivors of MPC (10 reported one additional cancer, and one reported three additional cancers). The most commonly reported additional primary cancer diagnoses included lymphoma (n=3), breast (n=3), and thyroid (n=2) cancers. We plan to enroll the final sample of 120 women by December 2017 and will complete planned analyses at that time. Early identification of unmet needs in women with gynecologic cancer could facilitate implementation of targeted interventions to improve outcomes and care delivery and guide future research. Oncology nurses should assess for unmet needs, be aware of patients' cancer histories, and recognize the diverse and multifaceted unmet needs between single and MPC survivors.

#### 437

### BREAST CANCER COLLABORATIVE REGISTRY INFORMS UNDERSTANDING OF

## FACTORS ASSOCIATED WITH SLEEP QUALITY

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Oncology nurses are not routinely screening or assessing their patients for sleep disturbances. This is despite sleep-wake disturbances receiving considerable attention during the last decade. Without intervention, women with breast cancer (BC) who report poor sleep quality prior to chemotherapy are likely to remain poor sleepers afterwards and a percentage of good sleepers become poor sleepers, with 30–60% of patients affected. Empirical evidence is lacking regarding risk factors for self-reported sleep disturbances in women with BC. The purpose was to determine associations between the self-reported sleep quality with predisposing factors including tumor, lifestyle, environmental, and quality of life (QOL) in women who participated in the Breast Cancer Collaborative Registry (BCCR). In a cross-sectional study, all women with BC were eligible to be recruited and enrolled in the BCCR survey. Participants completed the BCCR survey developed by BC experts. All data entries were verified by trained research assistants. The BCCR database includes a reliable and valid self-report sleep quality measure (Pittsburgh Sleep Quality Index [PSQI]) and information about the patient's demographic/medical, tumor, lifestyle, environmental and QOL (SF-36) factors that may influence BC diagnosis and survivorship. Descriptive statistics were used to analyze BCCR data. Non-parametric correlations were calculated to determine associations between sleep quality (PSQI) with variables representing the risk factors. Associations were found between total PSQI score with demographic, tumor, lifestyle, environmental, and QOL factors. Consistent with published studies, 53% of our large sample (N=1260, mean age = 60.1, SD =12.1) self-reported poor sleep within the past month. Significant variables related to sleep quality were age, race, physical activity, urinary problems, hot flashes, fatigue, and cognitive problems ( $p < 0.001$ ). Similar to other reports from BC survivors, participants self-reported lower QOL scores on 7 out of 8 SF-36 subscales [ $Z = 44.9$  (11.59) to 49.06 (10.14)] compared to population norm scores and were associated with poor sleep

( $p < 0.001$ ). Findings indicate the need to test methods to improve sleep in BC patients based on individual prediction factors. Implementation research needs to focus on methods to improve screening and assessment for sleep disturbances by oncology nurses. When assessment is positive for poor sleep, nurses need to collaborate with patients to select an evidence-based intervention.

438

## DEDICATED ONCOLOGY UNIT: DOES IT MATTER?

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In the U.S. the growing number of oncology patients means that facilities must identify what organizational characteristics provide a better work environment for oncology nurses, because nurses' work environments affect the quality of care. Thus when our 20-bed oncology unit transitioned to a telemetry/oncology unit, and then back to a dedicated oncology unit, we wondered about nurse and patient experiences in those varying contexts. The aim of this study was to examine the experiences of oncology patients and their nurses throughout the 2012–2016 changes. Specific questions were 1) Did RN satisfaction, education, and certification vary across this time? and 2) Did patient satisfaction vary across this time? After IRB approval we used a cross-sectional, retrospective descriptive design to compare existing data from RNs and patients for 3 time periods: 1) 2012 oncology unit; 2) 2013–2014 telemetry/oncology unit, and 3) 2015–2016 oncology unit. The setting was a Magnet® designated, 377-bed, nonprofit, southern California hospital. Characteristics of available data prevented inferential testing, so we performed descriptive analysis of patient satisfaction as HCAHPS scores, RN satisfaction as NDNQI scores, RN education as highest nursing degree, and RN certification as number of OCNs and AOCNs. Patient HCAHPS scores were highest during 2012 and 2016 on dedicated oncology units and lowest during transitions. From 2012–2016 RN overall satisfaction scores varied little (2.9–2.99), while OCN certification and BSN numbers dipped during the 2013 telemetry/oncology unit time and recovered in 2015. These results are consistent with Bakker et al.'s (2013) conclusion that dedicated oncology units are linked to better environments for patients and nurses. Although not generalizable, our findings complement prior research. Results also

support our current practice of a dedicated oncology unit. Future studies of the relationship between organizational context and oncology provider and patient experiences could include both 1) in-depth qualitative interviews with oncology providers and patients and 2) prospective inferential comparisons of oncology nurse and patient outcomes between dedicated and non-dedicated oncology settings.

**439**

### **BLACK FEMINIST THOUGHT: A PARADIGM TO EXAMINE BREAST CANCER DISPARITIES**

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Although African American women (AAW) have a lower incidence of breast cancer than white women, they are diagnosed with more aggressive forms, at a higher rate (45% versus 35%), and more likely to die before the age of 45. Recent studies have suggested that psychological stress is a precursor to breast cancer. AAW may experience stress from living at the intersection of socially constructed roles (intersectionality). The purpose of this study was to examine the influence of the intersection of race, gender, and class on mental well-being among AAW with breast cancer. A phenomenological design was used to capture the lived experience of intersectionality in AAW with breast cancer. Ten AAW, ages 45–60, were recruited through convenience sampling and snowballing. Each participant was assigned a unique code for data storage, analysis, and confidentiality. Trustworthiness was established through triangulation, an audit trail and thick descriptions. Transcribed, 60 minute, semi-structured interviews were analyzed with a modified Hurrserlian approach to descriptive phenomenology, which included bracketing, determination of meaning units, data interrogation and theme development. Black Feminist Thought (BFT) provided contextual meaning to experiences of intersectionality. Four themes emerged: 1) altruism (selfless giving and caring for those within their environment), 2) silent strength (strength in silence while enduring life in the intersection), 3) existential invisibility (an essential, obscured presence in society), and 4) marginalization (living at the margins of society). Marginalization manifested in two forms: a) passive marginalization (circumstances in which AAW removed themselves mentally or physically from societal adversity); and b) active marginalization

(circumstances in which AAW were overlooked, devalued or ostracized by others). These themes suggested other upstream psychosocial risk factors for the development of breast cancer in AAW that stem from life within the societal intersection. This study supports the use of BFT to garner knowledge that adds to the discussion of breast cancer disparities. Through the lens of BFT nursing researchers and AAW should form partnerships to develop additional qualitative and quantitative studies that elucidate the psychological effects of intersectionality. These findings suggest that a combination of biomedical and feminist models would yield a more comprehensive view of breast cancer disparities between white and AAW.

**440**

### **PATIENTS' GREATEST CONCERNS WHEN DECIDING TO STOP ANTICANCER TREATMENT FOR ADVANCED LUNG CANCER: RESULTS OF A PROSPECTIVE STUDY AND IMPLICATIONS FOR NURSING**

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Few studies have addressed patients' concerns regarding stopping anticancer treatment. Reports indicate that this decision causes distress for patients, families, and nurses. As part of a NIH/NCI Ro1 study, we used a series of validated decision-aid instruments (DecisionKEYS) to assist patients in shared-decision making about anticancer treatment. This abstract describes patients reports of benefits and risks for themselves and their supporters when deciding to stop anticancer treatment. 79 patients with advanced NSCLC receiving either first- (73%) or subsequent (27%) lines of chemotherapy were enrolled and completed the corresponding DecisionKEYS. During the study, 24 patients (31%) were offered and 22 completed the DecisionKEYS "Stopping Anticancer Treatment". Characteristics: 64% men; median age 68; median PS=1; 45% African-Americans or Hispanics; 55% had supporters. 82% (95% CI: 60–95%) of patients completing the Stopping Anticancer Treatment DecisionKEYS expressed  $\geq$  one benefit for themselves; 77% (95% CI: 55–92%) expressed  $\geq$  one benefit for supporters. Leading benefits were: fewer treatment side effects (68%), less time in clinic (55%),

less burden to others (50%), and better symptom relief from concentrating on supportive care (50%). The greatest identified risk was cancer growth (55%). When thinking about their supporters, the leading perceived benefit was that the supporter would feel the patient would have less chance of side effects (59%); the greatest perceived risk was concern that the patient would have more symptoms (18%). Only 14% were concerned that stopping treatment would be giving up or against God's will; 27% worried that families would not understand the decision. No differences were apparent among demographic groups. The DecisionKEYS showed to be practical, acceptable, and appropriate for use in the stopping anticancer treatment setting. These results indicate that patients with advanced NSCLC have more concerns for themselves than for others when contemplating continuing or stopping treatment but often wish not to be a burden. Major concerns during treatment were side effects and time spent in clinic. Risk of cancer growth was concerning for half of patients, but the same percentage welcome increased focus on symptom relief from supportive care. Recognizing and understanding these issues can help oncology nurses provide care that meet the needs and concerns of patients and help reduce distress when the decision to stop is made. Supported by: NCI CA157409

#### 441

### GOAL SETTING'S INFLUENCE ON COGNITIVE BEHAVIORAL THERAPY FOR INSOMNIA (CBT-I) OUTCOMES IN CANCER CAREGIVERS

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Family caregivers of persons with cancer provide an immeasurable service that has a direct cost to their physical and psychological health. While caregivers have reported positive (growth producing) effects of providing care to their loved one with cancer, they have also frequently reported negative physical and psychological symptoms. A very common symptom reported by family caregivers is insomnia. Over 50% of family caregivers report experiencing insomnia symptoms while providing care to their loved one with cancer. Insomnia is linked to increased depression, anxiety, hypertension, and decreased quality of life, and immune function in adults. Interventions to treat insomnia in adults fall into two categories, behavioral and pharmacological. Pharmacologic therapies may reduce the symptoms of insomnia (e.g. difficulty falling asleep), but not the underlying cause (e.g. dysfunctional beliefs about sleep). Cognitive behavioral

Therapy for Insomnia (CBT-I) addresses the underlying causes of insomnia. However, outcomes of CBT-I differ across participants. Goal attainment scaling is a process that allows for personalization of CBT-I activities that could positively influence participant outcomes. This project explored the influence of goal attainment scaling on CBT-I outcomes in cancer caregivers. Adult cancer caregivers who reported symptoms of insomnia were randomized into intervention (CBT-I) or active control conditions. The CBT-I group received a 5-week intervention that included goal attainment scaling activities. Participants rated their goal attainment weekly. Self-report (PSQI) and Actigraphy were used to evaluate sleep quality. Thirty one caregivers were randomized to the CBT-I arm of the study and their results will be presented. A majority of caregivers were spouses (63%), female (66%), and white (74%) with a mean age of 50 (sd=15). PSQI scores improved an average of 3.3 points, and latency, duration, and efficiency showed similar improvements in the whole cohort. For those who consistently met or exceeded their goals, PSQI scores improved an average of 3.62 points as compared to 1.13 in those who did not meet their goals. Actigraphy showed similar differences. CBT-I is known to improve symptoms of insomnia, this study supports the use of goal attainment scaling to further personalize the application of this useful therapy. Family caregivers, when sleeping well, can provide the care they want to their loved one with cancer, while minimizing the negative impacts commonly seen.

#### 442

### STANDARDIZING PATIENT NEEDS ASSESSMENT BY IMPLEMENTING A PALLIATIVE CARE REFERRAL TOOL

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Palliative care should be considered an essential service for patients undergoing cancer treatment. Research has shown that there are many benefits for patients who receive palliative care, including better control of symptoms, less emergency room and hospital visits, and improvement in quality of life. We hypothesize that a way to increase palliative care referrals is through the use of a standardized tool to initiate referrals earlier in the cancer continuum. At



an NCI designated Cancer Center, it was identified that while support care services were available, the initiation of referrals was uncoordinated. There was a lost opportunity to capture additional patients in need of these holistic services. The purpose of this quality improvement project is to increase the amount of patient referrals to palliative care and supportive services at Rutgers Cancer Institute by using a provider referral tool. To implement this practice change, we utilized the Ottawa Model of Research Use framework including a retrospective chart review, implementation, and post-implementation chart review. The Palliative Care Referral Tool was developed using the NCCN palliative care guidelines. Training sessions were held with providers and feasibility of the tool will be tested over a twelve week period. The providers selected to pilot the use of this tool were medical oncologist specializing in gastrointestinal malignancies. The patient population includes those diagnosed with gastrointestinal, colon, pancreatic and biliary cancers. This population was chosen because these patients experience high symptom burden including pain, nausea, vomiting and diarrhea. Following the provider educational program, and implementation of the Palliative Care Referral Tool, a chart review will occur to analyze the data and draw conclusions. It is anticipated that the use of the Palliative Care Referral tool will guide providers in making referrals for patients to support services, and will help improve meeting patient needs. The implementation of this project is expected to start in October 2017.

#### 443 COMPARING THE EFFECTIVENESS OF FOUR DRESSING AND SECUREMENT METHODS FOR PERIPHERALLY INSERTED CENTRAL CATHETERS: A PILOT RANDOMIZED CONTROLLED TRIAL

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Peripherally inserted central catheters (PICCs) are commonly used for delivering systemic

anti-neoplastic therapy. PICC failure is unacceptably high (up to 40%) due to mechanical, infectious and thrombotic complications. Poor securement potentiates all complication types. This randomized controlled trial (RCT) aimed to examine the feasibility of a large RCT of four dressing and securement methods to prevent PICC failure. This single-centre pilot RCT included 124 admitted medical/surgical/cancer patients aged  $\geq 16$  years with a PICC. Interventions were: (i) standard polyurethane dressing and sutureless securement device (SPU + SSD, control); (ii) polyurethane with absorbent lattice pad dressing (PAL + Tape); (iii) combination securement-dressing (CSD); and (iv) tissue adhesive (TA + SPU). All groups except TA + SPU had a chlorhexidine-gluconate (CHG) impregnated disc. Feasibility outcomes were recruitment and safety/acceptability of the interventions. The primary outcome was PICC failure, a composite of PICC removal for local infection, catheter-associated bloodstream infection, dislodgement, occlusion, and/or catheter fracture. Secondary outcomes included individual complications, dressing failure and dwell time, PICC dwell time, skin complications/phlebitis indicators, product costs, and patient and staff satisfaction. PICC failure incidence was: PAL + CHG + Tape (1/5; 20%; 17.4/1000 days), SPU + SSD + CHG (control) (4/39; 10%; 9.0/1000 days), TA + SPU (3/35; 9%; 9.6/1000 days), and CSD + CHG (3/42; 7%; 9.4/1000 days). Recruitment to PAL + CHG + Tape was ceased after five participants due to concerns of PICC dislodgement when removing the dressing. CSD + CHG, TA + SPU (TA applied only at PICC insertion time), and control treatments were acceptable to patients and health professionals. PICC failure was approximately 90% less likely in women than in men (HR=0.10, 95%CI=0.01-0.87,  $p=0.037$ ), but increased fourfold in patients with  $\geq 3$  comorbidities, compared to those with one or no comorbidities (HR=4.62, 95%CI=1.04-20.4,  $p<0.005$ ). A large RCT of CSD + CHG and TA + SPU (but not PAL + CHG + Tape) versus standard care is feasible. Male gender may increase the risk of PICC failure due to men being more hirsute, which can disrupt dressing adhesiveness and having more muscle movement. Clinicians should work to ensure best insertion, monitoring and maintenance practice in men, and those with  $\geq 3$  comorbidities.

#### 444 COMPARING TAXANE-INDUCED PERIPHERAL NEUROPATHY BETWEEN PACLITAXEL AND DOCETAXEL IN PATIENTS WITH

## BREAST CANCER: A SECONDARY DATA ANALYSIS

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Taxane is one of the most common cytotoxic drugs used in breast cancer treatment causing peripheral neuropathy (PN). The PN may influence patients' functional status and quality of life. However, studies focused on the PN induced by paclitaxel which is much more severe than docetaxel-induced PN. Only few articles compared the incidence and severity of PN between the two drugs. The purpose of this study was to compare the differences of incidence and severity in objective Taxane-induced PN (TIPN) between paclitaxel and docetaxel in breast cancer women. A secondary data analysis of breast cancer women underwent at least one cycle of taxane treatment in two teaching hospitals in Taiwan. A total of 64 breast cancer women (32 individuals in each paclitaxel and docetaxel group) with TIPN were included. The TIPN was assessed by researchers using Total Neuropathy Score-clinical version (TNSc). The main TIPN symptoms in paclitaxel group were vibration sensitivity (78.1%), pin sensitivity (65.6%) and motor symptoms (65.6%). Otherwise, autonomic symptoms (65.6%) and pin sensitivity (62.5%) were the most common in docetaxel group. Furthermore, patients in paclitaxel group had significantly higher incidence in motor symptoms ( $\chi^2= 9.035, p<0.01$ ), vibration sensitivity ( $\chi^2= 7.943, p<0.01$ ), strength ( $\chi^2= 4.016, p<0.05$ ) and deep tendon reflex ( $\chi^2= 5.189, p<0.05$ ) than those in docetaxel group. On the other hand, vibration sensitivity ( $2.72\pm 1.69$ ) and pin sensitivity ( $1.72\pm 1.73$ ) were the most severe in paclitaxel and docetaxel groups, respectively. Also, the overall TIPN severity ( $t=3.449, p<0.01$ ), motor symptoms ( $t= 2.536, p<0.05$ ), vibration sensitivity ( $t= 4.146, p<0.001$ ), strength ( $t= 2.211, p<0.05$ ) and deep tendon reflex ( $t= 2.274, p<0.05$ ) were significantly severe in paclitaxel group than they were in docetaxel group. Patients with paclitaxel suffered from sensory, motor and autonomic symptoms, while motor symptoms were rare in docetaxel group. Moreover, more severe sensory problem was detected than motor or autonomic problems in breast cancer women treated with taxane. The result helps clinical staff clarify the phenomenon in the TIPN objective measurement between paclitaxel and docetaxel. Additionally, the awareness of potential risks of the TIPN, such as burn

or fall down should be prevented in patients receiving taxane treatment. However, future studies with longitudinal design and efficient sample size are suggested to confirm the findings from this preliminary study.

## 445 UNDERSTANDING REGIONAL MELANOMA SURVIVORS HEALTH-RELATED EXPERIENCES AND NEEDS FOLLOWING TREATMENT

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The population of melanoma survivors has grown for several reasons including rising melanoma incidence, earlier detection, and treatment advances. The eastern Tennessee area is designated as an Appalachian region of the country where many people still live in abject poverty and lack access to adequate health-care resources. Currently, post-treatment melanoma surveillance is disjointed and falls on a variety of healthcare providers. The health-related experiences and post-treatment needs of melanoma survivors are essentially unknown in Tennessee. The purpose of this qualitative interpretive description study was to understand the experiences related to melanoma survivorship from the perspective of the patients themselves. Thorne's (2008) framework for interpretive description research was used for this study. Sixteen participants were interviewed from counties in the east Tennessee Appalachian region. Data analysis identified four broad themes and sub themes: 1) Sitting in the driver's seat of follow-up care, 2) Living in a skin world, 3) Once bitten, twice shy, and 4) Watch me like a hawk. Melanoma survivors living in east Tennessee experience follow-up similarly to other individuals living with cancer with some specific cultural, geographical, and regional barriers to surveillance. Their implicit needs are basic and seem consistent with the standard of care offered to other cancer survivors. Implications are presented for registered and advanced practice nurses, nursing education, primary care, dermatology, and cancer specialist provides working with melanoma survivors in east Tennessee and surrounding regions. Future research suggestions include a closer look at types of melanoma in diverse populations, less invasive or urgent post-treatment management options, and best practice care management that could benefit melanoma survivors with psychosocial distress in long-term follow-up.

## 446 PERSPECTIVES OF CHILDREN, FAMILY CAREGIVERS, AND HEALTH PROFESSIONALS

## ABOUT PEDIATRIC ONCOLOGY SYMPTOMS: A SYSTEMATIC REVIEW

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Children suffer from multiple symptoms during cancer treatment. It has been long recognized that patients' self-reports are the "gold standard" in symptom assessment for research and clinical practice. However, the voice of children can be compromised by various factors. Family caregivers and health professionals often provide symptom reports to compensate for children's reports. But they evaluate and rate symptoms based on their observations and interactions with the child, and may be influenced by their own experiences and mental status, which may result in a disparate level of concordance between the child and proxy reports. If symptom reports do not reflect children's true symptom experiences, inappropriate conclusions can be drawn, which can adversely impact overall symptom management strategies. The objectives were to evaluate the existing body of evidence to determine the current state of knowledge regarding the perspectives of the following groups: 1) children with cancer, 2) family caregivers, and 3) healthcare professionals, about symptoms, as well as factors that may influence the symptom reports. A systematic search was performed for all types of studies that included the perspectives of at least two groups of participants' symptom reports. Children included anyone younger than 19 years of age who was diagnosed with any type of cancer. Children diagnosed with any type of cancer before the age of 19 years old. Electronic searches were conducted in five English databases (PubMed, CINAHL, Web of Science, PsycINFO and Cochrane databases) and four Chinese databases (China National Knowledge Infrastructure, China Science and Technology Journal Database, Wanfang Database, Chinese Biomedicine Literature Database). The appraisal of methodological quality was conducted using the GRADE criteria. Data were extracted with matrix tables. Thirty-three studies were included. The pediatric oncology symptoms of reported by children, family caregivers and healthcare

professionals were synthesized. Findings suggested that family caregivers' reports of fatigue, pain, nausea, and vomiting were more closely aligned with children's reports than with the health care professionals' reports. Influencing factors on the different symptom reports included the symptom characteristics, social-demographic factors, and family caregivers' psychosocial status. Children with cancer should be the primary reporters for their symptoms. When there are reporters other than the children, the potential discrepancy between the different perspectives need to be carefully considered.

447

## GUT CHECK: THE GASTROINTESTINAL MICROBIOME OF SOLID TUMOR PATIENTS COMPARED TO HEALTHY CONTROLS

Catherine Cherwin, PhD, RN, University of Iowa, Iowa City, IA

Naturally occurring flora in the gastrointestinal (GI) tract are known as the GI microbiome. An imbalance in the GI microbiome can lead to increased risk for inflammatory bowel disease and colorectal cancer. Chemotherapy alters the GI tract causing disruptions to the protective GI barrier and possibly the GI flora, which can lead to a high GI symptom burden. However, little GI microbiome research has been done in patients with cancer. What research that has been done has shown that chemotherapy regimens for hematologic cancers alter the diversity of the GI microbiome. More research is needed to describe potential chemotherapy-related GI microbiome changes especially in people with solid tumors. The purpose of this study is to compare the GI microbiome in patients with cancer receiving chemotherapy to healthy controls. A descriptive design will be used. N=10 patients with a solid tumor (breast or lung cancer) receiving  $\geq$  their third cycle of cytotoxic chemotherapy (platinum-based chemotherapy) will provide stool samples following chemotherapy administration. Stool samples will be prepared for 16S Ribosomal RNA (rRNA) genomic DNA analysis using methods adapted from the NIH-Human Microbiome Project. Presence of bacteria and phylogenetic diversity will be assessed with QIIME. Absolute numbers and relative percentages of GI bacteria will be quantified for people with cancer and compared to that of age, race, and sex matched controls using the Wilcoxon-Mann-Whitney test. Data collection is ongoing. Currently we have N=2 participants, both of which have successfully returned samples. The pathology laboratory with which we

are collaborating has a bank of healthy control samples. This work will advance cancer symptom science through an improved understanding of chemotherapy-related GI microbiome changes. By describing GI microbiome changes, specific floras that may be responsible for complications from chemotherapy and high symptom burden can be identified, which can lead to the development of interventions to prevent or correct harmful imbalances in GI floras. The GI microbiome is a promising new area of precision science that can be used to understand risk for disease and symptom burden. Precision health is especially important in cancer care.

