Influencing Quality Reporting
Using the Rapid Quality Reporting System in a community network

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BACKGROUND: Value-based cancer care warrants an exploration of ways that nurses can influence quality for patients with cancer, particularly in the community setting, where the majority of patients with cancer are treated.

OBJECTIVES: The purpose is to explore how community cancer centers met and sustained key quality breast cancer care indicators through implementation of the National Cancer Institute Community Cancer Centers Program Rapid Quality Reporting System (RQRS) and patient navigation projects.

METHODS: The authors identified and interviewed staff at three sites that achieved significant increases in concordance with three breast cancer outcome measures: adherence to chemotherapy, radiation, and hormone therapy.

FINDINGS: Three main themes emerged through analysis: awareness of measures, importance of navigator, and team approach. The use of the RQRS in a community setting, coupled with the deployment of nurse navigators, is one way to influence adherence to breast outcome measures.

A MAJORITY OF PATIENTS WITH CANCER RECEIVE THEIR CARE in community settings (Erickson, Salsberg, Forte, Bruinooge, & Goldstein, 2007), and those treated in settings outside of academic medical centers may have unique challenges with adherence to complex treatment regimens, including issues related to variable access to care. Timeliness of care has been associated with improved survival in patients with breast cancer (Smith, Ziogas, & Anton-Culver, 2013), making it important for community cancer centers to address patient barriers and promote adherence to treatment.

The National Cancer Database (NCDB) is a clinical surveillance tool and comparative resource for Commission on Cancer (CoC)-accredited hospitals, jointly sponsored by the American College of Surgeons and the American Cancer Society. Within the NCDB is the Rapid Quality Reporting System (RQRS), which provides participating centers with the ability to monitor quality cancer measures in real time to set quality improvement benchmarks (Raval, Bilimoria, Stewart, Bentrem, & Ko, 2009).

Funded from 2007–2014, the National Cancer Institute Community Cancer Centers Program (NCCCP) focused on enhancing the quality of cancer care and reducing cancer health disparities within a network of hospital-based community cancer centers (Kaluzny & O’Brien, 2015; Siegel et al., 2015). Key NCCCP pilot projects include implementation of the RQRS to assess quality cancer care within NCCCP sites related to timeliness, effectiveness, and efficiency while exploring potential disparities in cancer care delivery (Halperrn et al., 2013; Spain et al., 2017), as well as the use of patient navigators to facilitate coordination of care across the cancer continuum (Swanson et al., 2011). These two projects (the implementation of RQRS and the use of patient navigators) represented effective strategies for the network of hospital-based community cancer centers (herein referred to as NCCCP sites) to improve quality of cancer care through adherence to evidence-based treatment guidelines and to address patient barriers among diverse patient populations (Robinson-White, Conroy, Slavish, & Rosenzweig, 2010; Stewart, McNamara, Gay, Bansiaq, & Winchester, 2011).

In 2008, the NCCCP began participation in the CoC RQRS pilot project, allowing sites to access dashboards that displayed their concordance with three breast cancer measures (see Table 1). As a quality reporting...
deliverable, data were presented twice annually, enabling sites to see how their practice compared to others. This process was used to benchmark quality of care within the NCCCP as it related to timeliness and efficiency. In addition, relevant factors of and potential disparities in cancer care delivery were examined using aggregate data at both the site and network level. Spain et al. (2017) reported that concordance with quality measures for breast cancer improved significantly and was sustained over time.

Previous studies have examined the impact of the NCCCP program on quality of cancer care (Halpern et al., 2013; Onukwugha et al., 2016; Siegel et al., 2015) and highlighted the importance of multidisciplinary care (Lamb et al., 2011). Oncology nurses play a critical role as part of the multidisciplinary team in supporting patient adherence to quality cancer care measures. The purpose of this article is to share how three community cancer centers met and sustained key quality breast cancer care indicators through implementation of the NCCCP, RQRS, and patient navigation projects.

Methods
This project builds on preliminary analyses performed using data from the RQRS report (Spain et al., 2017), as well as NCCCP qualitative reports to provide context around the sites’ implemented strategies. The authors reviewed absolute changes in concordance for three breast cancer quality measures approved by the National Quality Forum for patients diagnosed with breast cancer at NCCCP sites from 2006 to 2013 (Spain et al., 2017). The authors then identified sites that achieved statistically significant increases in concordance with these measures from 2006 to 2007 (the period before participation in the network) and from 2008 to 2013 (the period during participation in the network) (see Table 2). A letter of invitation was sent by the authors to five randomly selected NCCCP sites, and three sites accepted the invitation to participate.

The authors conducted semistructured interviews with key informants from each of the three participating sites. Questions were framed to elicit potential influencers of sustained concordance to the breast outcome measures (see Figure 1). As key informants, respondents in the study were interviewed based on their direct experiences with improving systems for tracking patient care from community screening and referrals from primary care practices along the cancer continuum at their sites. Phone interviews, lasting about 30 minutes, were audio recorded and transcribed verbatim. Responses were independently coded using interview-derived deductive and emergent inductive codes. Themes were then identified and confirmed by co-authors and key informants. The institutional review board at the facility (National Institutes of Health Office of Human Subjects and Research Protections #13167) approved data collection for the study.

