

## Blending Nursing Roles in Oncology and Imaging: An Innovative Strategy

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As cancer treatment becomes more diverse and complex, patients require more knowledge to make appropriate decisions and to feel comfortable with their choices. This has led to nurses who specialize in a particular type of cancer or therapy. Nurse specialists understand the complexity and multiple problems that patients may experience and have in-depth knowledge and advanced competencies to deliver and direct care to clients (Fulton, 2005).

One type of specialty role that emerged in the 1990s is breast care coordinator (BCC). Breast cancer is a common disease affecting many women and their families. Several types of breast cancer exist (e.g., ductal carcinoma in situ, inflammatory, invasive ductal, lobular adenocarcinomas), and each type may have different courses of treatment. Women often consult with several specialists and receive multiple choices regarding treatment. They must understand the information to make life-changing decisions; however, learning new and complex information while under significant emotional stress is difficult. Many large healthcare facilities offer the services of a BCC to help women diagnosed with breast cancer and their families during such a stressful time. Ridgeview Medical Center (RMC) in Waconia, MN, sought to create the role as a service to patients, but because of the

small size of the facility and a low number of patients with breast cancer, it faced a financial challenge in doing so.

### Background

RMC is a 129-bed regional hospital located about 25 miles from the major metropolitan area of Minneapolis, MN. It is affiliated with 23 clinics and serves five counties. Although RMC does not have a cancer center per se, it has received recognition from the American College of Surgeons Commission on Cancer as a Community Hospital Cancer Program. The cancer care team includes three medical oncologists and a radiation oncologist working together with primary physicians; surgeons; oncology, homecare, and hospice nurses; nutritionists; and other professional staff to provide the highest-quality inpatient and outpatient services. In 1999, RMC treated 58 women with newly diagnosed breast cancer, the number-one cancer diagnosed at the facility. One of RMC's strategic goals was to maximize high-quality oncology services so that patients could receive care closer to home. A hospitalwide initiative was undertaken in 2000 to examine current practices in an effort to compare them against national best-practice models and to evaluate how well RMC was meeting patients' expectations.

A multidisciplinary team consisting of a radiologist, the director of imaging, a nurse manager, the vice president of patient care services, the chief operating officer, the director of quality improvement (QI), and the chair of the cancer committee was formed. Member selection was based on key individuals who were knowledgeable about breast diagnostics, treatment of breast cancer, and development of a new service line. One key issue for the team to consider was hiring a BCC. All team members had to agree that a BCC could positively affect breast cancer care at RMC if the new role was created. The team agreed to meet for about six months, with the overall aim of improving breast cancer care. The QI team began the process by gathering information from several sources: patients' perspectives regarding the care they received at RMC and feedback on ways to improve it, a review of the literature of the BCC role, and evaluation of community standards.

### Patients' Perspectives

Focus groups run by the nurse manager defined patient expectations along with the public's perception of breast cancer care at RMC. Three areas of feedback were elicited. The first involved wait time for additional diagnostic studies (e.g., magnification views, ultrasound) following an abnormal mammogram. The radiologist routinely read screening mammograms after patients had left the facility. After reviewing the imaging scheduling data, the QI team found that two to three patients per day had an abnormal

### Leadership & Professional Development

This feature provides a platform for oncology nurses to illustrate the many ways that leadership may be realized and professional practice may transform cancer care. Possible submissions include but are not limited to overviews of projects, interviews with nurse leaders, and accounts of the application of leadership principles or theories to practice. Descriptions of activities, projects, or action

plans that are ongoing or completed are welcome. Manuscripts should clearly link the content to the impact on cancer care. Manuscripts should be six to eight double-spaced pages, exclusive of references and tables, and accompanied by a cover letter requesting consideration for this feature. For more information, contact Associate Editor Paula Klemm, DNSc, RN, OCN®, at klemmpa@udel.edu.

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mammogram, necessitating additional diagnostic studies. As a result of the already-filled schedule, this often required patients to return on another day, causing time delays and increased anxiety for patients. Following recommendations from the QI team, the radiologist now reads the majority of mammograms performed during daytime hours while patients wait, and verbal reports are given directly to patients. To decrease wait time, the team reformatted the schedule to include some open slots. When patients have an abnormal mammogram and need additional diagnostic studies, the schedule automatically has openings to accommodate them the same day. This eliminates callbacks, decreases anxiety, and minimizes extra time off work for patients.