#### 448 EXAMINING THE PREVALENCE OF INADEQUATE HEALTH LITERACY AMONG HEAD AND NECK CANCER PATIENTS

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Poor health literacy has been shown to negatively affect treatment compliance and outcomes, as well as a patient's ability to make informed decisions regarding their care. The majority of head and neck cancer (HNC) patients present with advanced disease and often have to make complex treatment decisions, necessitating the need for adequate health literacy. Despite this, research on health literacy in this population is sparse. The purpose of this study was to assess the prevalence of inadequate health literacy in HNC patients. As part of a multidisciplinary HNC survivorship clinic, patients completed the Brief Health Literacy Screen (BHLS) along with other patient-reported outcome measures prior to their clinic visit. The BHLS is a 3-item questionnaire designed to rapidly detect patients with suboptimal health literacy. The questions are as follows: 1. How confident are you filling out medical forms by yourself? 2. How often do you have someone help you read hospital materials? 3. How often do you have problems learning about your medical condition because of difficulty understanding written information? Responses to each of the questions are measured on a 5-point Likert scale. The scores from these questions are then summed to get a total score. Total scores can range from 3-15, with higher scores indicating higher health literacy. A cumulative score of 9 or less is considered to be indicative of an overall lower level of health literacy. Group comparison

statistics were used to determine if patients with inadequate health literacy differed from those with adequate health literacy. To date, we have screened 103 HNC patients. Our population consisted mostly of white (94%) males (70%), with a mean age of 62.8 years (SD= 12.5). The mean total health literacy score was 12.1 (SD= 3.0). However, 21.4% of patients scored a 9 or lower; indicating inadequate health literacy. Survivors with low health literacy had a higher mean age compared to those with adequate health literacy ( $t_{101} = 2.102, p = .038$ ). The results of this study demonstrate the prevalence of inadequate health literacy among HNC patients. Moreover, our work demonstrates the feasibility of utilizing the BHLS in the clinical setting. Further research is needed to understand the influence of health literacy on patient-reported outcomes and to develop interventions to reduce literacy-related health disparities in HNC patients.

#### 449 COGNITIVE ISSUES IN CHILDHOOD CANCER SURVIVORS AND RELATED PARENTAL PERCEPTIONS AND BEHAVIORS

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Survivorship of childhood cancer is often accompanied by neurocognitive late-effects (NCLE) related to the disease and/or its associated treatment regimes. The primary purpose of this integrative literature review was to examine NCLE in pediatric cancer survivors and identify parental perceptions and behaviors that correlated to cognitive dysfunction in their children. An integrative literature review was completed utilizing searches in PubMed, CINAHL Complete, and PsycINFO. Search terms included "childhood cancer", "survivor", "cognition", "cognitive disorder", "neurocognitive", "late-effects", "child\*", "parent\*", and "perception". Analysis of ten predominant methods of neurocognitive evaluation yielded five major cognitive deficit measures in pediatric cancer survivors: attention, working memory, processing speed, full scale IQ, and academic ability. Further analysis determined that parents exhibit five distinct types of perceptions and behaviors related to NCLE. The identification of those major NCLE measurements, cognitive deficit trends, and correlating parental behaviors and perceptions could have significant implications for how cognitive deficits in childhood cancer survivors are treated within the family dynamic in the future.

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## RESEARCH POSTER SESSIONS—FRIDAY

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450

### **BRAIN COMPUTER INTERFACE (BCI): CHALLENGES AND OPPORTUNITIES FOR ASSESSING END OF LIFE COMFORT**

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The advancement of science to improve end of life care has greatly expanded in recent years. Given the primary goal of end of life care is comfort rather than cure, a challenge inherent in evaluation of research outcomes is adequate assessment of patient outcomes. Although self-report is the gold standard for assessment of comfort level, cognitive changes at end of life may impede patient communication. Because of the subjective nature of comfort, proxy reports from family and caregivers achieve mixed results. The purpose of this inquiry is to present updates on Brain Computer Interface (BCI) science, the use of electroencephalogram (EEG) recordings as a proxy for distress communication, as a novel method for patient assessment at end of life. This work is guided by Kolcaba's theory of comfort, which proposes that the experience of comfort is always multidimensional and subjective. BCI is a method that evaluates communication preferences via EEG recording of brainwave activity, rather than direct observation of physical movements or verbal communication. Nurses are increasingly involved in BCI monitoring, which uses non-invasive scalp electrodes to collect EEG data. This data can be analyzed in relation to presented stimuli to determine the patient's intended communication. A substantial increase in P3 activity is indicative of target stimuli, such as appropriate comfort levels when presented with each option on a 0–10 scale. Use of BCI requires a well-prepared interdisciplinary team, and signal-acquisition hardware that is convenient, portable, safe, and able to function in complex health care environments. High-quality assessments are necessary to provide optimal end of life cancer care. Lack of available outcome assessments for non-communicative patients may inhibit nursing efforts to develop and implement evidence that can improve comfort at end of life. Because proxy reports have been found to be inaccurate in reflecting patient's comfort levels, the use of biological markers could be a promising advancement in this area. Use of BCI for comfort monitoring in both research and clinical settings could enhance interdisciplinary communication

and improve patient comfort. Although further development and testing is required before this technology is routinely applied, nurse-led team utilization of BCI is an innovative and promising tool for distress assessment in cancer patients who have communication impairment at end of life.

451

### **COMPARISON OF FATIGUE, ANXIETY, DEPRESSION AND SOCIAL SUPPORT AS FACTORS AFFECTING QUALITY OF LIFE IN CHINESE PATIENTS WITH DIAGNOSED GASTROINTESTINAL CANCER**

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Gastrointestinal cancer is one of the most prevalent cancers in China. As the progress of cancer treatment, there are increasing 5-year survival rate in gastrointestinal cancer patients. Therefore, higher attention was paid on the improvement of survivors' quality of life (QoL). The purpose is to compare the influence of fatigue, anxiety, depression and social support on QoL in Chinese patients with diagnosed gastrointestinal cancer. A cross-sectional study was conducted in two inpatient wards at Fudan University Shanghai Cancer Center in China. In total, 169 adult patients with stages II–IV gastrointestinal cancer completed a questionnaire package, which consisting of sociodemographic characteristics, clinical variables, The Brief Fatigue Inventory (BFI), The Hospital Anxiety and Depression Scale (HADS), The Medical Outcomes Survey, Social Support Survey (MOS-SSS) and Functional Assessment of Cancer Therapy-General (FACT-G). Multiple linear regression and generalized linear models were performed to determine the main factors affecting QoL. The rates for moderate fatigue (BFI mean score $\geq$ 4), borderline anxiety (HANDS-Anxiety score $\geq$ 8), borderline depression (HANDS-Depression score $\geq$ 8), and higher social support (MOS-SSS score $\geq$ 4) were 34.3%, 17.2%, 19.5% and 53.8%, respectively. The main factor was depression, which revealed the strongest explanatory power for QoL on social/family well-being, functional well-being and general QoL (Wald Chi-Square range: 16.571 to 39.337). In addition, fatigue demonstrated strongest explanatory power for QoL on physical

well-being (Wald Chi-Square: 30.133), and anxiety showed strongest explanatory power for QoL on emotional well-being (Wald Chi-Square: 48.313). However, social support demonstrated moderate explanatory power for QoL on social/family well-being, emotional well-being, functional well-being and general QoL (Wald Chi-Square range: 5.228 to 19.752). Relative to fatigue, anxiety and social support, depression exerted a stronger effect on gastrointestinal cancer survivors' QoL. Most gastrointestinal cancer patients can't receive properly treatment when they suffer from depression, especially in Chinese patients. Thus, health professionals should consider the management of depression a priority in improving patients' QoL during cancer treatment. There is few research discuss fatigue, anxiety, depression and social support as factors affecting quality of life, especially in Chinese patients with diagnosed gastrointestinal cancer. This study can provide a reference for improving quality of life among gastrointestinal cancer patients.

#### **452** **EXPLORING STAKEHOLDER EXPERIENCES WITH INTERPERSONAL COMMUNICATION IN PATIENT NAVIGATION**

**Sarah Gallups, RN, BSN, MPH, School of Nursing, University of Pittsburgh, Pittsburgh, PA**

Community-engaged research is an important approach for addressing health disparities and increasing the use of scientific evidence in communities. Concept mapping, a community-engaged approach, calls for the active participation of participants throughout the research continuum. This stakeholder engagement study sought to engage with key informants in breast cancer care patient navigation in the planning of a larger study. The aims of this study were to: (a) Explore the interpersonal communication components that potentially drive positive patient outcomes (b) Discuss the concept mapping focus prompt for clarity and usability (c) Gather input on appropriate recruitment and retention strategies. This study utilized a qualitative design where identified stakeholders (patients, patient navigators and patient navigator administrators) participated in semi-structured interviews. Six thirty-minute interviews were conducted with three patients with breast cancer, two breast cancer patient navigators and a patient navigator administrator. A qualitative content analysis was utilized to analyze the interviews. Three themes were identified related to the participants' experience with interpersonal communication in breast cancer patient navigation. "Personalized care" provides patients with a "go-to person" with whom

they can develop a caring relationship. "Availability" meant that patient navigators made themselves accessible by phone or face-to-face meetings, were easily contacted and had ample time to spend with the patients. Last, "efficacious follow-up" was a key component. Patient navigators helped streamline concerns that could result in treatment delay by promptly providing solutions to problems in a timely manner. This stakeholder engagement study informed a larger study. It allowed the preliminary exploration of key stakeholder experiences with interpersonal communication during patient navigation. This study identified the need to promote the development of the patient-navigator relationship as a potential route to provide more patient-centered care. Furthermore, patient navigator interventions should be supporting and facilitating the ability of patient navigators to be easily accessible and provide timely follow-up to their patients

#### **453** **STEREOTACTIC RADIOTHERAPY FOR LUNG CANCER: THE PROSPECTIVE EXPERIENCE OF A COMMUNITY MEDICAL CENTER**

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Stereotactic body radiotherapy (SBRT), also known as stereotactic ablative radiosurgery (SABR), is a form of radiation treatment which delivers high doses of radiation to the tumor while preserving surrounding healthy tissues. Based on published literature, good local control rates have been reported with SBRT of early stage primary lung cancer, recurrent lung tumors and lung metastases and has low treatment related toxicity. Observational patient registries can be an important tool not only in describing the treatment practices and outcome data for patients treated with SBRT in community-based centers but also to compare results directly in a standardized manner to academic centers across the country. The purpose of the study is to characterize the J Philip Citta Regional Cancer Center at Community Medical Center's experience of treating lung cancer with Stereotactic Ablative Body Radiotherapy (SABR) provided by the New Jersey Cyberknife. From July 2011 to December 2014, a total of 194 patients were treated with Cyberknife radiosurgery for primary lung (n=125), recurrent lung (n=36) and lung metastases (n=33) at our institution. Patients were enrolled in a

prospectively collected, IRB approved registry study. Patients were treated in 3–5 fractions of 25–60Gy. Endpoints analyzed included Local Control (LC), Overall Survival (OS), and Median Survival (MS). Toxicity was documented according to Common Terminology Criteria for Adverse Events (CTCAE) version 3.0. Median Follow up was 20.11 months with Median age of 75 years (51–97years). ECOG Performance Status was 0–3. Median Follow up for OS was 21.85 months for all patients. One-year OS was 66.89% and 66.62%, 67.63%, 67.14% for Primary, Recurrent and Metastatic respectively. Two-year OS was 44.02% overall and 43.88%, 67.63%, 67.63% for Primary, Recurrent and Metastatic respectively. Median Follow up for LC was 38.93 months for all patients. One-year LC was 86.99% overall and 90.21%, 81.33%, 80.77% for Primary, Recurrent and Metastatic respectively. Two-year LC was 86.99% overall and 82.45%, 81.33%, 26.5% for Primary, Recurrent and Metastatic respectively. There was 7% Grade 1–2 toxicity and no observed Grade 3–5 toxicities. The result showed that the treatment provided to CMC lung cancer patients is comparable to academic centers throughout the country. Furthermore, its implication was noted in the significant difference in local control of the disease.

#### 454 THE LIVED EXPERIENCE OF CHEMO BRAIN IN EARLY STAGE BREAST CANCER

Patricia Gibbons, RN, PhD, MSKCC, New York, NY

Cognitive deficits have been shown to affect those who have undergone treatment with chemotherapy. This is often referred to as chemo-brain. Women in this study who were treated for early stage breast cancer experienced chemo brain and described it as an inability to concentrate, remember details, and complete familiar tasks as quickly as they had done prior to their cancer diagnosis and treatment. They complained of short term memory loss, difficulty concentrating, struggling to make simple decisions, difficulty finding the right words, trouble multi-tasking and feelings of mental dullness. Chemo brain is reported in many women receiving chemotherapy treatment for breast cancer, but depth of knowledge related to it is lacking. Learning about the experience of chemo brain may ultimately improve the lives of women who experience it. The purpose of this phenomenological study was to explore the lived experience of the chemo brain after undergoing chemotherapy for breast cancer. van Manen's descriptive phenomenological methodology served to explore an everyday life understanding of the lived experience of

chemo brain in 6 women age 50 and under with early stage breast cancer. The recurrent themes identified in this study were (1) Struggles with day to day life (2) Emotions related to diagnosis and treatment, (3) Fatigue (4) Coping and support, and (5) Feeling grateful. Findings of this study confirm the existence of cognitive changes during and after chemotherapy as well as describe the effects on daily life including fatigue, emotions, and the importance of support. Findings from this study have implications for healthcare in general and nursing practice in particular as they could help to raise awareness and greater understanding about the lived experience of chemo brain in breast cancer survivors. By understanding specific areas of cognitive dysfunction affected by chemotherapy, like memory, concentration, and task completion, the findings of this study provide valuable information to cancer patients, as well as healthcare providers, including nurses. By considering these research based findings, the overall quality of life for patients may improve. This study suggests the importance of educating both healthcare providers and patients about the cognitive changes related to chemotherapy and ways to cope with these changes.

#### 455 DEMORALIZATION AND SUICIDAL IDEATION IN CANCER PATIENTS

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Demoralization syndrome has been defined as lowered morale and perceived incapacity to cope that can become associated with a sense of hopelessness and failure and a loss of self-worth, hope and meaning of life. Previous studies have demonstrated that demoralization can lead to suicidal ideation. The current study was designed to characterize the prevalence of suicidal thoughts/ideation in cancer patients using two distinct questionnaires. Adult patients seen in the MDACC outpatient psychiatry oncology clinic who provided informed consent were included (N=922). Depression and demoralization were measured using the PHQ-9 and the DS-II scales, respectively. Both instruments have a "suicide question". The PHQ-9, question 9 asks about "thoughts that you would be better off dead or of hurting yourself in any way", while the DS-II, question 14 asks "I would rather not be alive". Data are presented as percentages or

Mean±S.D. The majority of patients were 53.3±13.1 years of age, female (68%), Caucasian (76%), and in a committed relationship (62%). The data indicate that patients exhibited mild depression overall scores (9.5±5.9) and medium demoralization scores (10.8±8.0). For the PHQ, question 9, the vast majority of patients specified 0-not at all (85.9%), while 8.9% specified 1-several days, 4.2% specified 2-more than half the days, and only 1% specified 3-nearly every day. For the DS-II, question 14, the vast majority of patients specified 0-never (83.3%), while 15.3% specified 1-sometimes, and 1.4% specified 2-often. A simple linear regression showed a significant, positive correlation between these two questions ( $R=.69$ ,  $p<.0001$ ). Overall, the data described show that these patients exhibit mild depression and medium demoralization symptoms. Importantly, the majority of patients do not endorse suicidal thoughts on either questionnaire, and despite being highly correlated, the frequency histograms showed that the questions may be probing distinct aspects of suicidal thoughts. Patients frequently discuss psychosocial concerns with their oncology nurses often revealing the depths of their struggle to cope with their disease. It is essential that nurses understand and recognize demoralization in their patients in order to identify at risk patients and initiate referrals to mental health professionals.

#### 456

##### USE PATTERNS OF A SYMPTOM MANAGEMENT WEBSITE FOR PATIENTS IN RURAL AREAS

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Patients with advanced cancers may experience multiple distressing symptoms associated with their cancer or its treatments. Patients living in rural areas have decreased access to cancer symptom management specialists such as supportive oncology and palliative care services. Web-based interventions have the potential to close this access gap. Oncology Associated Symptoms and Individualized Strategies (OASIS) is a web-based intervention for patients living in rural areas designed to provide symptom management education and tools to improve symptom control. One strategy OASIS employs is the use of a symptom diary to help patients better understand potential triggers and mitigating factors for their symptoms.

However, it is not known how patients in rural areas will engage with this type of web-based intervention. The purpose of this feasibility study is to evaluate website use patterns of patients enrolled in OASIS. Specifically, what pages they visit and how often as well as what symptoms and strategies they choose to track in the diary. A sample of  $n=30$  patients will be enrolled. Eligibility includes over 18 years old, diagnosis of advanced cancer, and living in a rural zip code. Data will be extracted from the OASIS website user logs. A summary of the page visits and symptom diary entries will be generated. Frequencies and means will be described. Differences in use patterns based on age, sex, and internet fluency will be evaluated. Currently,  $n=15$  patients have been enrolled. The mean age is 62 years, majority white, and majority women. Participants visit the site an average of 3 times per week. Participants engage with the site for an average of 4 weeks. Fatigue and numbness & tingling are the most commonly tracked symptoms with pacing and exercise as the most common symptom management strategies for these symptoms respectively. These results will be updated for the presentation with data from the full sample. The results from this study will be used to refine the OASIS intervention to meet the needs of these patients. Future research is needed to evaluate the efficacy of the OASIS intervention on symptom severity and distress. This web-based symptom management intervention is tailored to the needs and interests of rural patients with advanced cancer.

#### 457

##### LIVING WITH UNCERTAINTY: PERSPECTIVES OF THOSE LIVING WITH METASTATIC NON-SMALL CELL LUNG CANCER

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Lung cancer is a global health problem and the leading cause of cancer death in the United States. Non-small cell lung cancer (NSCLC) is the most common type of lung cancer, with the majority of individuals living with advanced disease. A comprehensive literature review revealed lack of descriptive research regarding the experience of living with uncertainty and NSCLC. The aim of this study was to explore metastatic NSCLC patients' experience of living with uncertainty, how uncertainty is described, coping strategies used to manage uncertainty, and triggers that made the uncertainty worse. A qualitative descriptive design with Rubin and Rubin's (2012) responsive interviewing method was used. There were ten participants aged 50-75, diagnosed with NSCLC within six months of initial diagnosis or



following disease recurrence. In-depth, audio-recorded interviews allowed for a rich description. Participants were recruited from the outpatient cancer center of a large, metropolitan teaching hospital in the Northeast. Strategies from Schatzman and Strauss' (1973) field research guided data collection and analysis. Four major themes were revealed: Burden, Loss, Self-Appraisal, and Enduring but Not Knowing. Main themes were consistent across research questions and for the majority of participants. Subthemes were identified for each major theme and within each research question. Participants described uncertainty as not knowing, disbelief, as an ongoing experience. Uncertainty led to family stress, loss and a disruption in participant's lives. Participants shared coping strategies and triggers of uncertainty. Findings offer healthcare providers a glimpse into how individuals with metastatic NSCLC describe and cope with uncertainty. Knowledge of triggers provides individuals living with uncertainty and healthcare providers an opportunity to implement strategies to reduce it. Future research may focus on the development of an intervention to reduce uncertainty in this unique population.

#### **458** **END-OF-LIFE CARE SATISFACTION AMONG AFRICAN AMERICAN CAREGIVERS: RETROSPECTIVE ANALYSIS WITH AA CAREGIVERS OF CANCER PATIENTS**

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Disease progression has a significant impact on end-of life (EOL) care and planning for patients with advanced cancer and their caregivers. However, there is a disparity in the usage of hospice and palliative care services among African Americans as this population comprises 7.6% of hospice enrollees. The literature shows that when hospice services are used, caregivers are generally satisfied with the service but little is known about satisfaction with EOL care in African American caregivers. The goal is to examine EOL care satisfaction for African American caregivers of patients with Stage IV GI and lung cancer through a retrospective analysis from the caregiver's perspective. The

parent study was a longitudinal descriptive correlational study involving patients with advanced cancer and their caregivers. The focus of the study was to evaluate patient and caregiver goals of care, treatment effectiveness, preferences, and caregiver satisfaction with EOL care. Patients and caregivers were given a follow-up survey every 3 months until death or end of the study period (15 months). A satisfaction of care survey was administered to the caregiver examining EOL care two months after patient's death. This satisfaction scale, Family Satisfaction with End of Life Care (FAMCARE), administered over the phone, measures how satisfied the family member was with the healthcare providers, hospital, and hospice services. A total score is assigned that rates the degree of satisfaction—higher scores indicate a higher level of satisfaction. Of the 13 African-American caregivers available for FAMCARE phone interviews, their overall score of EOL care reflected a high level of satisfaction. Comparing comments and overall satisfaction scores, major themes arose including: overall satisfaction with hospice and the healthcare team, concerns about uncontrolled symptoms, and the perception that the patient was giving up prior to death. It should be noted that out of the 13 dyads, 13 patients and 12 caregivers identified themselves as Christian. Nursing practice implications include early EOL conversations and assessment of culturally centered needs congruent to the hospice philosophy. These conversations could potentially provide this population with a better understanding of hospice services and close the gap of disparity in the usage of hospice and palliative care services in African Americans.