Findings

Description of Sites
Three sites participated in this study, representing community hospitals that each had more than 390 total licensed inpatient beds. Two of the three sites served 67% or more non-Hispanic White patients. Absolute differences in breast cancer quality measures (breast-conserving surgery plus radiation therapy, multi-agent chemotherapy, and hormonal therapy) were all significant at p < 0.01. Three main themes emerged through analysis of responses: awareness of measures, importance of navigator, and team approach. The authors describe each theme with examples from the key informant interviews.
Awareness of Measures
All three sites stressed that the first step in influencing concordance to outcome measures is recognizing the importance of the RQRS report itself. The sites used the dashboard and reports to self-assess and compare to national and NCCCP benchmarks. According to one site respondent,

Having the data . . . put out there in a competitive space is really important. . . . We want to perform at a high level . . . be a high performer.

The timeliness of the report was also an important feature, as the RQRS represented an accurate, real-time measure of how the sites were performing, allowing them to intervene in a timely manner. One site respondent commented,

Being a beta site for the RQRS was very helpful in knowing that our measures were, relatively, real time, versus 12 months or 2 years . . . before we got the data.

Respondents also noted the importance of communicating measures with physicians.

The early-on barriers were physician awareness that there, indeed, even was a measure that we were being held accountable to . . . that was a barrier to getting the entire team recognizing . . . that, indeed, these are measures that are scientifically validated and have significant impact on patient outcomes.

Importance of Navigator
A key facilitator of breast outcome adherence was integration of a treatment-focused navigator. Models among the three sites varied, with two centers navigating all patients with breast cancer, and one using a validated tool (i.e., distress screening) to identify patients in need of intervention. Navigators monitored patients through a variety of strategies, including via telephone, scheduled visits, and clinic check-ins. This role was typically filled by a nurse navigator, and, in some cases, a social worker. Regardless of clinical discipline, navigators served as patient advocates.

After we've confirmed that they do know about their breast cancer diagnosis, the nurse navigator is that first phone call with that first appointment . . . we're also, you know, “How are you doing? Do you have any questions that I can answer before your appointment?” Kind of starting to establish that therapeutic relationship, which is, I think, huge in increasing adherence . . . the relationship piece.

Respondents stressed the importance of the navigator in anticipating and reducing barriers, and adapting to the needs of the patient. The navigator intervened on patient- and system-level barriers, including arranging for transportation, providing financial support through hospital foundation funds, and addressing emotional concerns. In reference to common barriers that navigators addressed, one respondent noted,

We've actually had to pay for cab rides for patients on a daily basis to finish their radiation treatment. For patients who have medication needs, co-pays for medications, or can't afford their medications, we’ve worked out an arrangement with the hospital pharmacy to fill those prescriptions . . . and invoice us.

Team Approach
A multidisciplinary team approach may support adherence to quality measures. An initial barrier to the navigation intervention included defining the role of nurse navigator versus other nurses on the care team. Sites reported that clear delineation of nursing roles resulted in synergistic contributions to overall adherence. Respondents cited the importance of buy-in from the physicians, stating that having a physician champion allowed for a smooth integration of navigators within the team and elevated the importance of this work to other providers on the patient’s care team.

We needed physician champions. That’s vital. . . . The physicians, as peers, they expect everyone to come [to the multidisciplinary conference]. . . . [Physicians and navigators] held each other accountable.

### Table 2.
**ABSOLUTE CHANGE IN CONCORDANCE WITH PRE-NCCCP VERSUS NCCCP TIME PERIOD**

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>SITE</th>
<th>BEFORE PARTICIPATION (2006–2007) (N = 1,506) (%)</th>
<th>DURING PARTICIPATION (2008–2013) (N = 3,979) (%)</th>
<th>ABSOLUTE DIFFERENCE IN CONCORDANCE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiation</td>
<td>1</td>
<td>69.9</td>
<td>91.6</td>
<td>21.7</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>69.8</td>
<td>98.6</td>
<td>28.8</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>70</td>
<td>100</td>
<td>30</td>
</tr>
<tr>
<td>Chemotherapy</td>
<td>1</td>
<td>73.9</td>
<td>93.9</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>86.7</td>
<td>98.7</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>80</td>
<td>95.2</td>
<td>15.2</td>
</tr>
<tr>
<td>Hormone therapy</td>
<td>1</td>
<td>48.3</td>
<td>90.3</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>67.2</td>
<td>95.9</td>
<td>28.7</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>43.8</td>
<td>79.7</td>
<td>35.9</td>
</tr>
</tbody>
</table>

NCCCP—National Cancer Institute Community Cancer Centers Program

Note. All p values were significant at < 0.01.  
Note. Based on information from Spain et al., 2017.
Respondents also noted that the navigator served as a link between the cancer registry staff and the care team, personalizing the data in the RQRS report. Multidisciplinary conferences also served as productive settings to discuss “red flag” patients (i.e., those needing prompt treatment to be considered compliant). Navigators alerted the team to these cases, making sure that information was communicated to those who were responsible for discussing treatment options.