Another area for improvement involved the time interval from a suspicious mammogram to surgery; it varied from a few days to months. Patients requiring ultrasound, stereotactic-guided breast biopsy, or plastic surgery consultation were referred to another institution, which accounted for most of the delay. To decrease the time interval, the facility obtained the capabilities to perform the necessary breast biopsies and recruited a plastic surgeon. A generous donation to the RMC Foundation funded the stereotactic breast biopsy equipment.

The third area of concern came from breast cancer survivors. The women identified diagnostic testing as the most stressful part of their cancer journeys. Women received the tests in the outpatient setting. They then had multiple appointments with oncology specialists (e.g., general surgery, medical oncology, radiation oncology, plastic surgery). Each medical specialist practices in an independent clinic. Women stated that care was fragmented and that they did not feel connected to one contact person. During this time, women have high learning needs and are expected to be active participants in decisions regarding their treatments. Many women describe the period as a crash course in breast cancer care. Because breast cancer is a highly emotional diagnosis for most women, effectively navigating the journey without a coach or assistance often is overwhelming to patients and families. However, the time of diagnosis involved the least amount of nursing contact at the institution. The breast cancer survivors reinforced the notion that a BCC could help smooth the process of navigating the healthcare system. Table 1 summarizes the changes made.

Literature Review

The QI team performed a literature search to corroborate the potential benefit of a BCC role for patients and staff. A literature review performed at the time of the QI project, as well as current literature, noted a variety of titles and definitions for the BCC role. However, the general role had overwhelming support.

Table 1. Quality Improvement Team Recommendations

Patient Concern	Changes Instituted	Measurement
Wait time for additional diagnostic breast studies	Two 15-minute open slots were incorporated into the mammogram and ultrasound schedules.	Positive patient feedback anecdotally and on hospital satisfaction surveys
Delayed time interval from suspicious mammogram results to breast cancer surgery	Ultrasound and stereotactic-guided breast biopsies were initiated by radiologists; recruitment of a plastic surgeon	Study results demonstrated decreased time interval from suspicious mammogram results to surgery with the addition of biopsy and plastic surgeon services.
Lack of support during decision making	Hiring of breast care coordinator	Surveys after breast cancer treatment showed satisfaction with the breast care coordinator role.

Nursing interventions, especially education and counseling, can reduce the risk of crisis for women diagnosed with breast cancer and their families (Hoskins & Haber, 2000). Results of a study by Geiger, Mullen, Sloman, Edgerton, and Petitti (2000) showed that a support and information program featuring a nurse program coordinator had a positive effect on satisfaction with breast cancer care. An article in *Clinical Resource Management* ("Breast Care Coordinator," 2000) stated that a BCC safeguarded against delayed diagnoses, improved patient satisfaction, reduced physicians' workloads and stress, and improved operations overall. Amir, Scully, and Borrill (2004) strongly suggested that breast cancer nurses had positive effects on quality of care, are highly valued on treatment teams because of their ability to serve as links between members of teams and women, are positive resources on treatment teams, and were identified repeatedly as central to the delivery of breast cancer services. Furthermore, Gabel,

Hilton, and Nathanson (1997) evaluated the benefit of a multidisciplinary breast cancer clinic (MDBCC) incorporating a nursing coordinator. The control group included patients who were referred in the traditional sequential consultation manner prior to the opening of the MDBCC and was compared to the patients seen during the first year of the clinic's operation. The nursing coordinator acquired pertinent reports and mammograms so that the studies were available for review by the physicians and provided patient consultation and education. The value of the MDBCC was supported, and the number-one observation was a dedicated nursing coordinator who gave each patient personal attention from the time of initial diagnosis to final therapy.

Community Standards

Nationally, in many larger healthcare facilities, a BCC to help educate and support women newly diagnosed with breast cancer is the standard of care. Locally, a survey of the