#### **459** **IMMUNOTHERAPY IN COMBINATION WITH CHEMOTHERAPY AND VITAMIN D ANALOGUE FOR PATIENTS WITH PREVIOUSLY UNTREATED METASTATIC PANCREATIC DUCTAL ADENOCARCINOMA: A NEW TREATMENT APPROACH**

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More effective therapy for the treatment of patients with pancreatic ductal adenocarcinoma (PDAC) remains one of the greatest unmet oncology clinical

needs. The addition of cisplatin (C) to gemcitabine (G) and albumin-bound paclitaxel (AP) has shown promising clinical data in a previously reported study. In preclinical work, vitamin D analog therapy decreases myeloid derived suppressor cells and regulatory T cells, turning PDAC into a possibly more immune-hostile microenvironment for the PDAC cell. This trial combines AP/C/G with vitamin D analog paricalcitol (P) and the antibody-PD-1 drug Nivolumab (N) as a combination therapy for patients with previously untreated metastatic PDAC. Dosing is AP 125 mg/m<sup>2</sup>, G 1000 mg/m<sup>2</sup> and C 25 mg/m<sup>2</sup> on days 1, 8, 22, and 29 of a 42-day cycle. N 240 mg is given on days 1, 15, and 29 and P 25 µg IV is given twice weekly. Quality of life (QOL) measurements include Brief Pain Inventory (short form) and MD Anderson Symptom Inventory (MDASI-GI). This trial evaluates efficacy, safety and QOL in patients with metastatic PDAC receiving NAPPCG (NCT02754726). The trial was initiated May 2016. As of October 2017, 19 of 25 patients have been enrolled in the study. Of the initial 10 patients evaluated, the most common drug-related grade (gr) 3-4 adverse events (AE), are thrombocytopenia 100% (gr 3 = 50%, gr 4 = 50%) with no serious bleeding events, anemia 50% (gr 3 = 50%, gr 4 = 0%), and colitis 20% (gr 3 = 20%, gr 4 = 0%). Evaluation of additional patients and analysis of QOL measurements are underway. The study illustrates a novel combination of agents in treating patients with PDAC. This complex and unique regimen challenges nurses to be not only experts in the care of PDAC patients with numerous disease related symptoms, but also knowledgeable in the prompt identification and appropriate interventions for chemotherapy and immunotherapy AEs. The role of nursing in the care of these study patients and details of nursing management of common AEs will be addressed. This trial is supported by The Seena Magowitz Foundation, Mattress Firm, Stand Up To Cancer, and Bristol-Myers Squibb.

#### 460

### THE IMPACT OF CHEMOTHERAPY AND/OR RADIATION ON PATIENTS UNDERGOING HEAD AND NECK CANCER TREATMENT IN A SUBURBAN HOSPITAL-BASED COMMUNITY CANCER CENTER

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Head and neck (H&N) cancer comprises four percent of all cancers diagnosed annually in the United States. Although recent studies suggest improving

cure rates, the burden of side effects often continues long after treatment is completed. This institution's local data showed that patients with H&N cancer who were treated with radiation continued to lose weight post-treatment. Therefore, the oncology nurse navigator initiated a prospective descriptive research study. A prospective repeated measures descriptive research study was designed to describe the impact of cancer treatment side effects experienced by patients with a diagnosis of H&N cancer. The researchers used the MD Anderson Symptom Inventory Head and Neck Cancer Module (MDASI-HN) to measure the severity of the symptoms experienced and assess the interference of these symptoms on patients' daily lives, across the continuum of treatment and recovery. IRB approval was received Dec. 2014 and data collection was completed July 2017. A convenience sample of 44 patients were enrolled and 39 patients completed the study. Study instruments included a brief demographic survey followed by completion of the MDASI-HN prior to starting treatment(T1), mid-way through treatment(T2), final week of treatment(T3), 1-3 months post-treatment(T4), 3-6 months post-treatment(T5) and 6-12 months post-treatment(T6). Analyses using the SAS® 9.4 software program, included reliability coefficients and mean scores, following the MDASI User Manual (1). Descriptive and t tests were used to compare mean scores of Core Symptoms, H&N Symptoms, Symptom Interference, and weight between consecutive times. A weight loss of > 5% was considered clinically significant. The mean Core Symptoms scores were significantly different between T1 and T2 (t<.0001) and between T4 and T5 (t=0.001). Similarly, the mean H&N Symptoms score were significantly different between T1 and T2 (t<0.0001) and between T5 and T6 (t=0.0004). The mean Symptom Interference scores were significantly different between T3 and T4 (t=0.0006) and between T4 and T5 (t=0.04). As expected, the symptoms burden was associated with patients' mean weight which dropped at the consecutive measurements between T1 and T2; T2 and T3; T3 and T4 (t<.0001) and again between T4 and T5 (t=0.001). These findings and weight loss trend confirmed that patients continue to need nutritional and multidisciplinary support even 3-12 months after treatment completion.

#### 461

### THE IMPLEMENTATION OF INNOVATIVE STRATEGIES TO COMBAT COMPASSION FATIGUE IN THE ONCOLOGY NURSE

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Compassion fatigue (CF) is a well know phenomenon in the healthcare setting that primarily affects nurses exposed to high levels of ongoing stress in their work environment. The literature suggest that long term effects of compassion fatigue negatively impacts the health,well-being, and performance of the employee, impacts patient safety and job satisfaction. Therefore, it is important to recognize the symptoms, and implement interventions to manage and prevent the negative consequences of CF. The best way to combat CF is through the implementation of preventive measures acknowledging that self-care is the critical component of prevention. Self-care includes caring for all aspects of the person; physical, psychological, and spiritual well being. Participation in activities to replenish the mind, body and spirit including adequate nutrition, meditation and reflective journaling can enhance self-integrity and coping Aim: Although CF has been identified in the outpatient oncology setting there is limited research on the effectiveness of any one intervention or using a multifaceted innovative approach to combating CF in the oncology nurse in the ambulatory setting. The goal of this study is to identify the current level of CF in the outpatient infusion unit, implement a multi-modal self-care intervention approach and identify the most effective intervention. This will be a pilot study using a quasi-experimental pre/post-test survey design. The Professional Quality of Life Scale tool (PROQOL), a 30-item self-assessment tool that measures both positive and negative aspects of caring, will be completed by the RNs in the infusion unit before and after the implementation of a multi-modal innovative intervention program. The infusion unit clinical staff RNs will be able to utilize four different interventions; therapeutic art therapy, nutritional support, spiritual support with reflective journaling, and a tranquility room over a three -month period to promote self-care and combat compassion fatigue. The results of the pre/post-test survey will be analyzed using paired t-test. Demographic data will be obtained and analyzed to determine if there is any correlation between these variables, the PROQOL score, and ranking of interventions. A post intervention ranking survey will be analyzed to identify which innovative intervention was most beneficial and provide direction for developing a compassion fatigue resiliency program for nurses in the outpatient infusion unit.

462

## AN EARLY REHABILITATION INTERVENTION FOR ENHANCING OXYGENATION AND RECOVERY FROM LUNG CANCER SURGERY

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This study is to test the effects of an early rehabilitation intervention on oxygenation, postoperative complications, and recovery from lung cancer surgery. The study uses an experimental design. Ninety patients scheduled for lung cancer surgeries was recruited from thoracic surgery units of a medical center. Patients were randomly assigned to the intervention or the control group. The intervention includes a 5-day preoperative home-based rehabilitation and a 5-day postoperative in-hospital rehabilitation. The main components of the rehabilitation were aerobic and strength exercises as well as breathing training by using an incentive spirometry. Peripheral capillary oxygen saturation (SpO<sub>2</sub>) was measured in the morning of the preoperative day and of the 4 consecutive days from postoperative day one to four by using the OxiMax Portable Pulse Oximeter. The SpO<sub>2</sub>/FiO<sub>2</sub> (S/F) ratio was then calculated to assess patients' oxygenation. Data on postoperative pulmonary complications and durations of chest tube drainage were collected from the patients' charts. The patients' demographics and baseline measures were equivalent between groups. Results of GEE showed a significant group by time interaction effect on S/F ratio. As for the parameter estimates, from postoperative day 1 to day 4, the S/F ratio improvement in the intervention group was 74.49 (Wald X<sub>2</sub> = 46.42, p<0.001) more than in the control group. Result of Chi-square test showed that the number of postoperative lung complications in the intervention group (n =1) was significantly less (X<sub>2</sub> = 8.39, p = 0.004) than it in the control group (n =10). Result of t- test showed that the duration of chest tube drainage in the intervention group (2.00±1.00 days) was significantly shorter (t =-2.32, p = 0.022) than it in the control group (2.56±1.25 days). The study results support the effects of the early rehabilitation intervention on enhancing oxygenation, preventing complications, and promoting recovery from lung cancer surgery as indicated by shortened the duration of chest tube drainage. Surgery to remove the cancer is one of the primary treatment options for non-small cell lung cancer. However, lung cancer surgery may result in decreasing lung capacity and expansion; therefore,

increase risks for postoperative pulmonary complications. Pulmonary rehabilitation designed to enhance lung expansion and ventilation may help to reduce postoperative lung complications and promote patients' recovery from lung cancer surgery.

**463**

### **CANCER CARE DELIVERY RESEARCH: THE IMPORTANCE OF ONCOLOGY NURSING ENGAGEMENT**

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Cancer care is highly complex and constantly evolving through clinical trials and research. Cancer care delivery research (CCDR) is a new program of research offered through the NCI Community Oncology Research Program (NCORP) that focuses on improving the delivery of cancer care for patients throughout the disease trajectory. It involves the development of novel care delivery models, use of technology, coordination of care; examining health care team and patient knowledge, attitudes, and behaviors; and health care utilization and outcomes such as costs, length of stay, and readmission. The purpose is to describe CCDR and the significance of the dynamic nursing team to drive research processes and improve cancer care outcomes. Cancer research is not only about treatment but involves how care is delivered. Coordination of this research requires the involvement of a variety of nursing team members to help facilitate CCDR trials in an organization. Because nurses are well-equipped in these types of studies, nurse scientists can serve as principal investigators for such initiatives to identify national CCDR studies appropriate for the site and contribute to the development of new trials to capture research priorities. Additionally, the research nurse manager collaborates with PI and identifies studies that are feasible to conduct. Regulatory oversight is another responsibility. The research nurse screens and enrolls patients, maintains data, and provides informed consent and patient education. A nurse informaticist is also valuable to ensure that the technology is capable of supporting the trial. For example, automatic orders may need to be developed to ensure consistency with evidence-based or protocol guidelines. Four protocols have been approved through NCORP. The first is investigating a prospective financial impact assessment tool in patients with metastatic colorectal. The second study is examining the use of colony stimulating factors using an

evidence-based order set to drive practice. The third uses an evidence-based supportive care clinical practice guidelines in pediatric oncology; and the final includes electronic tools to improve prostate cancer decisions for minority men. The development of six additional protocols are underway. CCDR is in its infancy, but holds promise for improvements cancer care delivery. Nurses should consider being involved in CCDR research as they have a unique perspective in regards to holistic and coordinated care.

**464**

### **THE RELATIONSHIP AMONG INNER STRENGTH, DEPRESSION, AND TIME SINCE DIAGNOSIS TO QUALITY OF LIFE AND HEALTH PROMOTING BEHAVIORS IN FEMALE CANCER SURVIVORS**

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The evolving focus of cancer survivorship research includes the physical, psychosocial, and emotional issues of cancer from diagnosis through the end of life and the promotion of health within cancer as a chronic illness. The goal of survivorship care is to provide individuals the best chance for healthy living by identifying strategies to increase overall well-being and quality of life (QOL). This study intended to explain the relationship of inner strength, depression, and time since diagnosis to QOL, and health promotion activities in female cancer survivors. Eligibility requirements for this non-experimental, descriptive study included adult females cancer who were more than six months and less than five years since treatment for cancer. Data collection instruments included a demographic survey as well as the Inner Strength Questionnaire, Quality of Life-Cancer Survivor, Center for Epidemiologic Studies of Depression-Revised, and Health Promoting Lifestyle Profile-II. Findings indicated high levels of inner strength, moderate levels of health promotion activities and quality of life, and low levels of depression in this study sample of 118 women. The relationships among inner strength, depression, and time since diagnosis to QOL and the relationships among inner strength and depression to health promoting activities were significant. Demographic data demonstrated that subjects included primarily college/graduate school educated Caucasian women with incomes over \$75,000/year. This is consistent with the literature that has found enrollment in research studies to inadequately represent minorities and socioeconomically disadvantaged population. Research has demonstrated that socially advantaged

individuals experience higher levels of health and well-being, suggesting that this subject sample may be experiencing improved emotional health related to their advantaged socioeconomic status. The results of this study support the premise that women who experience inner strength have enhanced QOL and health promoting behaviors. Approaching female cancer survivors from an assumption of strength can help nurses to positively affect QOL and wellness. Understanding the role of inner strength is likely to assist nurses and other healthcare providers in identifying and facilitating positive coping styles and strategies for women with cancer. This study contributes to the body of knowledge on inner strength in female cancer survivors and it is hoped that this will result in improved health and QOL in this population.

#### 465

##### **A COMPARISON OF COAGULATION TEST RESULTS BETWEEN HEPARINIZED CENTRAL VENOUS CATHETER AND VENIPUNCTURE**

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Many patients with hematologic malignancies have heparinized central venous catheter (CVC) for chemotherapy or stem cell transplantation. The blood sampling is routine during hospitalization, patients prefer blood sampling via CVCs to via venipuncture (VP). Following the Clinical & Laboratory Standards Institute (CLSI) guidelines, blood sampling via heparinized CVCs is possible including coagulation tests. However, there are differences between the test values from CVCs and VPs even though following the guidelines and differences also exist in the preceding researches. The purpose was to compare the coagulation time between blood samples from heparinized CVC and VP. This is an experimental study. Seventy-two hospitalized patients with a heparinized CVC were enrolled. Most common diagnoses were acute myeloid leukemia. Blood samples for coagulation test were drawn via VP and heparinized CVCs simultaneously. For sampling from CVC, normal saline flushing and 10 or 23mL of blood were discarded prior to collect coagulation test samples. Correlation, Bland-Altman plot, covariate and regression analysis were performed for data analysis. In the 10mL of blood discard group, PT (INR) correlation coefficient is 0.913 ( $p=0.00$ ) and mean bias is 0.015

(95% confidence interval [CI] =  $-0.041$  to  $0.07$ ). And aPTT correlation coefficient is 0.378 ( $p=0.019$ ) and mean bias is 6.46 seconds (95% CI =  $-7.102$  to  $20.012$ ). In the 23mL of blood discard group, PT (INR) correlation coefficient is 0.976 ( $p=0.00$ ) and mean bias is 0.004 (95% CI =  $-0.062$  to  $0.069$ ). And aPTT correlation coefficient is 0.80 ( $p=0.00$ ) and mean bias is 2.518 seconds (95% CI =  $-7.626$  to  $12.66$ ). Indwelling time of CVCs, Heparin solution infusion and discarded blood volume before sampling could affect aPTT test values from the heparinized CVCs. PT (INR) test results were highly correlated in the both groups, but aPTT test results were not. The nurse should consider the indwelling time of CVC, heparin solution infusion and discard volume for aPTT test from CVCs. More studies are needed for the establishment of guidelines.

#### 466

##### **CONTRALATERAL PROPHYLACTIC MASTECTOMY AS TREATMENT FOR BREAST CANCER IN THE STATE OF NEW JERSEY**

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The rate of contralateral prophylactic mastectomy (CPM) in women with unilateral, early stage breast cancer is increasing with no plateau. No study to date has examined changes in surgical treatment of women with early stage breast cancer in New Jersey. The objective of this study was to improve the understanding of patient and tumor related factors that influenced the choice of mastectomy with CPM, as treatment for early stage breast cancer, in New Jersey. A retrospective analysis of 10 years of breast cancer data including 52,254 women ages 40–80, treated in New Jersey from 2004 through 2014. Bivariate analyses examined associations between covariates and type of surgery utilized: breast conservation surgery (BCS), unilateral mastectomy (UM), or mastectomy with contralateral prophylactic mastectomy. Logistic regression models identified possible associations between type of surgery and various patient and tumor-related characteristics. Women who were treated with CPM were more likely to be young (14.9% of women ages 40–49) and White (7.8%), as compared to 6.8% of Asian women, 4.9% of African American women and 6% of Hispanic women, and privately insured ( $p<.0001$ ). CPM increased over time (2004–2014), albeit with a slight decline in 2011 followed by

small increases in each subsequent year ( $p < .001$ ). Factors that increased the odds of receiving CPM included year of surgery (OR 1.128, CI 1.113–1.142), the need for chemotherapy and receipt of immediate reconstruction. Women who received chemotherapy were more likely to choose CPM (OR 1.233, CI 1.030–1.475), and women who chose to have immediate reconstruction were more than twice as likely to choose CPM (OR 2.357, CI 2.169–2.561). The rate of CPM as a treatment for unilateral breast cancer continues to rise, however this decision seems to be relatively independent of tumor-related factors and clinical evidence of efficacy. The large majority who are choosing CPM are doing so regardless of the lack of clinical efficacy, yet there are few articles in the nursing literature preparing nurses to understand and counsel women who may be asking for advice. Nurses are well situated to provide unbiased and fact-based information to help women making potentially life-altering decisions in response to a cancer diagnosis.

#### 467

### COLD THERAPY TO PREVENT CHEMOTHERAPY-INDUCED PERIPHERAL NEUROPATHY IN BREAST CANCER PATIENTS

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Chemotherapy induced peripheral neuropathy (CIPN) is a common side effect in many chemotherapy agents used today. Current research primarily focuses on treating the symptoms of peripheral neuropathy, but there is little evidence to support preventative measures. This study further evaluates the use of hypothermia to decrease incidence of peripheral neuropathy based on the principle of hypothermia applied in scalp cooling to reduce alopecia in patients receiving chemotherapy. The purpose of this study is to compare the incidence and severity of peripheral neuropathy and quality of life in breast cancer patients receiving 12 weekly doses of Paclitaxel using cold therapy to their hands and feet, compared to standard of care treatment. This is a randomized control trial study in newly diagnosed breast cancer patients using cold therapy, as compared to standard of care treatment.

Key inclusion criteria includes patients receiving a 1-hour Paclitaxel infusion every week for 12 weeks. Key exclusion criteria includes history of peripheral neuropathy, diabetes, hand and foot conditions, or using medications such as Vitamin B12, Glutamine, certain antidepressants, anticonvulsants, or opioids. The cold therapy group wore chilled Elasto-Gel Hypothermia mitts and slippers, to be applied 15 minutes prior to start of the infusion and throughout the 1-hour infusion. The patients are assessed at each treatment by a staff nurse for peripheral neuropathy using the National Cancer Institute's Common Toxicity Criteria for Adverse Events version 4.0. The patient also completes the Functional Assessment of Cancer Therapy-Taxane (FACT-T) questionnaire. Data was collected for weeks 1, 4, 8, 12, and at 1 month post completion of treatment using STATA Version 12 on 31 of 48 proposed subjects. Preliminary findings suggest there was a significant treatment ( $p = .005$ ) and time ( $p < .001$ ) effect on PMN as patients on standard of care developed neuropathy earlier than patients on cold therapy. No significant differences due to treatment ( $p = .385$ ) was seen in both arms of FACT-T. Cold therapy during infusion could minimize the underlying nerve damage by limiting the delivery of Paclitaxel to distal small veins. This intervention could demonstrate improvement of patient's outcome and drug delivery. Initial findings indicate positive outcome but further analysis will be determined at the completion of the study. Funding: Daisy Foundation

#### 468

### QUALITY OF LIFE IN NON-MUSCLE-INVASIVE BLADDER CANCER SURVIVORS: A SYSTEMATIC REVIEW

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Bladder cancer is the fifth most common cancer, and more than 79,000 people are diagnosed with bladder cancer every year in the US alone. Non-muscle-invasive bladder cancer (NMIBC) represents approximately 75% of newly diagnosed patients with bladder cancer. NMIBC survivors have unique chronic burdens

including frequent recurrences, repeated surveillance cystoscopies and treatments, and the highest lifetime medical cost per person among all cancers. However, little is known about the disease- and treatment-related consequences on the quality of life (QOL) of patients with NMIBC. The purpose of this study was to summarize studies assessing QOL in NMIBC survivors. Findings of this study may provide directions for counseling on quality of life for NMIBC survivors. Following the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines, the literature from January 2005 to March 2017 found in PubMed, CINAHL, and PsycINFO databases was reviewed systematically. Inclusion criteria were: (1) research about NMIBC survivors; (2) quantitative and/or qualitative study; (3) outcomes included QOL; (4) original research article published in peer-reviewed journals; and (4) published in English. A total of 15 studies were included: 14 quantitative studies and 1 mixed-methods study. NMIBC survivors had significantly lower QOL compared to the general population, especially in fatigue, physical and role functioning, and mental health. Repeated transurethral resections of bladder tumor (TURBT) and intravesical instillation treatments were associated with impaired physical function and mental health. Mental health was impaired most severely at the first TURBT, and physical function, role emotional, and social function at the third TURBT. These domains returned to normal level with repeated TURBT. NMIBC survivors who had undergone intravesical treatment experienced significantly decreased social functioning and increased financial difficulties. Most NMIBC survivors had concerns of urinary and bowel problems and sexual function. Despite a good prognosis, NMIBC and its treatment have a significant impact on QOL in survivors. The findings showed large burdens in NMIBC survivors, and suggest further research is needed to better understand potential opportunities to improve QOL in this population. Oncology nurses are in the critical position for assessing symptoms and concerns. Oncology nurses should pay special attention to NMIBC survivors who have unique symptoms and burden with the aim of improving survivors' QOL.

**469**

#### **COMORBID CONDITIONS IN INDIVIDUALS DIAGNOSED WITH GI CANCER: PREDICTORS OF INCREASED MORTALITY**

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In 2017, an estimated 143,000 people died from GI cancer in the United States. Survivorship is increasing but so are cancer deaths. Comorbid conditions (CCs) are associated with cancer mortality; however not well elucidated in GI cancer. The purpose of this study was to examine CCs associated with and predictive of mortality in GI cancer patients. We identified 791 participants using the I2B2 data repository at the University of Florida based on eligibility criteria (at least 21 years of age, diagnosed with upper or lower GI cancer, inpatient or outpatient status). Descriptive statistics were used to report patient and clinical characteristics. A Chi-square statistic was used to report associations. Logistic regression was used to report predictors of mortality. Significance was set at  $p < 0.05$ . The majority of the sample was male (58%), white (86%), at least 65 years of age (60%) and diagnosed with Stage I or Stage II upper GI cancers. There were 27 unique CCs noted. Seventeen CCs were significantly correlated with mortality. Of those, a  $p$  value less than 0.001 was noted with congestive heart failure, weight loss, fluid and electrolyte imbalances and anemia. Significant predictors of mortality were anemia ( $p < 0.01$ ), liver disease ( $p < 0.01$ ), fluid and electrolyte imbalance ( $p < 0.01$ ), peripheral vascular disease ( $p = 0.023$ ), paralysis ( $p = 0.028$ ), valve disease ( $p < 0.017$ ) and weight loss ( $p = 0.43$ ). There were many CCs associated with and predictive of mortality in this patient population underscoring the importance of managing CCs for better patient outcomes. As the cancer population ages, it is likely more patients diagnosed with GI cancer will have CCs. Understanding CCs associated with and predictive of mortality in patients with GI cancer provides opportunity for early intervention to manage CCs which may increase survival and quality of life in patients with GI cancer. Further research is necessary for understanding these complex associations. This is the first known study to capture all CCs reported centrally from a large cohort of GI cancer patients to examine in one study. This study is relevant to nursing for the development of strategies to manage multiple CCs of GI cancer patients.