And then, [the navigator] communicating that to the front-end care team . . . so that they’re aware of where the patient is in the process, was extraordinarily helpful. Because, often times, we found that the care team, they didn’t know how many days we were within to stay compliant with the measure. So that communication piece was essential.

**Discussion**

The authors explored strategies to adhere to quality breast cancer care, based on RQRS metrics. Although different models and approaches were used among each of the three sites, similar themes supporting adherence emerged. The respondents emphasized the importance of not only real-time assessment of quality metrics, but also the ability to compare results to similar institutions. RQRS comparison reports used figures and tables, enabling programs to compare annual and quarterly performance rates by region, state, or type of cancer program (Stewart et al., 2011). Staff at the sites used the reports to identify areas for improvement and communicated with high-performing peer sites about best practices to influence quality care.

Respondents felt that nurse navigation had an impact on adherence to the breast cancer quality measures. Navigators within the NCCCP sought to identify and ameliorate barriers to treatment adherence, including transportation needs, financial support, and cultural barriers (Horner et al., 2013; Korber, Padula, Gray, & Powell, 2011). Although navigation has often focused on screening and follow-up after abnormal findings, these results add to the foundation of evidence to support the role of navigation in real-time measures and team approach to care. The benefits of navigation interventions are increasingly cited in the literature (Baliski et al., 2014; Cantril, 2014; Hook, Ware, Siler, & Packard, 2012; Hunnibell et al., 2012; Mann & Strusowski, 2014; Swanson, Hunnibell, & Bartelt, 2014). Among navigation interventions showing advantages are improved time from diagnosis to treatment for cohorts of patients, better management of treatment complications, and psychosocial support during the continuum of care for the patient and family members. The Oncology Nursing Society completed a study to redefine the role of the oncology nurse navigator (Lubejko et al., 2016). Respondents (N = 498 oncology nurse navigators) indicated that identifying and assisting patients with individual barriers and ensuring timely access to care throughout the care continuum were the top tasks of the oncology nurse navigator. The results from the current study support the need for more empirical work in this area. In addition, the incorporation of the cancer registry staff, who are responsible for entering and updating all data into the RQRS system, is not typically seen in the clinical environment. An engaged and active registry staff, however, particularly with a direct link between nurse navigator and cancer registrar, may be essential to securing accurate, real-time information and identifying potential barriers in a timely manner. Navigators, however, are only one important component in influencing adherence. Several other external factors were mentioned by the site respondents, such as availability of and access to internal and external resources via community partnerships (e.g., American Cancer Society, community health clinics, hospital foundation grants) that could be potential facilitators or barriers to completing prescribed treatment regimens.

**Implications for Practice**

- Increase adherence to quality measures by allowing for self-assessment and comparison to benchmarks through a widely recognized system, such as the Rapid Quality Reporting System.
- Support the role of navigators—a role often filled by nurses—and their ability to identify at-risk patients who may need assistance in adhering to guideline recommendations.
- Enhance adherence to quality measures through the use of multidisciplinary teams, which include nurses, physician champions, cancer registrars, and navigators.
teams (Vogel & Hall, 2016) with clear delineation of roles may be key to impacting quality measures. A lack of consensus exists on the impact of multidisciplinary team efficiency on patient outcomes, however, suggesting an area for future research (Taplin et al., 2015, Tremblay, Roberge, Touati, Maunsell, & Berbiche, 2017).

The Medicare Access and CHIP Reauthorization Act of 2015, which emphasizes quality reporting and coordinated care, provides many coordination opportunities for nurses, who often have lead responsibility for contacting patients and identifying those needing intense follow-up (Centers for Medicare and Medicaid Services, 2015). In addition to tracking concordance with care measures, the RQRS dashboard provides an efficient method to electronically flag at-risk patients, allowing navigators to prioritize patient needs (Spain et al., 2017). Using this information, nurse navigators have the potential to influence multiple components of care at both the patient and system levels, such as addressing knowledge barriers, managing access issues, promoting patient self-efficacy, and facilitating patient–doctor as well as physician–physician collaboration. There is a need, however, to understand how to link vulnerable populations with diverse community resources needed to effectively support patient completion of complex cancer regimens.

Limitations

Generalizing the results of these findings to other community cancer centers is difficult, particularly because these sites were part of a funded network that received resources for the navigator positions, and the RQRS report was part of a required deliverable. Results are further limited in that the authors explored sites with statistically significant increases in quality care measure concordance and did not include sites without increases in quality performance. Whether adherence rates were sustained beyond the seven-year program is unknown. Future research should focus on which specific aspects of navigation are most beneficial in influencing quality metrics, particularly in longitudinal studies.

Conclusion

Value-based cancer care warrants an exploration of ways that nurses can influence the delivery of quality care for patients with cancer. The results of this study indicate that the nurse navigators were an essential component of the multidisciplinary team, and may have influenced and supported improved adherence to the breast outcome measures. Despite the various approaches used within each site, the key findings outlined here could be implemented in many community oncology settings. If systematically pursued, these approaches could impact the delivery of high-quality cancer care.

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REFERENCES


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