**470**

#### **NURSING IMPLICATIONS FOR VENETOCLAX USE IN PATIENTS WITH RELAPSED/REFRACTORY CHRONIC LYMPHOCYTIC LEUKEMIA (CLL): A MULTICENTER ANALYSIS**

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Venetoclax is an oral BCL-2 inhibitor approved for the treatment of relapsed/refractory del(17p) Chronic Lymphocytic Leukemia (CLL). The initiation of venetoclax requires a five week dose escalation period and prophylaxis to prevent tumor lysis syndrome (TLS). Oncology nurses play an instrumental role in monitoring for TLS, identifying drug-related toxicities, and optimizing outcomes for patients treated with venetoclax. We aimed to determine the dose escalation strategies, toxicities and outcomes of relapsed/refractory CLL patients treated with venetoclax in clinical practice. We conducted a retrospective cohort study of 41 relapsed/refractory CLL patients treated with venetoclax across 3 academic medical centers. Patients were stratified for tumor burden according to the FDA label for venetoclax. The Howard criteria were used to define TLS events. At venetoclax initiation, the median age was 70 years (range: 41–88), 42% of patients had del(17p), 27% had del(11q), and 88% were IGHV unmutated. Patients were treated with a median of 3 prior therapies (range: 1–7) and 85% received venetoclax as monotherapy. Prior to venetoclax start, 49% of patients were identified as having medium tumor burden (36% low, 15% high) and 58% had a creatinine clearance <80 mL/min. 93% of patients had TLS prophylaxis with allopurinol, 45% with rasburicase, and 92% of patients had ≥1 planned admission during the dose escalation period. TLS occurred in 18% of patients (all laboratory events, none clinical). Most common toxicities identified were: neutropenia (ANC <1000; 51%), thrombocytopenia (platelets ≤50,000; 28%), and diarrhea (>7 stools per day; 10%). With a median follow-up of 8 months (range: 1–30), the overall response rate was 92% (22% CR, 70% PR), and median PFS and OS were not reached. At one year, 84% of patients remained progression free, with 90% survival. Thirteen patients had discontinued venetoclax, with progression being the most common reason for discontinuation (N=8; 62%). These findings confirm that venetoclax can be safely administered in clinical practice to patients with relapsed/refractory CLL with high risk features. In order for patients to be treated safely and ensure best outcomes, oncology nurses must monitor for TLS

and identify treatment-related toxicities. We plan to present our nurse-driven supportive care strategy for venetoclax administration. Future research directed at the oncology nurse's unique role caring for venetoclax-treated patients is warranted.

#### **471 COMPARISON OF INVOLVEMENT IN TREATMENT DECISION-MAKING BETWEEN RECEIVERS AND NON-RECEIVERS OF CONVENTIONAL ADJUVANT BREAST CANCER TREATMENT**

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Studies have found that women with breast cancer who do not receive all recommended conventional treatments experience a higher rate of recurrence and death. The goal of this study was to compare involvement in oncology treatment decision-making in women who received all recommended conventional treatments (i.e., Receivers) with those who did not (i.e., Non-receivers). A secondary analysis was conducted using baseline data from 427 women from the Bastyr University/Fred Hutchinson Breast Cancer Integrative Oncology Study, which recruited women from both Integrative Oncology Clinics and the Cancer Surveillance System (CSS) registry in Western Washington State. A group of women who received physician-level integrative oncology (IO) care were matched to a cohort of women who received only usual conventional oncology (CO) care. Overall, 11.2% (48/427) of women did not receive at least one adjuvant treatment recommended by their medical doctors after their surgery; 8.8% (22/251) chemotherapy, 10.5% (33/314) radiotherapy, and 13.3% (45/339) hormone therapy. Women in IO cohort were less likely to receive radiotherapy ( $p < 0.01$ ) than those who did not. Factors related to receiving or not receiving adjuvant treatments also varied by cohort and included 1) race, stage of cancer at diagnosis, and estrogen receptor status for the women in the IO cohort and 2) cardiac comorbidity for the women in the CO cohort ( $p = 0.051$ ). Overall, women who used IO care and those who did not receive recommended adjuvant treatments, compared with women who received them, were more likely to be “Very involved” in their treatment decisions ( $p < 0.05$  to  $p < 0.001$ ). These findings have implications for those supporting women with breast cancer about to



make their treatment decisions. Women who used IO care and those who did not receive all recommended treatments after their surgery in both IO and CO cohorts were more likely to report that they were “Very involved” with their treatment decision-making than women who received all recommended treatments. This is the first study that compared adjuvant treatment decline rates, its related factors, and involvement in decision-making between Receivers and Non-Receiver among women with breast cancer who did and did not receive IO care.

#### **472** **INFLUENCE OF CACHEXIA AND BIOLOGIC MARKERS ON SURVIVAL IN PATIENTS WITH PANCREATIC CANCER COMPARED TO COLORECTAL CANCER**

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Pancreatic cancer is perhaps the most lethal cancer with 7.7% of 5-year survival rate. Over 80% of patients with pancreatic cancer experience cachexia, a multifactorial syndrome with progressive unintentional weight loss, due to anorexia and hypercatabolism. Cancer-cachexia causes decreased quality of life and shortened survival. The aim of this study was to examine the influence of cachexia on survival, particularly, cachexia-related biomarkers (Glasgow Prognostic Score (GPS), Modified Glasgow Prognostic Score (mGPS), High-Sensitivity Modified Glasgow Prognostic Score (HS-mGPS), serum albumin (Alb)/C-Reactive Protein (CRP) ratio and weight loss in patients with pancreatic cancer or colorectal cancer. Retrospective analysis was conducted using de-identified data of 107 patients with pancreatic cancer and colorectal cancer receiving care between 2011 and 2014 (IRB#201400215). Eligibility criteria were: 1) 21 years or older at time of visit, and 2) diagnosed with pancreatic cancer or colorectal cancer. The data were analyzed using chi-square test and independent t-test to explore general and cancer-related characteristics, cachexia-related biologic markers (mGPS: 0 for no cachexia-2 for refractory cachexia), weight loss ratio and overall survival (OS) of the two cancer groups. 53 pancreatic cancer patients (51.0% male, 86.3% white) and 54 colorectal cancer patients (60.8% male, 82.4% white) were included in this study. There was no significant difference in Alb and CRP between two

groups. mGPS indicated 75.5% of patients received score 2 representing worst prognosis of survival. There was no statistical significance in general characteristics except age ( $t=-2.619$ ,  $p=.010$ ) (ethnicity, gender, cancer staging, BMI) between two cancer groups, cachexia-related biomarkers and weight loss. The OS of colorectal cancer patients (507.57 days) was significantly longer than OS of pancreatic cancer patients (268.44 days) ( $t=-4.140$ ,  $p<.001$ ). Patients with pancreatic cancer showed a significant difference in OS according to weight loss. Colorectal cancer patients showed significant differences in OS according to cancer stage and mGPS in addition to weight loss ratio. The OS of patients with pancreatic cancer was less than half of those of patients with colorectal cancer. In patients with colorectal cancer, the OS varied according to the cancer-related characteristics, cachexia-related biomarker, and weight loss ratio. However, only weight loss in pancreatic cancer patients resulted in significant differences in OS. Therefore, intervention to prevent weight loss is relatively more important in pancreatic cancer patients

#### **473** **LIPID PEROXIDATION AND SENSORY CHANGES IN PATIENTS WITH BRAIN CANCERS DURING CANCER-RELATED THERAPY**

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During cancer treatment, the level of lipid peroxidation could be increased due to several mechanisms of cancer drugs or radiotherapy. Many patients with cancer experience sensory changes during cancer treatment, and this symptom are related to the side effects of cancer treatment. However, the relationship between lipid peroxidation and sensory changes of patients with brain cancer has not been determined. The purpose is to identify the changes and relationship between sensory changes and the level of lipid peroxidation in patients with primary malignant brain cancer during concurrent chemoradiotherapy (CCRT). Thirty-eight participants with primary high-grade brain cancer were enrolled in this study and asked to report their sensory changes using the Memorial Symptom Assessment Scale. The level of lipid peroxidation was evaluated using lipid ratios such as total cholesterol (TC)/HDL-cholesterol (HDL-c), LDL-cholesterol (LDL-c)/HDL-cholesterol (HDL-c), and triglycerides (TG)/HDL-cholesterol (HDL-c). This prospective longitudinal survey was conducted before CCRT and at two time points after the initiation of CCRT (2–3 weeks and 4–6 weeks). The degree of sensory changes shown increased at 2–3

week and 4–6 weeks. The lipid ratios shown increased as the level of risk for lipid peroxidation at 2–3 weeks and 4–6 weeks. The lipid ratios as the level of risk of lipid peroxidation demonstrated a statistically significant difference among the three time periods during concurrent chemoradiotherapy (CCRT). The sensory changes at 2–3 weeks and 4–6 weeks demonstrated a statistically significant relationship with the lipid ratios as the level of risk of lipid peroxidation increased. The level of lipid peroxidation and sensory changes in patients with high-grade brain cancer were changed during CCRT. In addition, the level of lipid peroxidation was correlated with sensory changes, and these correlations could change during CCRT. Therefore, lipid peroxidation in patients with high-grade brain cancer could be considered for management of sensory changes during CCRT. Lipid peroxidation and sensory changes have shown significant associations in patients with brain cancers during periods of cancer-related treatment.

#### **474** **NURSES' PERCEPTIONS OF PERSON-CENTERED HANDOVERS IN THE ONCOLOGICAL INPATIENT SETTING—AN INTERVIEW STUDY**

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Transition of information between shifts on a care unit is a weak link in health care communication. Traditionally, nurse-to-nurse reports are oral or recorded but most often in isolation from the patients. Recently published research indicates that more structured communication models are needed in which patients have a more central role, focusing on the dialogue between patients and health care staff. Surveys also show widespread dissatisfaction with intershift handovers among nurses. The intervention evaluated in this study is person-centred handover (PCH). PCH is the shift-to-shift report between nursing staff together with the patient. Conducted at bedside, PCH allows for information exchange between the morning shift, the patient and the evening shift. The content is tailored for oncological inpatient care and includes a safety check where e.g. fall risk, current medications and ID is checked and the patient is encouraged to ask

questions and speak up. The handover is performed according to a checklist and is focused on patient participation. The aim of the study was to describe cancer nurses' experiences of working with PCH. Semi-structured interviews with registered nurses (RNs), two years post-implementation of PCH at two oncological inpatient wards were conducted (spring of 2017). RNs with  $\geq 6$  months experience at any of the two wards were eligible for inclusion, and we aimed at a full-population sample. Transcribed interviews were analyzed with inductive content analysis. In total, 11 out of eligible 13 RNs chose to participate in the study. Four main themes and ten subsequent subthemes were found in the material. The main themes were; PCH as a working tool for nurses, patient participation, aspects of nursing care, and patients' loved ones in PCH. Overall, the nurses were positive regarding the inclusion of patients in the handover procedure, but several drawbacks and factors hindering nursing care were described. Information provision from nurse to patient, as opposed to information exchange, was predominant. The study brings new insights on how cancer nurses describe barriers to active patient participation during the crucial procedures of inter-shift handovers.

#### **475** **THE COMPARISON OF DIABETES ASSOCIATED DISTRESS AND SELF-CARE ACTIVITIES IN PANCREATIC CANCER PATIENTS AFTER TOTAL PANCREATECTOMY AND PANCREATICO-DUODENECTOMY: A PROPENSITY SCORE-MATCHED ANALYSIS**

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Total pancreatectomy (TP) was introduced to avoid the complications of pancreaticoduodenectomy (PD). The performance of TP was increasing due to better diagnostic techniques, and more patients with diffused pancreatic disease were identified. However, diabetes resulted from TP was a major concern for patients and healthcare providers. The impact of diabetes including diabetes associated distress and self-care issues for patients after TP was seldom explored. The purpose of this study was to (1) compare diabetes associated distress and self-care activities between patients after TP and PD, and (2) explore the associated factors for self-care activities in the overall population. A cross-sectional approach was used.

The data was collected via purposive sampling of 50 subjects in an outpatient pancreatic surgical department. The Summary of Diabetes Self-care Activities (SDSCA) questionnaire was used to measure self-care activities. Diabetes associated distress was measured based on patients' perceived diabetes treatment interference and diabetes symptom distress on a scale of 0 to 10 (0 meaning no interference/distress; 10 meaning worst interference/distress). The data went through propensity score 1:2 matching and Mann-Whitney U Test, Chi-squared Test, and Generalized Estimating Equation (GEE) were used. After propensity score matching, there were 13 and 26 subjects suitable for comparison after TP and PD, respectively. There were no statistical significant difference in diabetes treatment interference, diabetes symptom distress, and overall self-care activities between the groups; however, TP group reported less days in a week of consuming at least 5 servings of fruits and vegetables than PD group ( $p < .001$ ). The significant associated factor with self-care activities was marital status. Patients who were married ( $\beta = 1.326$ ,  $p = .008$ ) reported more frequent self-care activities per week than patients who were not. The present study suggested that nurses should evaluate the frequency and servings of vegetables and fruits consumed in patients after TP. We observed that patients after TP would avoid fruits due to their fear of hyperglycemia. In addition, nurses should pay extra attention to those who were not married, since they may have less family support to complete daily self-care activities. Further research with larger sample size should be done to examine self-care activities among both groups and intervention should also be developed accordingly.

#### 476

### OUTCOMES OF RURAL BREAST CANCER SURVIVORS' PARTICIPATION IN E-FOCUS GROUPS EVALUATING INTERNET-ACCESSIBLE PSYCHOEDUCATIONAL PROGRAM

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Significant cancer-related distress is experienced by 30% of women diagnosed with breast cancer. Newly diagnosed women experience anxiety and depression at rates double that of other women. Evidence-based interventions addressing cancer-related distress

in rural women are limited despite rural survivors reporting poorer mental health than urban survivors. Addressing rural survivors' cancer-related distress is challenging due to few providers, long distances traveled to care, and stigma. CaringGuidance™ After Breast Cancer Diagnosis is a new, Internet-accessible, self-care psychoeducational program using supportive and cognitive-behavioral approaches, aimed at reducing cancer-related distress in newly diagnosed women. CaringGuidance™ has shown distress-reducing effects among urban women. We predict CaringGuidance™ holds potential to address barriers in psychological care for rural women. First, determining rural women's ability to access and deem CaringGuidance™ content relevant is essential to predicting their engagement and outcomes. The purpose is to determine the feasibility of conducting online focus groups of rural Midwestern breast cancer survivors through which to explore level of satisfaction with CaringGuidance™ and obtain input for program modification prior to an effectiveness trial. Rural survivors were recruited (using flyers) to review CaringGuidance™ online prior to logging into one of four, synchronous focus groups (5–7 per group) using the program's discussion board. A moderator typed scripted questions soliciting input on accessibility, functionality, aesthetics, and content of CaringGuidance™. Descriptive statistics analyzed demographic and feasibility data. Focus group transcripts were analyzed using directed content analysis. All consented survivors ( $n = 23$ ), ages 37–79 years, in 12 geographically-distant rural counties, and with varying Internet experience, logged-in to CaringGuidance™ and their assigned group with minimal to no difficulty. CaringGuidance™ content, with minimal recommended additions, was endorsed as appropriate for newly diagnosed rural women. Themes describing CaringGuidance™ were Quality and Usability, with 5 subthemes: time, relevant, trustworthy, navigable and comfortable. Thus, on-line, synchronous focus groups were feasible, acceptable, and allowed geographically-distant rural women to participate, although drawbacks were also identified. This work addresses ONS Research Priorities on psychological distress and self-management in underserved populations. Findings contribute to dispelling concerns about rural women's Internet use and provide support to work toward clinical implementation of CaringGuidance™ as a low cost, private, distress-management intervention for rural women with breast cancer. Funding: University of Nebraska Medical Center Office of the Vice Chancellor for Research.

477

### **PRINCIPAL VARIABLE ANALYSIS TO IDENTIFY SENTINEL SYMPTOMS ACCOMPANIED WITH ADJUVANT CHEMOTHERAPY**

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Identifying sentinel symptoms has priorities in symptom cluster research. Sentinel symptoms would help us understanding underlying mechanisms of symptom clusters and facilitate effective symptom management. The purpose of this study was to identify sentinel symptoms during the initial cycles of adjuvant chemotherapy (CTx). Descriptive correlational study was conducted. A total of 209 cancer patients receiving adjuvant CTx completed symptom severity evaluation of the 1st and 2nd cycle. Among the 20 symptoms evaluated in a 0 to 10 numeric rating scale, 13 symptoms which formed symptom clusters were utilized to identify sentinel symptoms. The principal variable analysis was applied using the R program. Sentinel symptoms were identified in the order of anxiety, loss of appetite and fatigue in the 1st cycle. Explained variation by the selected variables about the rest of symptoms were 31.3% with anxiety alone, 48.4% with anxiety and loss of appetite, and 59.8% with anxiety, loss of appetite, and fatigue. In the 2nd cycle, loss of appetite, depression, and fatigue were the sentinel symptoms. Explained variation by the selected variables were 28.1% with loss of appetite alone, 47.2% with loss of appetite and depression and 62% with loss of appetite, depression, and fatigue. Emotional symptoms, loss of appetite and fatigue were identified as sentinel symptoms during the initial cycles of adjuvant CTx. Symptom management needs to be focused on emotional symptom cluster and improving appetite with evidence based approach. Informing and preparing patients for fatigue management would be necessary. Principal variable analysis could be utilized identifying sentinel symptoms in de novo approach.

478

### **THE EXPERIENCE OF YOUNG ADULT WOMEN LIVING WITH ADVANCED BREAST CANCER: AN INTEGRATIVE REVIEW**

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Young adult women with breast cancer often face a disease that is clinically more aggressive with lower survival rates as compared with those who are older.

Diagnosis occurs at a time when these young women are developing identities, finding a place in the world, establishing careers, developing relationships, and building families. This review was conducted to examine the literature concerning the experience of young adult women living with advanced breast cancer. A comprehensive search was conducted using the Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed and the Excerpta Medica Database (Embase). Search terms included: advanced cancer, young adults, and breast cancer or breast neoplasm. The initial search resulted in 976 titles and abstracts. The final sample included six articles. Each study was systematically assessed for the following characteristics: country of origin, purpose, study design and instruments, sample size, age, cancer diagnosis, and results. Data were analyzed using the strategies proposed by Whittemore and Knaf and the Garrard Matrix Method. An evidence table detailing key components was compiled. The six studies all had samples that were heterogeneous with regard to the types of cancer. Sample sizes ranged from 10 to 93. Little information was evident about the particular needs and experiences of young women living with advanced breast cancer from the perspective of daily life. Limited available research suggest that younger women with advanced breast cancer face unique challenges in their daily lives that differ from older women. The lack of disease- and age-specific research makes it difficult to know the true nature of their everyday experience. To date, there have been limited studies exploring the quality of living of this population from the perspective of daily challenges, social context (roles and responsibilities) and functional status. The lack of knowledge about this age group and how they experience living with advanced breast cancer requires further research to better understand challenges, concerns and how they manage their daily activities, and in order to design effective, supportive interventions. There may be unique disease and age-specific concerns that have not been identified or addressed. Thus, there is a clear need to explore, describe and interpret the day-to-day experience of young women living with advanced breast cancer.

479

### **STAYING STRONG AND HEALTHY: MINIMIZING CARDIOVASCULAR AND METABOLIC SIDE EFFECTS OF ANDROGEN DEPRIVATION THERAPY**

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Over the past decade, use of androgen deprivation therapy (ADT) to treat prostate cancer (PC) has risen seven-fold. In addition to demonstrated survival benefit, ADT is associated with multiple adverse cardiovascular and metabolic side effects. ADT is used for advanced PC and adjuvantly with radiation therapy. Furthermore, underserved men have been shown to be diagnosed with later stage disease and African American men have 1.6 times higher risk for prostate cancer with younger age and more aggressive disease. Men on ADT have a 20% higher risk of serious cardiovascular morbidity and increased risk for diabetes. The purpose of our study is to compare our intervention with usual care plus attention in a randomized controlled trial using mixed methods. At baseline, 6 months, and 12 months, all men are assessed for blood pressure, body mass index, lipid profile, HgA<sub>1c</sub>, activity level, nutrition quality, and quality of life. A subsample are receiving neurocognitive testing and DEXA scans. We are focusing recruitment on underserved and African American men. Men in the intervention receive an extensive fitness assessment. A tailored nutrition, activity plan and education plan is developed. Men receive weekly calls for 3 months to progress activity and nutrition goals, monthly calls for 3 months establish the new activities, and 6 months of no contact prior to last data collection. Preliminary data at 6 months demonstrate decline in all parameters among the first controls. The first intervention participant has been stable. The study is ongoing.

#### **480**

### **DIFFERENCES IN SYMPTOM CLUSTERS BEFORE AND TWELVE MONTHS AFTER BREAST CANCER SURGERY**

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Prior to and following breast cancer treatment, women experience multiple co-occurring menopausal-related symptoms. Given the inter-relatedness among

symptoms, current research efforts are focused on an evaluation of symptom clusters. The purposes of this study were to evaluate for differences in the number and types of menopausal-related symptom clusters assessed prior to and at 12-months after surgery using ratings of occurrence and severity and to evaluate for changes in these symptom clusters over time. Prior to and at 12 months after surgery, 392 women with breast cancer completed the Menopausal Symptoms Scale. Exploratory factor analyses were used to identify the symptom clusters. Descriptive analyses were used for demographic and clinical characteristics. Of the 392 women evaluated, the mean number of symptoms was 13.2 ( $\pm 8.5$ ) at enrollment and 10.9 ( $\pm 8.2$ ) at 12 months after surgery. Two symptom clusters (i.e., pain/discomfort and hormonal) were relatively stable across both dimensions and time points. Two symptom clusters were relatively stable across both dimensions either prior to surgery (i.e., sleep/psychological/cognitive) or at 12 months after surgery (i.e., sleep). The other four clusters (i.e., irritability, psychological/cognitive, cognitive, psychological) were identified at one time point using a single dimension. This study is the first to describe “de-novo” menopausal-related symptom clusters before and after breast cancer surgery using evaluations of symptom occurrence and severity. While some menopausal-related symptom clusters were consistent across time and dimensions, the majority of symptoms clustered together differently depending on whether they were evaluated prior to or at 12 months after breast cancer surgery. An increased understanding of how symptom clusters change over time may assist clinicians to better focus their symptom assessment and management strategies. For example, rather than treating a single symptom, clinicians may be able to target several symptoms within a cluster and minimize the need for women to take multiple medications. These findings may support future intervention studies that target multiple co-occurring symptoms and symptom clusters.

#### **481**

### **DO STEROIDS AND ANTIEMETICS CONTRIBUTE TO ACCIDENTAL FALLS IN THE HOSPITAL?**

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Bone marrow transplant (BMT) has been used since the 1970's as a treatment option for hematologic and solid tumor malignancies. Poly pharmacy is common in BMT, but it is the RN administering the medications

that can identify potential injury to the patients from the side effects. Current literature suggests that the use of opioids, diuretics, benzodiazepines, and sedatives contribute to increased fall risk in all patients. These medications are considered standard of care in many cancer treatment plans. The purpose of this study was to distinguish trends in medications, symptoms, or side effects that would help the nursing staff to identify BMT patients at increased risk for falls in the hospital setting. An IRB approved, retrospective chart analysis was conducted on 30 BMT patients that experienced a fall occurrence at a comprehensive cancer center. The study participants were collected after identification in the incident reporting system. Only BMT patients who experienced a fall while hospitalized were included. The data was extracted from the medical record; type of transplant, demographic information, medication dose, time, and route, nursing narratives surrounding the event, and physical therapy recommendations. An excel spreadsheet was used to aggregate the data. Results showed that 70% of the patients who fell received an allogeneic BMT and required long term high dose steroids. Graft versus host disease (GVHD), a common side effect of allogeneic transplant, of the GI tract was present in 71% of these patients. An aggregate of 151 diverse medications were administered to the 30 patients totaling 593 discrete administrations. The medications administered most often were adrenal glucocorticoids and antiemetic's. Adrenal glucocorticoids are known to cause musculoskeletal weakness upon medication taper, specifically in the pelvic and shoulder girdle. Anti-emetic's are also known to cause considerable side effects contributing to increased fall risk. Traditional fall risk scales may not distinguish the quantifiable risk identified in this preliminary study. Particular attention should be paid to medication side effects and the potential for muscle weakness in the BMT population. Nurses should be aware of the increased risk for falls when a combination of adrenal corticoids and anti-emetics are administered to this population.

**482**

#### **A CROSS-SECTIONAL RETROSPECTIVE STUDY OF COLORECTAL/ANAL CANCER PATIENTS IN A FEMALE SEXUAL MEDICINE AND WOMEN'S HEALTH PROGRAM**

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Sexual dysfunction is common in female survivors of colorectal/anal cancer. Long-term treatment sequelae can affect sexuality, bladder/bowel function, and overall quality of life (QOL). Symptoms may include vulvovaginal dryness/discomfort, leading to dyspareunia. There is limited literature on sexual health related to colorectal/anal cancer. Nurses should be aware of and have the ability to address the symptoms of these patients. The purpose was to evaluate patient-reported outcomes (PROs) and pelvic exam characteristics of women with a history of colorectal/anal cancer treated at a Female Sexual Medicine & Women's Health Program (FSMWHP). A limited waiver of authorization was obtained to evaluate the medical records and FSMWH clinic assessment forms (CAFs) of 99 women with colorectal/anal cancer from 01/2012-07/2017. The CAF consists of a pelvic exam checklist, measures of sexual function (Female Sexual Function Index [FSFI] and Sexual Activity Questionnaire [SAQ]), measures of vulvovaginal health (Vaginal Assessment Scale [VAS] and Vulvar Assessment Scale [VuAS]), and questions regarding feelings, experiences, and concerns with sexual-promotion strategies. Descriptive statistics were calculated using SPSS. Our cohort consisted of patients with colon (n=9), rectal (n=49), or anal cancer (n=41) diagnosed from 1989-2015 (mean age, 48 years; range, 18-77). On average, patients were seen 3 years from diagnosis (range, 9 months-9.5 years). Ninety-five percent (94/99) were treated with radiation; 30% (21/99) reported current sexual activity. The primary reason for not engaging in sexual activity (SAQ) was a physical issue (54%); 98% (88/90) scored <26.6 on the FSFI (mean, 10.5; median, 8.0), indicating sexual dysfunction; and 48% (39/82) were not confident about future sexual activity. Of those engaging in sexual activity, 85% (18/21) had mild-severe dyspareunia (VAS), 67% (56/83) had mild-severe vaginal dryness (VAS), and 60% (44/73) had mild-severe vulvar dryness (VuAS). On exam, 67% (44/66) had pain, 54% (30/56) had mild-severe vaginal atrophy, 40% (21/54) had fecal incontinence, and 47% (27/58) had urinary incontinence. Women's health and sexuality concerns are prevalent among this patient population. Cancer treatment can affect many aspects of women's sexuality, including confidence, dyspareunia, incontinence, and tissue quality. These concerns may be

ameliorated with simple vulvovaginal health promotion strategies. Early counseling regarding HPV and genetics may play a role in reducing associated cancer risks. Early education and nursing intervention is critical to improve QOL and survivorship.

**483**

### **FATIGUE, PSYCHOEMOTIONAL FACTORS AND BIOCHEMICAL FACTORS IN WOMEN SUBMITTED TO MASTECTOMY**

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Mastectomy is commonly the primary treatment for breast cancer and has fatigue as one of the most prevalent postoperative side effects. Factors related to the development of fatigue have been investigated, including the evaluation of several biochemical factors. However, current researches are limited in their representation of patients undergoing surgery. The objective is to evaluate the correlation between fatigue and psychoemotional (anxiety, depression and stress), and biochemical factors (erythrocytes, hematocrit, hemoglobin, leukocytes, segmented platelets, insulin, fibrinogen, DHEA-S, DHEA-S, C-reactive protein, TNF- $\alpha$ , serotonin, plasma cortisol, HDL and total cholesterol) among women with breast cancer undergoing mastectomy. Longitudinal, prospective study that included 40 women with breast cancer undergoing surgical treatment (mean age: 53.1  $\pm$  14.3 years, 62.5% brown or black skin color, schooling: 8.0  $\pm$  4.4 years, 67.5% postmenopausal). The patients were evaluated in the pre (average 2 hours prior surgery) and postoperative (average 10 days after surgery) period using valid and reliable scales for the assessment of fatigue, anxiety, depression, and stress. Blood samples were collected for analysis of biochemical factors. Bivariate and multivariate analyzes tested the relationship between postoperative fatigue and sociodemographic, clinical variables and expression of biochemical markers. Most women were submitted to radical mastectomy (55.0%) and received no neoadjuvant treatment (70.0%). The fatigue experienced by the patients increased significantly from preoperative to the postoperative period (2.5 versus 4.1,  $p < 0.001$ ), and the change was observed in all of fatigue's dimensions: behavioral, affective, sensorial and cognitive. Depression (4.8 versus 6.7,  $p = 0.016$ ) and stress (23.5 versus 28.2,  $p < 0.001$ ) also increased

significantly. Mean anxiety score did not change significantly. There was a significant increase in the postoperative period of platelets, interleukin-6, plasma cortisol, insulin, fibrinogen, C-reactive protein, and TNF- $\alpha$ . There was significant decrease for hemoglobin, erythrocyte, and hematocrit. The multivariate analysis suggested depression and TNF- $\alpha$  as variables positive and significantly correlated with postoperative fatigue. Fatigue positively and significantly correlated with elevated levels of TNF- $\alpha$  and depressive symptoms. Research is needed to test interventions for TNF control and strategies to better cope with depressive symptoms.

**484**

### **IDENTIFICATION AND MANAGEMENT OF MENTAL ILLNESS AMONG ETHNICALLY DIVERSE CANCER SURVIVORS: A RETROSPECTIVE ANALYSIS OF BREAST, COLON AND LUNG CANCER PATIENTS TREATED AT A MIDWEST SAFETY NET HOSPITAL BETWEEN 2010–2015**

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Research has shown that mental illness among cancer survivors can affect treatment regimens, symptom management, outcomes and quality of life. Disparities such as gender, ethnicity, socioeconomic status and history of substance use can impact these further. NCCN guidelines recommend a combination of psychotherapy and pharmacologic intervention to address mental illness. This study aims to identify the rate of mental illness among cancer survivors, the correlation with ethnic disparities, clinician adherence with national treatment recommendations, and the role of nursing to identify cancer patients at higher risk. A retrospective analysis was conducted at Hennepin County Medical Center in Minneapolis, MN through a review of the electronic health records, through EPIC medical database, of patients diagnosed with breast, colorectal, or lung cancer between 2010–2015 ( $n=332$ ). Demographics, substance use, cancer diagnosis, mental illness diagnoses, and recommended treatment modalities were assessed. The majority of patients were older ( $M=62$ ,  $SD=12$ ), female (70%), had breast cancer (43%), a documented history of substance use (75%), and reported medical insurance through a public payer (81.6%). Nearly half identified as a minority race (49%). A third of patients

(n=124) were reported to have developed a mental illness following their cancer diagnosis (33%,  $P=0.02$ ). Of this group the majority identified as Black/African American (49%) and a notable portion were not offered comprehensive care according to NCCN Survivorship guidelines on anxiety, depression, and distress management (38%). There was no consistently documented screening tool utilized to diagnose patients with a mental illness. This study shows an increased risk of developing mental illness following a cancer diagnosis among patients who identify as a minority. Incidence is further increased among those with a history of substance use. While national guidelines were recommended for many, there were many who did not receive best practice care. Increased education surrounding mental illness and treatment recommendations would benefit patients, families, and nurses in oncology clinics that serve an ethnically diverse population. Oncology nurses could be utilized to screen patients to identify those at an increased risk for mental illness earlier in their trajectory of care. This could potentially lead to earlier management of their mental health needs, and subsequently improve outcomes and quality of life.

**485**

### **ENDOCRINE THERAPY SYMPTOMS AND QUALITY OF LIFE IN CANCER SURVIVORS**

**So-Hyun Park, PhD, ANP-BC, RN, Hunter Bellevue School of Nursing, City University of New York, New York, NY; Tish Knobf, PhD, RN, AOCN®, FAAN, Yale University School of Nursing, New Haven, CT; Sangchoon Jeon, PhD, Yale University School of Nursing, New Haven, CT**

Adjuvant endocrine therapy with aromatase inhibitors has shown to improve disease-free survival and overall survival for postmenopausal women with hormone positive breast cancer and has become standard treatment. However, musculoskeletal symptoms has resulted in some women to discontinue the therapy and there is a need for effective management to promote adherence and maintain optimal quality of life. The aim of this study was to describe symptoms and quality of life in cancer survivors on adjuvant endocrine therapy compared to women who did not receive endocrine therapy and evaluate the effect of exercise on symptoms and quality of life. The design was a randomized controlled trial. The setting was an aerobic-resistance exercise intervention group at gym compared to home based health promotion physical activity group. Peri-menopausal and early postmenopausal female cancer survivors were selected

through two hospital cancer tumor registries. A total 672 women were screened for the study, 308 women were eligible and 154 women enrolled. Participants were predominantly white and over the age of 50 years. Most participants were diagnosed with breast cancer. Type of endocrine therapy was documented and symptoms were measured by Breast Cancer Prevention Trial Symptom Checklist and Functional Assessment of Cancer Therapy-Endocrine Subscale. Quality of life was measured by Functional Assessment of Cancer Therapy-General and The Short Form-36 Health Survey. Data were collected at baseline, 6 and 12 months. Main Research Variables: Menopausal and endocrine therapy related symptoms, quality of life. There was no difference in symptoms by type of endocrine therapy group or by exercise group. In contrast for quality of life, participants on aromatase inhibitors in the aerobic-resistance exercise intervention reported significant improvement in social and functional well-being and better quality of life compared to the health promotion group. Findings were similar to previous large clinical trials in that no significant differences were found for endocrine symptoms and quality of life by type of endocrine therapy. However, exercise has the potential to improve outcomes for women on aromatase inhibitors. Exercise has established efficacy for patient outcomes such as cardiovascular fitness, fatigue, weight management, and quality of life and may provide better quality of life for women who take aromatase inhibitors as adjuvant therapy.

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## **RESEARCH POSTER SESSIONS—SATURDAY**

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**486**

### **EXPERIENCE OF COGNITIVE DEFICITS FOLLOWING CHEMOTHERAPY FOR BREAST CANCER**

**Eunyoung Park, PhD, RN, PMHNP-BC, Chungnam National University, Daejeon; Mijung Kim, MSN, RN, Chungnam National University, Daejeon; Miae Park, RN, Chungnam National University, Daejeon; Misoon Song, MSN, RN, Chungnam National University, Daejeon; Mi Sook Jung, PhD, RN, Chungnam National University, Daejeon**

Cognitive deficits, neurocognitive side effects of chemotherapy, lead to difficulties in managing daily functioning from simple to complex levels. According to the Attentional Restoration Theory, capacity of attention for neural inhibitory processing is limited and attentional demands require the overuse of attention



which may produce deficits in cognitive functioning. Neurocognitive studies revealed the occurrence of cognitive deficits in women with cancer. To our knowledge, no quantitative studies have been published to elucidate this neurocognitive issue of chemotherapy-treated women based on this theoretical framework. This study aimed to achieve a better understating on experiences of cognitive deficits with regard to cognitive demands, features of cognitive deficits, impact on daily living, and restorative activities in women treated for breast cancer. Seven women, who had received chemotherapy for localized breast cancer within a year and had perceived cognitive problems since diagnosis, participated in this study. Semi-structured face-to-face interviews were conducted. Data were analyzed through qualitative content analysis. The findings consisted of five themes: presence of cognitive demands; the first awareness of cognitive changes; unfamiliar problems which are not prepared to handle; changes in cognitive function in daily activities; restorative activities to cope with cognitive changes. There were three types of cognitive demands including informational, behavioral, and affective. Cognitive changes were experienced before, during, and after chemotherapy. Many women reported that they had never heard about changes in cognitive function which might be caused by chemotherapy. This might contribute to reducing their awareness of cognitive changes and losing opportunities of receiving proper information and services from healthcare providers. Cognitive deficits were experienced as memory problems, lack of concentration/attention, difficulties in recalling information they knew before, organizing and prioritizing what to do, and multitasking. They tried to develop coping strategies to reduce affective demands, find support to manage behavioral demands, and perform restorative activities and/or brain stimulating activities. This study provides a base for developing nursing interventions to improve cognitive function through deep understanding of experiences related to post-treatment cognitive deficits in women with breast cancer. This is a first qualitative study to investigate the phenomenon of cognitive deficits following chemotherapy for breast cancer by using the theoretical framework of inhibitory neural processing and associated components.

#### 487

### ADVANCING CARE IN THE BREAST CANCER PATIENT THROUGH AN EXERCISE, L-DEX®, AND LYMPHEDEMA EVALUATION

Julie Pederson, BSW, RN, OCN®, CBCN®, Baylor Scott & White McClinton Cancer Center, Waco, TX; Poppy

Patterson, BBA, RN, Baylor Scott & White McClinton Cancer Center, Waco, TX; Christopher Rosser, MS, Ed, RCEP, Baylor Scott & White McClinton Wellness Center, Waco, TX; Sheila Hunt, BA, RN, CEN, OCN®, Baylor Scott & White McClinton Cancer Center, Waco, TX; Tyler Hollingsworth, PT, DPT, CLT1, Baylor Scott & White McClinton Cancer Center, Waco, TX; Andrew Wisniewski, CEP, Baylor University, Waco, TX

Approximately 255,180 women will be diagnosed with breast cancer in 2017. Most will have sentinel node and/or axillary node sampling. Obese women with breast cancer have an approximately 30% increased risk of recurrence. The same factors increasing cancer risk might also help promote recurrence. Increasing evidence indicates a nutritionally sound support program combined with exercise, might delay or eliminate cancer recurrence while decreasing fatigue and improving mood. However, fear of lymphedema poses a barrier to exercise participation among breast cancer survivors. A multidisciplinary team developed a collaborative support program to determine the influence of structured exercise on physical fitness and lymphedema in the affected arm of breast cancer patients with axillary and/or sentinel node resection. Twenty breast cancer patients completed six bi-weekly exercise and nutrition classes and participated in 30–40 minutes of aerobic exercise at low- to-moderate intensity, 15–20 minutes of upper/lower body resistance training, and core exercises. Bioimpedance spectroscopy (L-Dex®), four points of arm circumference, weight, and grip strength were measured at baseline, three, and six weeks. A six-minute walk test (6MWT), hemodynamic responses, and patient-reported energy levels were measured at baseline and six weeks. Data was analyzed using analysis of variance with post-hoc follow-up for significant findings (was set at  $p < 0.05$ ). Right ( $p < 0.0001$ ) and left wrist ( $p = 0.023$ ) and right forearm ( $p = 0.029$ ) circumferences were significantly less at three weeks, with no significant differences between baseline and six-week measures. L-Dex® remained unaltered from baseline to six weeks ( $-1.2 + 0.7$  vs.  $-0.05 + 1.0$  L-DEX units;  $p = 0.396$ ). Body weight ( $189.3 + 10.1$  vs.  $190.6 + 10.6$  lbs;  $p = 0.334$ ), handgrip ( $26.2 + 0.9$  vs.  $26.0 + 0.5$  lbs;  $p = 0.737$ ), and distance remained unchanged with the six week program ( $1597.8 + 61.0$  vs.  $1685.3 + 54.8$ ,  $p = 0.075$ ). Patient-reported energy levels improved from  $2.8 + 0.2$  to  $3.7 + 0.1$  ( $p = 0.0013$ ). Initiating a program of consistent low-to-moderate intensity aerobic and strength exercise improves patient-reported energy levels without inducing lymphedema in breast cancer patients with node dissection. These findings have

resulted in an ambulatory cancer center-wide effort to enroll breast cancer patients in evidence-based cancer rehabilitation programs, helping reduce fear and increase physical activity participation.

**488**

### **“FINDING YOUR NEW NORMAL”: THE AYA WITH CANCER**

**Kimberly A. Pyke-Grimm, RN, CNS, Lucile Packard Childrens Hospital Stanford, Stanford, CA; Roberta Rehm, RN, PhD, FAAN, UCSF School of Nursing, San Francisco, CA**

While undergoing diagnosis and treatment, the AYA with cancer must continue to navigate the complex tasks of development. They are faced with the daily impact that cancer has on their lives and managing treatment side effects. Interruptions in school, social isolation from friends, activity restrictions and the effects of therapy all coalesce to upend their normal routine. The intensity of their treatment and concomitant social isolation puts AYAs with cancer at risk for psychological stress. The purpose was to explore, from the perspective of the AYA with cancer, their experiences with treatment decision making. Methods: Focused Ethnography within the sociologic tradition informed by symbolic interactionism. Semi-structured Interviews and informal participant observation were conducted. Interviews took place at two quaternary pediatric oncology programs in the western United States. Although interviews focused primarily on decision making, unanticipated findings were the AYAs' view and management of their lives within the context of cancer. Thirty-one interviews were conducted with sixteen AYAs (9 males, 6 females and 1 non-binary) between the ages of 15 and 20 years. They were receiving active therapy and had experienced a major cancer treatment decision. Categories identified related to their new way of being and centered around not being able to do what they used to do, changing interpersonal relationships and living with uncertainty. They retreated to family who provided strength, support and advocacy. Participants described a variety of responses to cancer, and how they decided which activities to participate in, or which to avoid. They sometimes felt like a burden to others and described missing out on normal activities. They missed school and socializing with friends. Social media helped them to stay connected with friends. AYAs were aware of the impact of cancer on their lives, exhibited resilience and utilized strategies to manage and minimize these effects. Providing a supportive role, being sensitive to the

AYAs' needs, helping them to identify and mobilize existing resources and become empowered is critical. This should, in turn, facilitate feelings of control and self-efficacy. Future research is needed to focus on developing and implementing interventions that will enable AYAs to feel less isolated and facilitate their adjustment to their new normal.

**489**

### **PALLIATIVE CARE UTILIZATION IN CHRONIC ILLNESS COMPARED TO CANCER: A SYSTEMATIC LITERATURE REVIEW**

**Renate Repele-Bailey, BS, BA, RN, OCN®, CMSRN, Maine Medical Center, Portland, ME; April Maguire, BS, RN, Martin's Point Healthcare, Portland, ME**

Palliative care has primarily been associated with oncology; however it can be beneficial in other serious illnesses. Chronic conditions constitute the leading causes of death worldwide. Aging populations, increased longevity and medical advances suggest high prevalence of chronic conditions in the future. No literature review was found investigating the differences in palliative care quality and utilization in patients with cancer compared to chronic conditions. The purpose of this systematic review is to critically appraise the literature on the utilization and quality of palliative care in cancer compared to non-cancer populations. A search of CINAHL and MEDLINE databases was conducted using keywords: chronic disease/illness, cancer, palliative, hospice, and comfort measures, resulting in 1841 studies. Inclusion criteria were: published from 2011 to 2017, English-language, adult human participants. Studies were excluded for not meeting these criteria: original research, quantitative design, cancer and non-cancer populations, palliative care utilization and/or quality. 11 studies were analyzed based on addressing our research question—whether differences exist in utilization and quality of palliative care when comparing cancer and non-cancer populations. Using a standardized tool, authors independently appraised the articles, reached consensus and developed a summary table. Differences in utilization and quality of palliative care were found between cancer and non-cancer populations. End-of-life communication and referrals to palliative care are introduced late and less often in chronic disease populations. Hospitalizations occur more often, last longer, and ICU is utilized more at end-of-life in chronic disease populations than cancer. Differences in treatments and goals of care were found, with cancer patients more likely to receive opioids and sedatives with focus on palliation, while chronic

disease patients more likely to receive inotropic medications, mechanical ventilation, invasive procedures with focus on life-prolongation/cure. Results of this systematic review highlight reduced quality and underutilization of palliative care in chronic disease populations compared to cancer. With comparable levels of distress at end-of-life patients with chronic diseases may benefit from early palliative care. Drawing from oncology, clinician education on palliative care and difficult conversations is needed. Standardized care plans, pathways and palliative-care screenings may provide quality care for these patients. More research investigating palliative care strategies in chronic disease populations is needed.

#### **490** **PALLIATIVE CARE NEEDS OF YOUNG AND MIDDLE AGE ADULTS (20–59) WITH CANCER: A PILOT STUDY**

**Mary Anne Hales Reynolds, RN, PhD, ACNS-BC, Weber State University, Ogden, UT**

The purpose of this descriptive pilot study was to explore and describe the palliative and supportive care issues and needs of young and middle age adults (20–29) with a potentially life limiting cancer diagnosis. Specifically, this study examined perceived changes relating to quality of life and functional status since diagnosis. A convenience sample of 8 oncology patients completed a demographic survey and two questionnaires relating to quality of life and functional health status. In addition, they were asked seven open ended structured survey questions relating to personal descriptions of quality of life, available resources, and personal understanding of palliative care. Quality of Life Dimensions are significantly impacted with this population including physical, psychological, and social factors. Several reoccurring themes associated with their age and diagnosis also emerged including delayed diagnosis, employment and financial issues. The majority of this population lives in rural communities and has limited access to resources. Finally, none of the participants could accurately describe palliative care and only 15% had been introduced to palliative care services while being treated for their cancer. The majority (80%) of this population lives in rural communities. They are being treated in outpatient oncology centers in an urban setting and then returning to their families and communities and health care providers with limited palliative care resources. All dimensions associated with quality of life are impacted by the diagnosis of cancer for a young and middle age adult. Palliative

care is a resource that could help address some of these needs. Clearly for this population, palliative care is not being well communicated or integrated in this primarily rural young cancer population. The results from this study provide valuable information and direction for planning competent palliative and supportive care to this unique cancer population.

#### **491** **FACTORS ASSOCIATED WITH GENETIC TESTING FOR HEREDITARY BREAST AND OVARIAN CANCER SYNDROME (HBOC): AN INTEGRATIVE REVIEW**

**Kathryn Robinson, MHA/Ed, RN, Northeastern University, Boston, MA; Meghan Underhill, PhD, APRN, AOCNS®, DFCI, Boston, MA**

Breast cancer susceptibility gene mutations, most commonly mutations in BRCA1/2, are important factors in identifying hereditary breast and ovarian cancer risk. Among the general population, the prevalence of BRCA1/2 mutations are 1 in 400 (BRCA1) to 800 (BRCA2), and 1 in 40 among those of Ashkenazi Jewish descent. The risk of developing breast cancer by age 70 is 45% (BRCA2) to 65% (BRCA1), and in men by the age of 80 by 8.9%. Risk for ovarian cancer by age 70 is between 17% (BRCA2) to 39% (BRCA1). These risks are markedly increased compared to the general population's breast cancer risk, which is around 12% for women, less than 1% for men, and 1.3% for women at risk for ovarian cancer. Genetic counseling and testing (GC/T) are considered the gold standard methods for identifying at risk individuals and families. Having the knowledge of being a carrier of an inherited mutation may impact future health-related decisions. The current rate of uptake of genetic testing in HBOC is only between 15.3% to 52.9%, indicating limitations in the current reach of genetic testing in at risk populations. The purpose was to explore factors associated with undergoing genetic testing for HBOC. An integrative review was conducted in EBSCOhost, CINAHL, PsychInfo, and Medline, as well as reference lists, from 2008 to 2017. Keywords included: HBOC, decision-making, genetic testing, breast cancer susceptibility gene, and psychosocial factors. Two independent authors reviewed all included articles. Results: 831 articles were identified, 354 full articles were reviewed, and 20 articles were included. Articles that met inclusion criteria consisted of: eight qualitative, nine quantitative, and three mixed methods. Overall, findings demonstrate that the decision to undergo genetic testing is influenced by social-ecological factors from the individual,

familial and health system level. The importance of the dynamics of family relationships, communication among family members, personal experiences of a cancer diagnosis, cultural and gender influences, and access to care and insurance coverage were key factors in undergoing genetic testing. Findings will guide future research to understand and facilitate the genetic testing decision-making process in individuals at high risk for HBOC. Future research should include these factors in the development of decisional interventions to help at risk individuals utilize genetic testing to fully understand their cancer risk.

492

### **THE INFLUENCE OF RACE, AGE, INCOME, AND COMORBIDITIES ON OUTCOMES OF WOMEN WITH HER 2 POSITIVE METASTATIC BREAST CANCER**

Margaret Rosenzweig, PhD, CRNP-C, AOCNP®, FAAN, School of Nursing, University of Pittsburgh, Pittsburgh, PA; Amin Khan, Student, University of Pittsburgh School of Nursing, Pittsburgh, PA

Nationally, there is a 12 point 5-year racial (Black/White) breast cancer survival disparity. Increasingly this survival disparity is attributed to racial differences in breast cancer subtypes with diminished focus on potential etiologic social determinants of health. In order to control for tumor subtype influence, we utilized a large database of women with metastatic breast cancer (MBC) and matched tumor subtypes between races to more specifically explore: The racial differences in income, co-morbidities, incidence of hypertension and overall MBC survival among women with (Her 2 positive) MBC overall and then specifically for women over age 50. Among a cohort of 1400 patients with MBC (1999–Present), Her 2 positive Black patients were identified and matched 1:2 to White Her 2 positive patients for age (within 5 years), ER status and MBC diagnosis date (divided by three into 6 year intervals). Outcomes determined at MBC diagnosis: 1) Income - US Census zip code's median income, 2) co morbidities - Simplified Co morbidity Score (SCMS) (0–20); 3) hypertension (HTN); Yes/No. Patients were categorized by age as a dichotomous variable (under 50 and 50 and above). Comparison of means utilized Chi square and t test. For the entire cohort there were N=24 Black patients; N=48 White. Black patients overall had significantly worse annual income (\$42.5 vs. \$64.1;  $p=.000$ ), co-morbidity scores (6.82 vs 2.73;  $p=.001$ ), more HTN (70% vs. 20%;  $p=.000$ ) and worse survival (33.8 months vs. 48.2 months;  $p=.094$ ). Specifically for older patients (age

50 and older), Black (n=18) vs. White (n=35) racial differences in income, co morbidities and HTN were disparate yet similar to entire cohort. Survival was dramatically (27.9 months vs. 50.1 months), significantly ( $p=.001$ ) worse for Her 2 + black patients when diagnosed with Her 2 + MBC at age 50 or above. Survival for this small cohort of Black women with Her 2 positive MBC is significantly worse than for a matched (age, ER status and time of MBC treatment) White cohort, worsening with older age at diagnosis. These findings indicate that biologic differences in tumors are not the only reason for MBC survival disparity. Income and co-morbidities including hypertension may be important causative etiologies of racial survival disparity among women with Her 2 + MBC.

493

### **NURSE ATTITUDES TOWARDS RESEARCH AT A LARGE RESEARCH CANCER HOSPITAL**

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The purpose of our study was to explore attitudes of oncology nurses working at a large academic medical center towards research. This study replicates others performed at large academic medical centers, but never before done at a large research-intensive Comprehensive Cancer Center. Understanding nursing attitudes towards research is a large step in closing the gap between current practice, utilization of best practices, and active participation in research by our bedside clinicians. Attitudes of nurses towards research and subsequent programmatic development may be particularly vital for supporting the translation of research into optimal patient care. This study is a one-time quantitative, observational study. Registered Nurses, in all roles and levels within the organization, approximately 1528 nurses, were approached and asked to complete an online survey about nurses' attitudes and perceptions about research. The survey consists of 4 scales, demographics, attitudes towards research, involvement in research and perceptions of institutional support for research. Descriptive statistics and relationships between variables are expected to support our hypothesis: We anticipate that our results may generally replicate those of other large academic medical centers to some degree, but because we are a NCI Comprehensive Cancer Center we think our nurses may have a more positive attitude about

research. However we do expect to see barriers to involvement in research related to direct patient care responsibilities and institutional resources for nursing research. Our results will guide development strategies to grow our Oncology Nursing Research Program by understanding our nurses' knowledge, attitudes and barriers to involvement in ongoing research at our institution. Attitudes of nurses towards research and subsequent programmatic development may be particularly vital for supporting the translation of research into optimal patient care.

**494**

### **SYMPTOM MANAGEMENT BARRIERS IN PATIENTS WITH ADVANCED CANCER IN RURAL AREAS**

**Seyedehtanaz Saeidzadeh, MSN, University of Iowa, College of Nursing, Iowa City, IA; Stephanie Gilbertson-White, PhD, APRN-BC, University of Iowa, College of Nursing, Iowa City, IA**

Oncology Associated Symptoms and Individualized Strategies (OASIS) is an educational intervention that was designed to help patients with advanced cancer in rural areas manage their symptoms more effectively. Symptom management education can help patients with cancer improve their ability to manage their cancer-related symptoms. The representational approach (RA) to patient education is a theoretically based method that has been used in symptom management and other educational interventions. OASIS uses the RA to help clinicians and patients identify misconceptions, barriers, and knowledge gaps related to cancer symptom management. The purpose of this pilot study was to describe the barriers, misconceptions, and knowledge gaps related to symptom management identified in participants of the OASIS intervention. The intervention is delivered via a videoconferencing platform through which clinicians meet weekly with patients for eight weeks. RA was used as a framework to guide their discussions and help participants identify the misconceptions, barriers, and knowledge gaps. Clinician's meeting with participants are recorded, and transcribed verbatim. Clinicians also document a summary of each visit on an After-Visit Summary (AVS). The transcribed visits and AVS documents were analyzed using descriptive qualitative approach to identify the major barriers, misconceptions, and knowledge gaps faced by advanced cancer patients. Eight patients were recruited in this pilot study. The sample was 50% females. The symptoms experienced were fatigue (n=4), constipation (n=1), pain (n=3), nausea (n=1), neuropathy (n=3) and depression (n=1).

Barriers toward symptom management were mainly related to "communicating with the oncologists", and "effective use symptom management strategies". The main misconceptions were related to "taking medications", "symptom management perception", and "following clinician's recommendation". Finally, the major gaps were related to "symptom cause", and "applying symptom management strategies". Patients with advanced cancer have significant barriers, misconceptions, and gaps towards symptom management that can influence their engagement in symptom management. These results are consistent with other symptom management education research. The results from this pilot study can be used for designing effective symptom management interventions specific to the needs of patients in rural areas. The barriers, misconceptions, and knowledge gaps related to symptom management in rural cancer patients has not been described.

**495**

### **MORAL DISTRESS IN ONCOLOGY NURSES' PROFESSIONALS: A MIXED METHODS STUDY**

**Maiara Santos, RN, MSN, PhD, University of Sao Paulo School of Nursing, São Paulo; Ana Paula Neroni Saura, RN, University of Sao Paulo School of Nursing, São Paulo; Izabel Chagas Valota, RN, University of Sao Paulo School of Nursing, São Paulo; Regina Szylił, RN, MSN, PhD, University of Sao Paulo School of Nursing, São Paulo; Ana Lucia Siqueira Costa Calache, RN, MSN, PhD, University of Sao Paulo School of Nursing, São Paulo**

The phenomenon of moral distress has been constantly explored in the literature since the its definition. Considering the continuing exposure of nursing professionals to the poorly adaptive psychological responses related with care, associated with gaps in the literature of moral distress in the context of oncology, this study was proposed aiming to understand the occurrence of moral distress in nurses' professionals. The final objective was to construct a theoretical model of nurses' experience about the phenomenon of moral distress. This study used the explanatory sequential model of the mixed methods approach, which is composed of two phases in sequence: first a quantitative study was held, followed by a qualitative phase. In the first phase, quantitative hypotheses encompassed the association of moral distress with characteristics of nursing professionals in the context of oncology, as well as with consequences for health as outcome. The Moral Distress Scale-Revised, the Malash Burnout Inventory and the Stress

Symptom List was used. The qualitative phase aimed to elucidate the results obtained in the first quantitative phase, helping to explain the phenomenon in a broader way. Focus groups and semi-structured interviews were conducted based on Symbolic Interactionism and Grounded Theory. The analysis of the questionnaires data used Pearson's correlation test to verify the correlations. The qualitative data analysis involved the transcription, reading and re-reading of data, codification and categorization for the formation of themes. The results showed that moral distress was significantly associated with severe burn-out and stress symptoms, evidencing consequences for the health of nursing professionals in the context of oncology. Qualitative analysis allowed to identify three categories linked to the process of the occurrence of moral distress: Practicing moral agency; living moral distress situations and experiencing moral resilience. The synthesis of these categories formed the central category: Moral Distress and its duality in strengthening or weakening nurses to care of oncology patients. The quantitative and qualitative findings from the two phases of the study allowed a broader comprehension of the phenomenon of moral distress in oncology nurses. Implications and recommendations include interventions in clinical setting as a mechanism to strengthen nurses to care of patients with cancer and their families and to prevent psychological distress as consequence of therapeutic obstinacy and the provision of futile care.

496

#### **A NOVEL ONLINE NAVIGATION PROGRAM: PATIENT HELPLINE FOR SELF-ADVOCACY**

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Oncology navigation reduces barriers to cancer care, and improves patient engagement and participation in clinical trials. Yet, geographic location limits patients' physical access to care and patients can be confused about their options as navigating healthcare systems can be challenging. Patient navigation is not universally provided nor understood despite growing evidence of value. Within navigation services, variations may affect patient care. Critical factors facilitate empowerment and self-advocacy through the cancer continuum. A navigation framework for oncology clinical trials was

created at HRI by employing the Oncology Nursing Society Nurse Navigation Core Competencies. A virtual Navigation Helpline includes telephone triage and can be accessed regardless of location, which can result in patient cost savings. Nurse Navigators provide patient education, care coordination, and referrals, to promote self-advocacy in the cancer journey. Navigation improves outcomes, yet more research is warranted to fully evaluate its effectiveness on mitigating barriers to care. HRI conducted research on its Navigation Program to examine effects on patient care. The study was guided by a mixed-methods approach, with a key research question: How effective is the Navigation Program in providing critical factors (e.g., care coordination, education, and referrals) to promote self-advocacy along the cancer continuum? Quantitative and qualitative (survey) data was collected. This mixed-methods approach provided a more complete account of patient experiences navigating their cancer journey. The survey, created internally, adapted items from the Patient Self Advocacy Scale (PSAS) and utilized Hagan's research. Program specific items focused on patient experience, self-advocacy, and coordinated care. The instrument was subject to inter-rater reliability, content validity, and reliability analysis. Baseline data showed only 20% agreed that referrals were made, and only 29% of patients understood their diagnosis (barriers to care). Current data shows that after Navigation, 58% agree referrals are scheduled, 84% better understand their diagnosis, and 82% agree "coordinated cancer care is comprehensive" is supportive to care. 83% are better able to make informed decisions about their cancer care, and 81% are more motivated to manage their care in the cancer journey. This model Navigation Program can be replicated in other health systems to coordinate cancer care, and provide education and referrals to promote patient self-advocacy.

497

#### **BACK TO BASICS: AN INNOVATIVE APPROACH TO IMPROVING THE PRACTICE OF STAFF COMPLIANCE REGARDING HAND HYGIENE**

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Hand hygiene is the single most important intervention to prevent transmission based infections (CDC). Infections can complicate an oncology patient's road to recovery and could result in death. Nurses and other healthcare providers need to look at their hand hygiene practices to help reduce the risk of infections. There has been a rise in our hospitalized patients

contracting *Clostridium difficile* and other harmful infections while being hospitalized. Therefore, going back to the basics of hand washing is vital. There are many different ways we can look at improving this. Medical professionals need to be conscious of the how and when hand hygiene is being performed. The goal of this project is to increase awareness and staff compliance regarding hand hygiene. Monitoring hand hygiene and PPE compliance through audits is important and identifies what constitutes correct hand hygiene and identifies performance gaps. Hospital leadership then provides coaching techniques based on audit results to keep consistent messaging to staff that are being observed. A committee comprised of leadership and staff nurses evaluated hand hygiene data, previous auditing process, and compliance rates. As an organization, a decision was made for leadership to perform audits to promote the importance of hand hygiene. Leadership will be responsible to round on specific units, observe nurses perform hand hygiene, and collect pertinent data. The nursing staff entering or exiting the room will need to follow protocol for compliance. If the nursing staff does not follow the protocol, the leadership observing will critique and give real time feedback. Data is then entered into a healthcare software platform for analysis. Audits were performed on nursing staff March–July 2017. These preliminary results indicate nurses perform hand hygiene at a compliance rate of 67% for a hematology/oncology unit. Data collection is continuous and further results are pending. Previous efforts from solely nursing staff on hand hygiene compliance did not achieve desired results. Support from leadership to promote hand hygiene with nursing increases accountability and responsibility of all staff to improve overall compliance. These efforts help make hand hygiene an ‘Always Behavior’.

#### **498**

### **THE EFFECTS OF PREOPERATIVE EDUCATION ON SURGICAL BREAST CANCER PATIENT’S PSYCHO-SOCIAL DISTRESS SCORE**

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Cancer patients have multiple sources of anxiety after diagnosis, and this study was devised to determine if a preoperative education session with a nurse would help alleviate surgery related anxiety in newly diagnosed breast cancer patients. The objective is to provide measurable data indicating that preoperative teaching by nursing can decrease patient psychosocial distress/anxiety in the perioperative period. This is a

randomized study design with 2 study arms of breast cancer patients. The patients were randomized blindly to receive preoperative teaching (consisting of a teaching visit with NP) and patients that receive standard of care (with no preoperative teaching nursing visit, and standard computerized education video). To decrease bias, the same NP delivered the formalized preoperative education. Standardized anxiety scale surveys were completed, measuring anxiety at 3 different time points. 30 surgical breast cancer patients will be enrolled. The NCCN Psychosocial distress tool was handed out to the patient preoperatively in the office, preoperatively in the waiting room prior to surgery and then again postoperatively. The patients included were breast cancer patients going for surgery. The breast cancer patients with recurrence and breast cancer patients with surgical re-excision were excluded from the study to reduce bias. Assessing the impact of preoperative teaching on anxiety can have significant benefit to a patient, therefore justifying implementation of change in our current practice. If it is beneficial it can be part of a new standard of care in the breast surgery department. At the completion of the study we will statistically analyze the results. To date, based on the data from 16 patients, there was a decrease in anxiety score noted in the patients who received preoperative teaching with the nurse noted on the day of surgery. No difference was found in anxiety level at the postoperative visit. Numerous variables were noted that impacted the anxiety score, including personal stressors and cancer prognosis. With completion of the study, we hope to demonstrate that a single preoperative education session with a nurse is an effective manner to decrease anxiety of breast cancer patients during a stressful time.

#### **499**

### **TRAINING NURSES IN MOTIVATIONAL INTERVIEWING SKILLS FOR ENGAGING HOSPITALIZED PATIENTS IN FALL PREVENTION: A PILOT STUDY**

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Patient falls in hospital settings are a major safety concern, and oncology patients are at higher risk for serious injury due to disease process and treatment. Motivational Interviewing (MI) can be a highly

effective way to engage patients in their care. Empirical evaluation is needed to determine benefits of MI for fall prevention in hospital nurses' clinical work. This staff nurse-led pilot study explored effects of a structured MI training program targeting fall prevention on hospital nurses' MI knowledge and skills development. IRB approval and informed consents obtained. Funding and support provided by an internal research internship program. A pre-post design was used to evaluate MI knowledge and competence among one group of inpatient oncology nurses (n=14). Nurses received 3-hours of MI training (didactic, video scenes and role playing exercises with specific application for engaging patients in fall prevention), followed by active use of MI techniques for 6 weeks on the unit to engage patients in fall prevention. MI knowledge was measured pre- and post-intervention using an adapted MI knowledge test. MI skill competency was measured pre-and post-intervention using the Video Assessment of Simulated Encounters-Revised (VASE-R). A trained VASE-R coder, blinded to time, scored the initial and final responses. Demographic data, nurse satisfaction data and unit fall count collected. All participants were female, 79% white, 79% working full-time, 50% married/living with someone, and 64% held a BS/BA degree. Average age was 33.64 (SD=10.87). Years of nursing experience ranged <1-23 years, and years on study unit ranged <1-14 years. Three participants had previous MI training. Average number of correct knowledge answers was 7.5 (SD=1.66) of 16 at pre-training and 8.21 (SD=1.76) at post-training. VASE-R data indicated significant improvements in overall MI skills, reflective listening and eliciting change talk skills (p<.05). Participants reported MI as valuable, role-playing as helpful and desire for more practice. Patient fall counts on the unit were zero for six weeks post-intervention, which had not occurred in the previous 22 months, but then returned to baseline. Training nurses in MI skills to promote patient engagement in fall prevention was beneficial. Sustaining use of MI by nurses over time is challenging due to multiple competing demands when structured support is removed. Further research about nurses' use of MI and sustainability is warranted.

500

#### **CANCER CACHEXIA AND ITS RELATED FACTORS AMONG PATIENTS WITH CANCER: A CROSS-SECTIONAL SURVEY IN CHINA**

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Risk factors of cachexia can be detected in time through early screening and evaluation. Thus, targeted intervention can reduce or delay the occurrence of cachexia. The purpose is to understand the occurrence and related factors of cancer cachexia amongst hospitalized patients with cancer in China. A multi-center cross-sectional study was conducted with 977 patients with cancer in 10 hospitals from December 2016 to March 2017. Cancer cachexia was diagnosed in the presence of weight loss (at least 5% of body weight within 12 months or at least 2% of body weight when BMI is less than 20), and with at least three of the four listed conditions (fatigue/anorexia/anemia/low serum albumin). Patients' demographic characters, tumor types, stages, diagnosis, height, weight, blood routine, KPS scores were collected from their medical records. Symptoms were measured by ESAS scale. Multiple regression analysis was used to analyze the influential factors of cancer cachexia. We found that the incidence of cancer cachexia among our patients is 27.7%. The incidence of cancer cachexia of upper gastrointestinal tumor, head&neck tumor, lung cancer, lower digestive tract tumor, urogenital tract tumor, breast cancer are 40.4%, 37.1%, 25.9%, 22.5%, 15.2% and 10.8% respectively. Tumor types, stages, patients' age, depression (OR= 1.410), pain (OR= 1.417) are risk factors for the occurrence of cancer cachexia. High score of KPS is a protective factor for cancer cachexia (OR = 0.973). Multivariate analysis showed that the occurrence of cancer cachexia among patients with upper digestive tract tumor and head and neck tumor was 6.875 times and 4.695 times that of patients with breast cancer respectively. The occurrence of cachexia in tumor staging IV was 2.187 and 1.896 times that of in staging I-II and III. The occurrence of cancer cachexia in the age group of 60 years and over was 2.426 times that of the age group of 45 and below. Incidence of cachexia among cancer patients is high. Clinical practitioners should pay attention to early screening and assessment of the nutritional status of patients, especially those with upper gastrointestinal tumors, head and neck tumors, and in the age group of 60 years and over. Thus, patients' pain and depression ought to be assessed. Innovation: understanding the occurrence and related factors of cancer cachexia in China.

501

#### **HEALTH-RELATED QUALITY OF LIFE IN**



## **SURVIVORS OF ADOLESCENTS CANCER: AN INTEGRATIVE LITERATURE REVIEW**

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Adolescence (defined as 10 to 19 years of age) is a critical developmental period; a cancer diagnosis during this time can be associated with poorer health-related quality of life. While many studies have focused on survivors of pediatric cancer (0 to 19 years), very little research has been conducted on factors affecting health-related quality of life specifically among survivors of adolescent cancer. Identifying these factors is critical to survivorship plans for adolescents undergoing treatment or for those who have survived cancer. This integrative review examines (1) health-related quality of life status of survivors of adolescent cancer, (2) factors predicting health-related quality of life among these survivors and, (3) instruments used to measure health-related quality of life in adolescents. The Garrard Matrix Method (2014) guided the review. Electronic searches were conducted using three databases (i.e., CINAHL, PubMed, and PsycINFO) from 1990 to July 2017. Search terms included quality of life, health-related quality of life, and adolescents with cancer. We included studies that had participants who were diagnosed with cancer during adolescence, encompassed broad survivorship (from cancer diagnosis to treatment completion), and measured health-related quality of life of the adolescents. Twelve articles met the inclusion criteria. Overall, survivors of adolescent cancers reported physical and psychological health-related quality of life scores similar to or higher than healthy control groups. Risk factors for poorer quality of life include type of cancer, type of treatment, late effects, time passed since cancer diagnosis, and demographics such as age, gender, education level, and income. Factors related to better quality of life include older age, happiness, optimism, social support, the use of coping strategies and good family functioning. The Short Form-36 and the PedsQL Generic Core Scales were most often used. Protective or mediating factors such as social support and subjective feelings positively affected health-related quality of life among these survivors. These factors might be used to design interventions to improve health-related quality of life in this population. Health-related quality of life issues are included in survivorship care plans for adult survivors of cancer but not for survivors of adolescent cancer. In order to promote the best outcomes, quality of life-related needs should be considered when developing long-term survivorship care plans for survivors of adolescent cancer.

502

## **CHANGE OF BODY COMPOSITION, SYMPTOM DISTRESS AND FATIGUE IN PATIENTS WITH PANCREATIC AND PERIAMPULLARY TUMOR**

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The purpose/objective is to explore change of body composition, symptom distress and fatigue between malignant and non-malignant groups, and to explore significant factors to predict fatigue. Fatigue is a common symptom in cancer patients. Furthermore, patients who with pancreatic and periampullary tumor might suffer from different body composition, symptom distress and fatigue from newly diagnosed to active treatment between malignant and non-malignant groups. A longitudinal study design with collecting data at 4 time points (before operation to 6 months after operation). Patients who were diagnosed pancreatic and periampullary tumor and scheduled for surgery were recruited in Taipei. A structural questionnaire with demographic, clinical characteristics, symptom distress, fatigue and body composition analysis was used. The generalized estimating equation was used to explore significant factors to predict fatigue. Totally, 75 patients participated with 61% malignancy. Patients who were diagnosed with malignant had more male ( $\chi^2=5.452$ ;  $p=.020$ ) and with chronic disease ( $\chi^2=5.476$ ;  $p=.019$ ). Participants had the highest level of symptom distress and fatigue at 1 month after operation. Participants with higher level of symptom distress had higher level of fatigue ( $\beta = .052$ ,  $p < .0001$ ), whereas malignancy was not the significant factor. Symptom distress plays an important role to predict fatigue, and participants experienced the highest symptom and fatigue distress at 1 month after operation. Healthcare providers should pay attention with patients who experience higher level of symptom distress after operation, and help them to treat the symptom distress to decrease fatigue.

503

## **SARCOMA TREATMENT GUIDE—A STUDY ON HOW JOURNALING IMPACTS SYMPTOM MANAGEMENT AND COMMUNICATION IN THE SARCOMA PATIENT CANCER POPULATION**

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Oncology patients often self-monitor their cancer experience through journaling treatments, side effects, and goals. This self-monitoring data may

assist medical providers in the care of these oncology patients. Nurses and physicians can rapidly provide symptom education and management to improve their quality of life. Although other disease types have successfully demonstrated the usefulness of self-monitoring, there is a lack of efficacy data in the cancer patient population. To address this need, we developed a Sarcoma Treatment Guide (STG) to assist sarcoma patients in tracking their cancer experience as a means of more directly participating in their care. We have implemented a pilot study to assess the impact of the STG in this population. The primary objective of this trial is to evaluate whether symptom management and communication improve in chemotherapy-naïve patients who have received an STG as compared to those who have not. The comparison is measured by participant survey, changes in self-rated symptoms using a Numeric Rating Scale (NRS), and changes in symptom-related clinic calls. In a two-arm crossover design study, fifty consenting adults in the Sarcoma Medical Oncology clinic will receive an STG at predefined time points during their treatment. Participants will either receive an STG when starting four cycles of chemotherapy or will undergo two cycles of chemotherapy without an STG, then receive the STG for the remaining two cycles. Descriptive statistics will be used to compare the efficacy of these interventions. The trial is on-going and data will be available at the time of the conference. The primary analysis will focus on differences in mean survey scores between the two groups using either a t-test or Wilcoxon rank-sum test. The study is powered to be able to detect a difference of 20% among STG and non-STG groups. Among the currently enrolled 18 participants, overall compliance is high, with the majority of participants actively using the STG as indicated. We anticipate a positive trend in the use of the STG by sarcoma patients as a means to improve symptom management and in communication with oncology nursing.

#### 504

### **EVALUATING THE IMPACT OF A DATA-DRIVEN SCREENING PROCESS COMPARED TO AN ONCOLOGIST-DRIVEN PROCESS TO IMPROVE ACCRUAL IN ONCOLOGY CLINICAL TRIALS**

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Oncology clinical trials play an integral role in developing new cancer diagnosis, prevention, and treatment methodologies. Kaiser Permanente

Southern California (KPSC) serves over 4 million members. Oncology research nurses (ORN) are essential to clinical trial recruitment and operation. Low enrollment is a critical barrier in clinical trials, resulting in trial closure, delay, and increased cost. A recent study showed eighteen percent of National Clinical Trials Network sponsored protocols closed with low accrual or missed accrual targets by more than half. Evidence shows that manually screening patient records increased enrollment. The purpose is to evaluate the impact of a data-driven screening process compared to an oncologist-driven process to improve accrual in oncology clinical trials. Retrospective screening and enrollment data generated by ORNs from January 2017 to August 2017 were evaluated at KPSC in San Diego. A total of eleven oncologists and two ORNs are based in the San Diego location, with one data analyst covering the KPSC region. The data analyst generates database search algorithms based on eligibility criteria and send the report to site ORNs. After receiving referrals from the oncologists and the data analyst, ORNs manually screen the referred patients for potential trials. The total number of screenings and enrollments were calculated for each referral method. A sub-analysis was performed for the breast and lung cancer population due to a variety of open trials and disease prevalence. The number of oncologist referrals was higher than database referrals (103 vs. 69) and had a higher proportion of enrollments (16% vs. 13%). For breast and lung trials, database referrals had more potential patients (68 vs. 38) and a higher proportion of enrollment (13% vs. 8%) compared to oncologist referrals. Total enrollment consisted of 64% oncologist referrals and 36% database referrals. The use of eligibility-based search algorithms increased enrollment by 56%. Overall, the enrollment percentage was higher for oncologist referrals compared to database referrals. However, database searching appeared more effective at screening patients with common cancers such as breast and lung, because the site had many open trials and the volume of potentially eligible participants was larger. Based on the findings, ORNs in other sites should consider incorporating referrals produced from database in their screening practice.

#### 505

### **UTILIZATION OF PHYSICIAN'S ORDERS FOR LIFE-SUSTAINING TREATMENT (POLST) PROGRAM AMONG CANCER PATIENTS**

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Cancer is among the leading causes of death worldwide. End-of-life (EoL) care which focuses on the symptom management of dying patients is an important part of care that can ensure best quality of remaining lives. Advance care planning through POLST/ MOLST form offers an opportunity for dying patients to voice their EoL care preferences. It becomes a valid, transferable set of medical orders that can be honored in any medical settings. Advance Directives (AD) is a legal document of a person's wishes regarding EoL medical treatments. However, it is not easily transferable between medical care settings. Instead, POLST or MOLST (Provider / Medical Orders for Life Sustaining Treatments) is a national approach to eliminate errors, guide conversations between clinicians and the medical decision-maker. By using a POLST or MOLST form, dying patients receive a valuable opportunity for specific treatment wishes to become a part of their medical orders. The purpose of this presentation is to share the current evidence of MOLST/ POLST use in advanced cancer care settings, and to present evidence to support how use of POLST / MOSLT can improve patient outcomes. With pre-selected criteria, authors examined research articles of POLST / MOLST use in cancer care settings. Main outcomes observed were 1) the rate of out of hospital death, 2) rate of hospice utilization and 3) reduced hospital admission at the end of life. Each article was appraised for study quality. When compared with cancer patients who completed AD, patients with POLST / MOLST form had a higher rate of out-of-hospital death (86% with POLST vs. 72% with AD,  $p < 0.001$ ), and higher admission rate to hospice care (50% vs. 27% in AD users,  $p < 0.001$ ). Another study also indicated that the odds of hospice admission for patients with POLST / MOLST was nearly 3 times those of patients with ADs. Advance care planning with completion of POLST forms as opposed to ADs in patients with advanced cancer may be associated with greater achievement of two metrics for quality end-of-life care: out of hospital death and hospice admission. Goals-of-care discussion using a MOLST / POLST form may represent an actionable approach to improve end-of-life care for patients with advanced cancer.

507

### **BARRIERS TO MOBILIZING PATIENTS AMONG ONCOLOGY NURSES**

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Oncology patients are at high risk for functional decline due to cancer related pain and fatigue. Studies show that physical activity in patients with a cancer diagnosis has a positive effect on prognosis. Lack of ambulation, likely leads to further functional decline and places patients with cancer at increased risk for patient falls. Studies show that cancer patients have a higher frequency of falls and a higher incidence of injury related to falls when compared to patients without cancer. This study aimed to determine the impact of an educational intervention on improving nurses' knowledge, attitudes, and practices around patient mobilization. This study used a sample of convenience of staff nurses on an inpatient medical oncology unit. The study design was a cross-sectional identical pretest and posttest survey named The Barriers to Mobility Questionnaire. Permission was obtained from the author to use the tool for this study. IRB approval was received. The tool is a 26 question survey on a 5 point Likert scale with 1 meaning strongly disagree and 5 meaning strongly agree. The subscale was grouped into Knowledge, behavior, and attitude. Descriptive statistics and inferential statistics were used to describe the sample and compare differences between pretest and posttest survey responses. A total of 26 pretest surveys were completed and 25 nurses received the educational intervention. Post intervention 23 surveys were completed. The education intervention was tailored to address the knowledge barrier. The pretest knowledge t test mean equaled 3.4103 (neutral = 3 and agree = 4). The posttest knowledge t test mean equaled 3.5252. This shows that an education intervention is not the only method that needs to be utilized to help decrease the barriers towards mobilizing patients. There are many opportunities to influence the perceived barriers nurses have to mobilizing patients on an inpatient oncology unit. Further methods in addition to education are indicated through this study. The education in-service was nurse driven, but collaboration with other disciplines to help facilitate education is a future goal. Other methods such as a nurse driven mobilization protocol are possible options to increase the mobilization and decrease falls and deconditioning of patients.

508

### **PSYCHOSOCIAL OUTCOMES OF INDIVIDUALS WITH INHERITED PANCREATIC CANCER RISK**

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Compared to all other solid tumors, pancreatic cancer (PancCa) has the lowest 5-year survival rate, and is currently the 4th leading cause of cancer related death in the US. An average risk individual has approximately a 1.5% lifetime risk for developing PancCa. Individuals with risk related to familial or hereditary factors face up to 40% lifetime chance of developing PancCa. There are limited studies focused on the patient experience living with high risk for inherited PancCa. Through qualitative research we found that family characteristics shaped the personal experience of living with risk. The purpose was to describe relationships between self-reported personal demographics or familial characteristics and psychosocial outcomes (PROMIS® Global Health, Impact of Event Scale-R (pancreatic cancer risk related distress), cancer risk perception, and cancer worry) in participants with inherited or familial pancreatic cancer risk. A multi-site cross-sectional survey including high risk adults with no personal history of pancreatic cancer. All variables were summarized with descriptive statistics. T-test, Chi-Square/Fisher's exact test were used to assess univariate associations and backward model selection was used in multivariable analysis. Respondents (N=133) reported moderate to high frequency of cancer worry and 59.3% perceived a 50% or more perceived lifetime risk for pancreatic cancer, which far exceeds typical objective risk estimates. Cancer worry was associated with female gender ( $p=0.03$ ) and distress ( $p=0.05$ ). Higher risk perceptions were associated with having a high-school education or less ( $p=0.001$ ), higher distress ( $p=0.02$ ) and cancer worry ( $p=0.008$ ) and family cancer death experience ( $p=0.02$ ). Higher distress was associated with experience as a caregiver to a seriously ill family member in the past 5 years ( $p=0.006$ ), and females who were a caregiver in the past 5 years had higher distress than all others ( $p=0.07$ ). Individuals with inherited or familial pancreatic cancer risk experience cancer worry, distress, and have increased risk perceptions, specifically in the period following caring for a loved one with cancer. Routine evaluation of distress in this setting, as well as the development of supportive care resources, will help support patients living with risk for pancreatic cancer. Findings shed light on the needs of an understudied and vulnerable population. The study implications are focused on person-centered care within the context of personalized medicine.

509

## PERSPECTIVES OF PATIENTS AND HEALTHCARE PROVIDERS OF SYMPTOMS IN HEAD AND NECK CANCER

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Patients with head and neck cancer may experience multiple distressing symptoms, causing poor quality of life. These symptoms also convey implicit and explicit significance of the biological activity of the tumor, prognostic information, and treatment effects. Yet, perspectives of patients and healthcare providers regarding symptoms from head and neck cancer are less explored. The purpose of this study was to compare perspectives of patients and healthcare providers regarding symptoms from head and neck cancer and its treatment. The specific aims were: 1) Identify key symptoms in head and neck cancer using provider surveys and patient interviews, and 2) Compare perspectives of patients and healthcare providers regarding symptoms from head and neck cancer. The study consisted of three steps: 1) A systematic review of 123 symptom assessment measures resulting in identification of 23 symptoms; 2) surveys of 10 expert providers or researchers to rate relevance of the 23 symptoms identified from the systematic review; and 3) cognitive interviews of 15 patients with head and neck cancer to query about their symptoms. Using content validity theory, provider surveys were analyzed using modified kappa scores. Using content analysis and systematic comparison, the study team identified patient – reported symptoms. Both the patients and health care providers identified pain, eating, swallowing, cough, dry mouth, impaired communication, social isolation, and distress as key symptoms. However, patients reported dry eyes, thick saliva, impaired voice, constipation, low energy/ fatigue, and impaired sleep as additional key symptoms, whereas providers identified presence of feeding tubes, choking, and appearance as additional key symptoms. Perspectives of patients and providers of symptoms differed in that patients focused on symptoms related to self-management, prognosis, social isolation, and resilience, whereas providers' focused on symptoms related to diagnosis and treatment. Differences in perspectives of patients and healthcare providers may stem from the significance of symptoms to patients as indicators of the biologic activity of cancer or the effect of symptoms

on patients' function that requires self-management strategies. Thus, patient-centered symptom assessment may provide early detection of symptoms that are pertinent to patients' recovery and quality of life.

## 510

### ONCOLOGY CLINICAL TRIAL ACCRUAL—FROM ZERO TO HERO AT STEEPLECHASE CANCER CENTER!

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The healthcare environment is rapidly changing while complexity in research increases. Successful research efforts are impacted by numerous factors. The value of community based research has long been recognized however creating a “culture of research” in a community hospital requires leadership, engagement and a multi-disciplinary approach. One in five clinical trials for adults with cancer never finishes due to poor accrual. Nationally adult oncology trials accrue about 3 to 5% of eligible patients. This is a major barrier to progress in cancer therapy. The objective was overcoming barriers to clinical trial accrual through physician engagement, research nurse excellence and multidisciplinary approach. We instituted a multi-modality approach to recruitment at Steeplechase Cancer Center (SCC) with the focus on physician engagement. The medical director of the cancer center took an active role in highlighting clinical trials at every disease specific multidisciplinary (MDC) team meeting. Additionally research nurses' active participation and collaboration at every MDC intensified the accrual effort. Another approach is active surveillance of the physician schedules to screen all new patients for potential clinical trials. Our clinical trials accruals have jumped from 4 participants in 2007 to 300 in 2015! The therapeutic trial enrollment rate at SCCC is over 20% compared to less than 5% nationally. Additionally, we have received clinical trial accrual commendations from various accrediting bodies such as American College of Surgeons and National Accreditation Program for Breast Centers. Since the implementation of multi-disciplinary engagement, physician leadership and a dedicated research team, the accrual to clinical trials have quadrupled. Steeplechase Cancer Center has been one of highest accruing affiliate sites of Rutgers Cancer Institute of New Jersey. While the cancer center has made great strides in accrual rate, there are many more opportunities to grow the program. It

would be ideal to capitalize on the physician's electronic medical record system and automate screening of all new participants for potential trials. Another goal is to develop a clinical trial app for our physicians to make available trials easily accessible.

## 511

### A QUALITATIVE DESCRIPTIVE ANALYSIS OF THE EXPERIENCES OF BLACKS IN CANCER CLINICAL TRIALS

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Despite comprising only 13% of the United States population, Blacks have the highest incidence and mortality rates for more types of cancer. Cancer clinical trials (CCTs) offer an effective means of reducing cancer disparities among Blacks by providing an opportunity to receive high quality and novel treatment from leading healthcare providers and researchers. Yet, approximately, 9.2% of CCT participants are Blacks. Understanding the factors that influence Blacks to participate in CCTs, from the perspective of Blacks enrolled in CCTs, could increase CCT participation. The purpose was to identify and describe the patient, family member, physician, and protocol factors that Black cancer patients considered important in their decisions to participate and remain in CCTs; to use real-time cellphone interviews to understand the daily experiences of Blacks enrolled in CCTs. Real-time cellphone interviews enabled (1) focus on the Black patient-participants in the context of their psychosocial environment, and (2) Black patient-participants to provide real-time descriptions of their positive and negative experiences, and how these experiences influenced their decisions to participate and/or to remain in CCTs. A multimethod approach was used with a sample of 21 Black patient-participants. It included a qualitative descriptive design with 21 semi-structured face-to-face interviews and 45 real-time cellphone interviews, a descriptive statistical analysis of the sample's socio-demographics, and a quantitative symptom burden measure (Memorial Symptom Assessment Scale-Short Form). Patient, family member, physician, and protocol factors were important factors in decision-making related to CCTs. Black patient-participants identified

getting a second opinion, helping themselves, and helping others as important factors in their decisions to seek cancer treatment and to enroll in CCTs. Family member support was identified primarily in CCT retention. Qualities of oncology physicians influenced Black patient-participant CCT enrollment and retention: engendering trust, attentiveness, timely referrals, and willingness to provide detailed explanations of treatment options. Protocol features (targeted therapy, randomization, and additional diagnostic surveillance) motivated CCT enrollment in some patient-participants. Real-time cellphone interviews enabled capture of Black patient-participants' daily favorable and unfavorable experiences, such as interactions with their CCT team, events surrounding their CCT appointments, information shared at their appointments, and symptom burden issues that arose during their CCTs. Developing oncology nursing interventions targeting patient, family member, protocol, and physician factors may increase Blacks' CCT participation and retention.

## 512

### CROSS-CULTURAL QUALITY OF LIFE COMPARISON BETWEEN UNITED STATES AND CHINESE SURVIVORS OF RECURRENT OVARIAN CANCER

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Reduced quality of life (QOL) among recurrent ovarian cancer (ROC) survivors is a significant public health problem in China and the United States (US). Cross-cultural studies can help clinicians and scientists better understand the impact of culture on health behaviors and QOL and inform the design of culturally sensitive interventions. No publications have compared QOL between Chinese and American ROC patients. The purpose was to compare QOL of Chinese and American ROC survivors and determine whether nationality is a significant predictor of QOL when controlling for important sociodemographic (employment status, income, religion) and medical (prior chemotherapy, symptom severity, BMI) factors. Pooled sample analysis from two independent studies conducted at academic medical centers in the US and China. American patients (n=112) were selected from a larger sample to match (2:1) Chinese patients (n=56) according to age and education level (low, middle and high based on each country's

educational system). Both datasets included the Functional Assessment for Cancer Therapy–Ovarian (FACT-O) and 24 common cancer and treatment-related symptoms. Comparisons of control variables by country were conducted with t-tests/chi-square followed by separate ANCOVAs for the overall FACT and each subscale to determine the influence of nationality on QOL. Total sample mean age was 55.0±7.88 (range, 32–75), and most women had middle (51.8%) or low (28.6%) education levels. Income, employment status, religion, prior chemo, and BMI differed significantly between countries. American women reported more symptoms with higher overall severity than Chinese women. Chinese women had significantly higher overall QOL compared to American women in all subscales except for functional QOL. Country was not an independent predictor in multivariate analyses. However, there were significant country by symptom interactions for overall, functional and social QOL. Symptom severity had a more negative effect on QOL in Chinese women than in American women. Higher symptom severity was independently associated with worse physical and emotional well-being; having religion was associated with better social (p=0.003), emotional (p=0.045) and overall QOL (p=0.016); being employed was associated with better functional QOL (p=0.007). Chinese women with ROC reported better QOL on multiple domains compared to American women. Increased symptom severity has significant negative effects on QOL in women with ROC, especially in Chinese women. To improve QOL, better symptom management strategies are needed.

## 513

### ADVICE TO OTHERS SHARED BY PATIENTS WITH NON-SMALL CELL LUNG CANCER

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Patients with non-small cell lung cancer (NSCLC) experience significant distress associated with treatment and disease. It is unknown what lessons-learned patients with NSCLC might share with other patients as they make meaning of their illness experience. Understanding the patient perspective about their disease and treatment experience may suggest areas for development of interventions with the purpose

of improving the patient experience. The purpose of this study was to examine what patients with NSCLC offered as advice to others about their illness experience. This was a secondary analysis of data collected as part of a qualitative study to identify symptoms experienced by patients with NSCLC. Patients participated in single, individual, semi-structured interviews conducted by trained research staff using an interview guide. Patients were eligible to participate if they were 18 years of age or older, fluent in English, and diagnosed with NSCLC. Descriptive statistics were used to describe the sample demographic characteristics. Researchers experienced in qualitative research identified themes using descriptive exploratory analysis. Exact participant quotes describing themes were extracted. During analysis, it was noted that several participants spontaneously provided comments that they wanted to share with others based on their disease and treatment experience. Participants (n=40, mean age 66.1 years, S.D. ±10.8) and were mostly male (60.0%). Patients with NSCLC expressed 2 themes of advice to others: the importance of quitting smoking and the importance of having a positive attitude. Individuals described resources used to maintain a positive attitude, including faith in a higher power, their oncology team, support networks, and focusing on regular life activities. Patients with NSCLC shared their experience with quitting smoking because they wanted to help others. The value of giving voice to patients with NSCLC who are former smokers in motivating others to quit smoking needs to be explored further. Maintaining a positive attitude was described as an important strategy for adjusting to disease and treatment-related symptoms and demands. Evidence-based interventions are needed to enhance support and foster optimism in patients. Oncology nurses are uniquely positioned to provide support in smoking cessation programs and help patients maintain a positive attitude.

## 514

### **SYMPTOM MONITORING AND BURDEN IN AUTOLOGOUS STEM CELL TRANSPLANTATION FOR MULTIPLE MYELOMA**

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A primary oncology nursing role is assessment and management of symptoms. A study comparing efficacy of high-dose melphalan (Mel) to high-dose busulfan and melphalan (Bu-Mel) for multiple myeloma (MM) autologous hematopoietic stem cell transplantation (autoHSCT) incorporated a patient-reported outcome (PRO) measure of symptom burden. An aim of the study was to determine differences in symptoms between the two regimens. Patients were randomized to Mel or Bu-Mel. A subset of patients completed 20 symptom severity and 6 interference items of MD Anderson Symptom Inventory for MM prior to the start of the treatment and weekly for 4 weeks post autoHSCT, rating symptoms and interference on 0–10 scales (0 = no symptom/no interference, 10 = worst symptom imaginable/complete interference). Symptom severity and interference differences between the two arms were assessed by mixed modeling and compared to clinician rating of symptom occurrence. Between October 2011 and March 2017, 204 (Bu-Mel: 104, Mel: 100) patients were enrolled. At evaluation, median progression-free survival was 64.7 months versus 34.4 months ( $p=0.013$ ) in Bu-Mel and Mel arms, respectively. At least one MDASI-MM assessment was completed by 165 patients (Bu-Mel: 81, Mel: 84). Longitudinal mixed modeling showed that the Bu-Mel arm had significantly higher mean severity of the top 5 symptoms – pain, fatigue, poor appetite, disturbed sleep, and drowsiness – (ED = 3.1303,  $p<0.0001$ ) and symptom interference (ED = 2.4679,  $p<0.0001$ ) than the Mel arm during the 4 weeks following autoHSCT. Clinician symptom grading using the CTCAE v.3 showed significant differences between the 2 groups in grade 1–3 diarrhea with 57% versus 78% ( $p=0.005$ ) and grade 1–3 mucositis 96% versus 49% ( $p <0.001$ ) between Bu-Mel versus Mel patients respectively. Patient report of diarrhea was 74.7% versus 77.3% ( $p=NS$ ) and sore mouth was 68.6% and 51.7% ( $p <0.033$ ) for the Bu-Mel versus Mel groups respectively. Bu-Mel patients experience more severe symptom burden than Mel patients during autoHSCT. The benefit of longer time to progression of myeloma with the Bu-Mel regimen may offset the greater symptom burden. Monitoring with PROs is vital in developing an accurate picture of symptom burden. Oncology nurses can provide symptom management for patients on more intense regimens allowing them to achieve optimal treatment benefit.

515

### THE ROLE OF EXPECTANCY IN SUPPORTIVE CARE THERAPY USE AND SYMPTOM OUTCOMES AMONG WOMEN WITH ADVANCED BREAST CANCER

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Reflexology, an integrative therapy, can provide symptom relief but receiving regular reflexology from a professional provider may not be feasible or sustainable during cancer treatment. Delivery at home by a trained friend or family caregiver improves access to this supportive care modality, but necessitates the investigation of factors associated with its actual use, such as expectations for therapy effectiveness. The purpose was to explore therapy expectations for reflexology and resulting symptom outcomes. Women undergoing chemotherapy for advanced breast cancer (N=256) and their caregivers were recruited from 11 oncology settings in the Midwest. Patients' reflexology therapy expectancy, anxiety, spirituality and use of complementary therapies were assessed during the baseline interview, following which patient-caregiver dyads were randomized to intervention or attention control. Caregivers in the intervention group were trained to deliver standardized 30-minute reflexology sessions to patients at least once a week for 4 weeks. Measures were administered again post-interventions. Additional sessions were not restricted but tracked during the study, along with symptoms. Repeated measures of weekly reflexology use and symptom severity were analyzed using generalized linear mixed effects models. Higher therapy expectancy was associated with younger age, higher level of education, lower anxiety, higher spirituality and use of complementary therapy post-intervention. During week 1, expectancy was positively associated with completion of at least one session ( $p=.02$ ), but this association diminished over the 4-week intervention timeframe. For intervention weeks when baseline expectancy was high, greater improvement in symptoms during the previous weeks was associated with greater use of reflexology in subsequent weeks ( $p=.04$ ). This was not true when baseline expectancy was low. While use of more than one session per week was predicted by the change in symptom severity and baseline expectancy, additional sessions beyond one per week, as

required by protocol, did not have an impact on the overall improvement in symptom severity over time. Assessments of expectancy, anxiety, and spirituality can help identify patients who are likely to enact evidence-based protocol of integrative therapies such as reflexology at home. Funding: National Cancer Institute #R01 CA157459

516

### RETROSPECTIVE REVIEW OF ONCOLOGY PATIENT VISITS TO THE EMERGENCY DEPARTMENT

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In 2016, the Centers for Medicare and Medicaid Services (CMS) proposed the addition of oncology quality measures to its Hospital Outpatient Quality Reporting (OQR) Program. A specific measure, OP-35 is designed to review oncology patients' inpatient admissions and emergency department (ED) visits occurring within 30 days of receiving outpatient, hospital-based chemotherapy for one of ten conditions. The ten conditions are described as preventable and include: anemia, nausea, dehydration, neutropenia, diarrhea, pain, emesis, pneumonia, fever and sepsis. The goal of this quality measure is to reduce preventable ED visits and hospitalizations after outpatient chemotherapy and may be reported beginning in 2020. Published reviews of unplanned hospital and ED admissions after outpatient chemotherapy have reported a wide variety of presenting symptoms and diagnoses. Hospital admissions after an ED visit have been reported in as many as 50% of cases in some reports. High intensity chemotherapy regimens have been associated with both ED visits and admissions. ED visits for a diagnosis of neutropenia and febrile neutropenia have been more frequently associated with hospital admissions than other diagnoses. Baseline information on the incidence and characteristics of oncology patient visits to the ED can be used to assess current status, plan changes and maximize efficiency of cancer center services for these patients. The purpose of this study is to identify and describe ED and hospital admissions among outpatient oncology patients receiving chemotherapy in a Magnet-designated, accredited cancer program. A retrospective review of oncology patients who have received outpatient chemotherapy within 30 days of an ED visit will be undertaken utilizing medical



record information. The database of cases is derived from patient billing codes for ED encounters for the years 2011–2017. A sample of 407 oncology patients with ED visits has been identified for review. Descriptive statistics such as proportions, means, medians, and standard deviations will be used for analysis. This study is ongoing at this time. This study is expected to generate knowledge regarding utilization of the ED and hospital admission by oncology patients. Identification of the incidence and trends in these cases may provide information about current practice and may guide future initiatives to decrease ED visits and hospital admissions that may be amenable to pre-encounter intervention.

## 517

### EFFECT OF AN EDUCATION PROGRAM FOR NURSES AIMED AT IMPLEMENTING ACP FOR PATIENTS WITH CANCER IN JAPAN

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Advance care planning (ACP) is a process of discussion of care among patients, families, and medical staff with consideration of patients' values. Nurses lead ACP with coordination of interdisciplinary team. The purpose of this study is to describe the effect of an education program for nurses aimed at implementing ACP for patients with cancer in Japan. The program that was constructed of four modules was developed based on the Analysis Design Development Implementation Evaluation (ADDIE). The certified nurses of palliative care were recruited through the direct mail. Study participants were provided the educational sessions of this program in one day. The effect of the program was assessed by using the evaluation method developed by Kirkpatrick et al (1959). at three points that were before and the end of the education program, and three months later. The questionnaire included the ACP implementation assessment scale that was constructed 6 subscales that contained 37 items. Each item was scored on a 5-point Likert scale. Higher score indicates better practice. Also the scale of difficulty of nurses in care for patients with cancer were used. The scale included 20 items with 6-point Likert scale. Higher score indicates more difficulties. In addition, satisfaction of the program was asked. Wilcoxon's signed-rank test was used in order to compare the mean scores of the scales between before and the end of the program. 60 nurses participated in this study and 41 (68.3%) participants completed the questionnaire. The mean score of the subscale

of the ACP implementation assessment scale, that was "communication with patients, families, and healthcare workers" at the end of the program was significantly higher than that before the program ( $p=0.05$ ). The mean scores of the three subscales of the scale of difficulty of nurses in care for patients with cancer at the end of the program, that were "information provided from doctors to patients/families", "lack of knowledge and skills of performing the ACP" were significantly higher than those of before the program ( $p=0.028/0.025$ , and  $0.00$ , respectively). The satisfaction level of each module was  $22.9-25.2/30$  ( $SD=3.7-4.5$ ). This program enhanced the certified nurses' knowledge and skills of implementing ACP. It is necessary to provide the education program of ACP for nurses in Japan.

## 518

### ASSOCIATION AMONG PRE-OPERATIVE EXERCISE, SYMPTOM DISTRESS, FATIGUE, AND QUALITY OF LIFE IN PANCREATIC CANCER PATIENTS

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Exercise has benefits for cancer patients for decreasing the fatigue levels and improving quality of life (QoL). Nonetheless, it is still unclear whether pre-operative regular exercise behavior is a significant factor for improving QoL after operation in pancreatic cancer patients. The purpose was to explore the associated factors related to QoL and further to examine if the pre-operative regular exercise behavior was the significant factor to impact the longitudinal QoL in pancreatic cancer patients after operation. A longitudinal study was conducted to recruit pancreatic cancer patients who scheduled to operate at surgical clinics from a northern medical center in Taiwan. Data were collected 5 times: 1–2 weeks before operation ( $T_0$ ) and 2 ( $T_1$ ), 3 ( $T_2$ ), 6 ( $T_3$ ) and 12 ( $T_4$ ) months after operation by using a set of questionnaires with demographic, clinical characteristics, Fatigue Symptom Inventory, Symptom Severity Scale, and Functional Assessment of Cancer Therapy-General Scale. In this study, pre-operative exercise was defined as doing regular exercise at least 150 minutes weekly in past three months before operation. The generalized estimating equation (GEE) was used to identify significant factors with QoL after operation. A total of 75 pancreatic cancer patients participated in this study. 42.7% ( $N=32$ ) of participants who did pre-operative exercise were older ( $t=-2.645$ ;  $p=0.010$ ) and mostly

unemployed ( $X^2=8.418$ ;  $p=.004$ ). In the GEE analysis, participants with higher level of symptom distress had lower level of QoL ( $B=-.355$ ;  $P=.000$ ); whereas, there was no significant differences in post-operative QoL between the patients who regular exercised or not before operation. However, patients with pre-operative exercise had lower symptom distress and fatigue, and thus higher QoL before and after operation. In this study, we found that pre-operative exercise wasn't a significant factor to affect QoL within 6 months after operation, but symptom distress was strongly associated with poor QoL after operation. Assessing symptom distress and developing interventions to manage symptoms after operation are recommended in order to increase QoL in patients with pancreatic cancer. It is suggested performing exercise to decrease level of symptom distress.

### 519 CANCER SURVIVORSHIP IN 10 ASIA PACIFIC COUNTRIES: WHAT CAN WE LEARN FROM A STUDY OF 1873 CANCER SURVIVORS AND 1501 ONCOLOGY PRACTITIONERS?

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Gaining an understanding of perspectives of patients and oncology practitioners can inform the design of interventions and service planning in the Asia-Pacific region. This study aimed to examine the supportive care needs of cancer survivors; and the perceptions of responsibility, confidence, and frequency of survivorship care practices of oncology practitioners. Two cross-sectional surveys were conducted in Australia (as the benchmark) and nine high income (HICs) and low/middle income (LMICs) Asian countries (China, Japan, Hong Kong, Singapore, South Korea, Myanmar, Thailand, India, Philippines). For Part 1, the patient questionnaire included validated scales (Cancer Survivors Unmet Needs scale; Cancer Survivors Survey of Needs- Physical-Symptom Concerns Subscale; and a single-item measure of global quality-of-life perception (QOL)). For Part 2, the oncology practitioner questionnaire comprised three subscales that assessed oncology practitioners' perception of responsibility, confidence, and frequency of practices relevant to 29 items of survivorship care interventions. The surveys were distributed via cancer centers and professional bodies. In total, 1,873 cancer survivors and 1,501 oncology practitioners participated in

the study. Part 1: Asian countries had significantly lower QoL than Australia (all  $p<0.001$ ). The most frequently reported symptoms were fatigue (66.6%), loss of strength (61.8%), and pain (61.6%), with no differences in symptom experience between Australian data and all other countries. Australia and HICs were similar in terms of unmet needs (all low), but LMICs had a significantly higher number of needs, both compared to Australia and HICs (all  $p<0.001$ ). Part 2: When comparing the subscales of responsibility perception, frequency and confidence, Australia had significantly higher ratings than Hong Kong, Japan, Thailand, and Singapore (all  $p<0.05$ ). Surprisingly, practitioners working in LMICs had higher levels of responsibility perception, confidence and frequencies of care than those in HICs ( $p<0.001$ ). Patients in HICs have lower levels of unmet needs compared to those in LMICs. Different oncology practitioners' practice patterns have been observed between HICs and LMICs; and Australia and other countries. Higher ratings from practitioners in LMICs may be explained by the professional specialization and higher care expectations in HICs. We call for actions to optimize the delivery of survivorship care in this region.

### 520 IMPACT OF CACHEXIA IN PATIENTS WITH GASTROINTESTINAL (GI) CANCER ON OVERALL SURVIVAL

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Cachexia is a multifactorial syndrome with progressive unintentional weight loss. Cancer-cachexia causes decreased quality of life and shortened survival. Greater than 15% of weight loss leads to impaired physiological function and > 30% is with imminent death. Patients with GI cancers are especially vulnerable to cachexia due to impaired GI function, and metabolic alteration. However, impact of cachexia on survival throughout the cancer treatment has not been well understood. The purpose of this study was to characterize weight loss over time in patients based on three BMI groups, and associations between weight loss and survival by cancer types. Retrospective analysis was conducted using de-identified data of 801 GI cancer patients serviced between 2011 and 2014 (IRB#201400215). Eligibility included 1) 21 years or older at time of visit, and 2) diagnosed with any GI cancer. Linear mixed models

(LMMs) were constructed to examine unintentional weight loss over time based on the primary cancer site and three BMI groups (BMI < 20kg/m<sup>2</sup>, 20 < BMI < 25kg/m<sup>2</sup>, and BMI > 25kg/m<sup>2</sup>). Also, overall survival (days) was calculated based on the primary cancer types. 801 GI patients were included in the final model (58% male, 86% white, mean age of 66.5 years). The average weight was 81.18 kg with BMI of 27.40kg/m<sup>2</sup> at the beginning of the observation period. Weight was negatively associated ( $t=-11.23$ ,  $p<.001$ ) with the days since the first observation. In the LMM, mean weight loss was 0.0212 kg per patient per day. Gastric cancer patients had the most severe weight loss (49%) followed by patients with pancreatic cancer (36% loss) and colorectal patients had the least (12%). The patterns of weight loss over time in different cancer types were different among BMI groups. However, all three BMI groups demonstrated similar slopes of weight loss. Overall survival was shortest in pancreatic cancer (224.2 days) followed by gastric cancer (261.5 days) and longest survival in colorectal cancer (429.6 days). The average unintentional weight loss was greater than 20kg (44.2lbs or 25%) over a 3-year period. The results indicated that predicted overall survival. Early intervention for stable weight management is critical to improve treatment outcomes and extend survival. Large dataset was used to understand the natural trajectory of weight loss in GI cancer patients.

## 521

### A CROSS-SECTIONAL SURVEY ON SYMPTOM CLUSTERS OF TREATMENT-NAIVE PATIENTS WITH HEAD AND NECK CANCER IN CHINA

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The disease-related (treatment-naïve) symptom clusters in patients with head and neck cancer (HNC) have not been well studied. The purpose of the study was to investigate the symptom clusters experienced by HNC patients who were naïve to any treatment. We recruited 98 treatment-naïve Chinese patients with head and

neck cancer and used a cross-sectional study design to collect information on their symptoms. Patients completed a sociodemographic and disease characteristics questionnaire, the Chinese version of the M.D. Anderson Symptom Inventory-Head and Neck Module (MDASI-HN-C). Principle component analysis with varimax rotation, independent t-test, one-way analysis of variance (ANOVA) and Person product-moment correlation were used to analyze the data. Approximately more than 30% treatment-naïve patients had moderate-to-severe symptom burden. Four symptom clusters were identified, and labelled head and neck specific, psychological, age-related and treatment-related symptom cluster. Of these four symptom clusters, the psychological symptom cluster was the most severe. The severity of head and neck specific symptom cluster correlated with occupational status, medical insurance status, disease site and symptom interference ( $p < 0.05$ ). The significant correlations were found between severity of psychological symptom cluster and medical insurance status, symptom interference ( $p < 0.05$ ). The severity of age-related symptom cluster was different depending on age, education level, occupational status and symptom interference ( $p < 0.05$ ). This study was the first one focus on the early stage disease-related symptom clusters in patients with head and neck cancer. The four identified clusters revealed the specific symptom patterns experienced by treatment-naïve patients with HNC. Identifying symptom clusters of treatment-naïve patients with HNC may have clinical implications in providing baseline data to characterize the symptomatic changes produced by treatment, helping physician to achieve adequate diagnosis and developing adequate symptom management intervention before initiating treatment. A multi-dimensional intervention based on symptom cluster needs to be developed for treatment-naïve patients with HNC, including social support, pharmacological treatment, and especially psychological intervention.

## 522

### IDENTIFY TRAJECTORIES OF SELF-MANAGEMENT BEHAVIORS AMONG PATIENTS WITH BREAST CANCER: THE APPLICATION OF THE GROWTH MIXTURE MODEL

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The number of breast cancer survivors is increasing thanks to the advancement of the early screening

and developed treatment technology, which makes self-management play an important role in the journey of recovery among breast cancer survivors. Because of the different treatment routines and different characteristics of patients, the self-management behaviors vary a lot. Therefore, this study aims to identify trajectories of self-management behaviors among breast cancer survivors and describe the demographic characteristics of sub-populations to provide evidence for the development of targeted and precise intervention for patients, and finally to improve the quality of life. A total of 252 breast cancer survivors in several hospitals of Shanghai were recruited by convenience sampling, and were investigated by the self-designed demographic questionnaire, social support revalued scale (SSRS), medical cope modes questionnaire (MCMQ), and chronic diseases self-management questionnaire (CDSMQ) for 5 times including the period of diagnosis, surgery, chemotherapy, radiotherapy and recovery. Growth mixture model (GMM) was used to identify the different trajectories of self-management behaviors. The F-test or X<sup>2</sup>-test was used to examine the different characteristics across sub-populations according to the result of GMM. The best fit GMM revealed a 4-class model, for each of which the model fit statistics/indices, such as AIC, BIC, aBIC, the P value of LMR LRT, aLMR LRT and BLRT, were all in acceptable value range. The classes 1 to 4 were named as the group of high-level (10.94%), the group of middle-level (21.88%), the group of slowly-decreasing (28.91%), and the group of sharply-decreasing (38.28%) respectively based on the tendency of change. The score of self-management of class 4 rapidly declined after surgery and kept in a low level until the endpoint, which should be paid great attention to. The results of F-test, further LSD-test and X<sup>2</sup>-test showed that cases of class 4 were more aged and in a lower level of education background and social support, and were more likely to surrender when coping with the disease (All P<0.05). This study not only described the self-management in breast cancer survivors longitudinally, but also found the sub-population who may need professional interventions most. Targeted interventions across different sub-populations will be built up and implemented accordingly in our following research.

## 523

### A RESEARCH ON THE DEMANDS OF NURSES IN INTERNAL MEDICINE ONCOLOGY

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The objective is to understand the current situation

of training demand of chemotherapy nurses, and to provide reference for the training and development of chemotherapy nurses. Convenience sampling method was used to investigate the relevant departments of 33 National Cancer hospitals. The content includes theoretical training needs, clinical practice, training needs and training forms. 33 questionnaires were issued and 30 questionnaires were sent back, and the recovery rate was 90.9%. Excel was used to input data and SPSS17.0 statistical analysis software was used for statistical analysis and description. 90% of the nurses believed that oncology nurse culture alone is extremely important, 60% of the nurses believed that chemotherapy nursing training is a priority area, and the need for a system of specialist training; 70% hospital nurses without chemotherapy, 66.7% of the nurses believed that chemotherapy nurses need further improvement, and points out that the selected requirements and training the contents of the expected special chemotherapy nurse. Conclusion: chemotherapy nurse training has certain needs, is the cultivation of oncology nurse branch priority training area; special chemotherapy nurse hospital is not so much in Shanghai area currently, the existing special chemotherapy nurse work has a long way to go; formulate special chemotherapy nurse training and certification examination system will be imperative.

## 524

### UTILIZATION OF PATIENT-REPORTED OUTCOMES TO ASSESS AND MANAGE URINARY SYMPTOMS DURING STEREOTACTIC BODY RADIOTHERAPY (SBRT) FOR PROSTATE CANCER

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Stereotactic body radiotherapy (SBRT) has become a standard treatment for localized prostate cancer with morbidity profiles similar to conventional radiation therapy. Currently there are no studies examining symptom change during SBRT. This study utilizes the EPIC Index Composite for Clinical Practice (EPIC-CP) as a patient-reported outcomes

(PROs) tool to assess its effectiveness in detecting and managing symptoms during SBRT on treatment visits. 107 patients with clinically localized prostate cancer were treated with SBRT in five fractions. During treatment symptoms were assessed using the EPIC-CP one hour prior to the first fraction and after each subsequent fraction of radiation. The EPIC-CP utilized the summation of three question scores with higher numbers corresponding to increased bother. EPIC-CP scores at baseline and one week post-SBRT were obtained from the EPIC-26 questionnaire. The median baseline EPIC-CP urinary symptom score increased from 1.5 before the first treatment to 3.7 on the final treatment. Dysuria bother increased to a moderate to big problem from 0.9% before treatment to 11.2% at the end of treatment. Urinary retention bother increased to a moderate to big problem from 2.8% prior to treatment to 8.4% at the end of treatment. Overall urinary bother increased to a moderate to big problem from 9.3% prior to treatment to 28% at the end of treatment. Changes to the urinary symptom score were clinically significant by the third fraction of treatment. Increases in alpha-antagonist dosage were needed for 47% of patients, while a steroid taper was prescribed for 28% of patients after the last treatment to mitigate urinary symptoms. By administration of the EPIC-CP during treatment, we discovered that symptoms become clinically significant for dysuria, urinary retention and urinary symptoms after the third SBRT treatment. This assessment tool provides a greater awareness of urinary bother that reach levels of moderate and big problems for the patient, and optimally individualize treatment related decisions to when medical intervention is needed. Our findings show that the EPIC-CP is an effective clinical tool to assess patient symptoms during SBRT treatment.

## 525

### **BASELINE ASSESSMENT OF EVIDENCE-BASED NURSING PRACTICE AT AN NCI-DESIGNATED COMPREHENSIVE CANCER CENTER**

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The Institute of Medicine has set a goal that, by the year 2020, 90% of health care decisions will be evidence-based to improve patient outcomes. An Evidence-based Practice and Research Steering Committee was assembled at a comprehensive cancer center (CCC) to assess and promote progress toward attaining this goal. The purpose of the project was to assess the current beliefs and implementation of evidence-based practice (EBP) among the nursing staff employed at a CCC to determine the educational needs and develop a robust evidence-based practice initiative and program to help bring best practice to the bedside. A cross-sectional descriptive survey design was used to assess both the beliefs (a 16-item Likert scale [1–5] measuring beliefs and attitudes) and implementation (an 18-item Likert scale [1–5] measuring engagement in EBP) of the nursing staff. A weekly email was sent to the nurses (n=660) for approximately 8 weeks to invite voluntary participation in the study. Descriptive statistics were used to describe the sample. Descriptive and inferential statistics were used to characterize the results of survey. Forty-four percent (n=268) of the nurses participated: 95% female, 90% Caucasian, 79% direct care nurses, 57% Baccalaureate-prepared, 40% ambulatory care nurses, 39% 15–30 years of experience. The majority of participants believe that EBP results in the best care for their patients (86%) and are confident (52%) and sure (60%) that they can implement EBP. In fact, 67% of the nurses believe that the care they deliver is evidence-based. Whereas 60% responded that they are clear about the steps of the EBP process, the majority of the respondents have never implemented the steps to of the EBP process, including appraisal of evidence, generating a PICOT question, collecting data on a patient problem or evaluating outcomes. The results suggest that the nurses believe that best practice is based on evidence. However, there is an opportunity for improved knowledge and understanding of the EBP process. The Committee is formulating a plan to develop an educational program to increase knowledge of EBP and skill development through mentored EBP projects. Post implementation data will be collected in 2 years post initial survey. The same survey will be sent to the nurses to determine whether the implementation strategies are successful.