- Develop resources for women interested in breast self-examination and cancer prevention.
  - Assist radiologists with breast biopsy.
  - Offer emotional support and educational materials before and after breast biopsy.
  - Call patients to assess coping after a radiologist or primary care doctor has called them with a new diagnosis.
  - Instruct patients regarding the pathology report and appropriate breast cancer treatment in general.
  - Provide context to information that patients have received from medical personnel, family members, friends, and the media.
  - Remain a consistent point of contact and resource throughout treatment.
  - Advocate for and support patients' treatment decisions.
  - Assess patients' and families' physical, psychological, and educational needs via phone or at visits (e.g., clinic, same-day surgery, surgical unit, outpatient chemotherapy unit).
- Inform physicians of treatment and symptom management clinical trials relevant to patients.
  - Initiate referrals as needed (e.g., social services, home care, physical therapy).
  - Provide survivorship information after treatment (e.g., long-term follow-up, osteoporosis prevention, breast self-examination, nutrition, exercise).
  - Develop patient resources (e.g., breast surgical guides, individualized care plans for breast surgery, postsurgical supplies, lymphedema education classes, quarterly newsletter, in-house Reach to Recovery volunteer program [employees who are breast cancer survivors]).
  - Collect and share data annually with radiologists and the cancer committee to improve care.
  - Educate and update the community and hospital staff regarding current and new developments in the prevention, early detection, and treatment of breast cancer (e.g., poster table displays, in-service programs, community health fairs, presentations to local businesses and organizations).

Figure 1. Tasks Performed by the Breast Care Coordinator

### Routine Tasks

- Start IVs, including accessing implanted catheters.
- Insert urinary catheters.
- Perform blood pressure checks.
- Develop and update online hospital-based educational materials.
- Coordinate breast diagnostic tests.
- Perform teaching, care, and monitoring before and after procedures (e.g., computed tomography and ultrasound-guided biopsy, abscess drainage, thoracentesis, paracentesis, nephrostomy tube insertion, myelogram, lumbar puncture, J-tube changes).
- Administer moderate sedation for pediatric and claustrophobic patients.
- Act as a resource for imaging staff.
- Address psychosocial needs (e.g., positive cancer biopsy results, when an obstetric ultrasound shows birth anomalies or miscarriage).

### Emergent Tasks

- Assess chest pain.
- Provide support for crisis intervention.
- Monitor recovery from fainting.
- Monitor blood sugars and evaluate for hypoglycemia.
- Respond to reactions to contrast dye.
- Maintain airways for swallowing difficulties.
- Assess and manage pain control.

## Figure 2. Tasks Performed by the Imaging Nurse

surrounding metropolitan hospitals affirmed that most of them employed a BCC, although the credentials and tasks of the BCCs varied among hospitals. The QI team recommended that a BCC from one of the metropolitan hospitals present information to the team about her role and responsibilities. At that metro hospital, two full-time nurses cared for more than 300 new patients with breast cancer annually. The BCC provided information on a completed clinical trial performed at the nurse's hospital that evaluated the effects of the BCC on patient care at that hospital and reported on the many positive responses from patients, family members, and medical and nursing staff alike.

### Challenges

After gathering information from focus groups, reviewing the literature, and evaluating community standards, the QI team agreed that a BCC would have positive effects on patient care at RMC and recommended hiring a nurse to fill the new position. However, several barriers became apparent.

**Availability:** The QI team suggested that the BCC be available Monday–Friday 8 am–5 pm to accommodate patient needs because of the unpredictability of a new cancer diagnosis. However, because a relatively small number of patients with breast cancer were diagnosed at the facility annually, the QI team was concerned that a full-time nurse would be underutilized and would not be cost effective.

**Imaging services expansion:** As the QI team was evaluating the need for the BCC role, the imaging services department was expanding from 4,000 square feet to 28,000 square feet. The expansion included a new women's imaging and breast center. RMC's imaging services averaged 150 general examinations (e.g., x-rays, ultrasounds, computed tomography [CT], magnetic resonance imaging, nuclear medicine scans) per day. When the radiologist requested nursing care, it was supplied by whatever inpatient nursing unit could send an RN—pediatrics, emergency department, or medical. The requests were sporadic, and floating was stressful for the staff. Nursing staff felt inadequately trained to work in radiology, and the lack of continuity affected patient care. With the expansion, interventional procedures, traditionally undertaken in surgery, now would be performed in the imaging department. In addition, the increasing volume of outpatients that would accompany the expansion supported a decision to integrate nursing care. The same QI team recognized an opportunity to improve patient care by adding a nurse specially trained in imaging to fill the role. The nurse would need to meet the challenge of caring for patients of all ages with a variety of diagnoses. In addition, the imaging nurse would need to be available during similar hours as the BCC for scheduled and add-on patients.

**Cost:** With a limited budget, hiring two full-time specialist nurses was not financially feasible. The QI team recognized the overlap of care between the imaging and BCC roles. Combining the roles offered the potential to enhance the patient experience along the care continuum. Therefore, because of RMC's size and budget constraints, the QI team recommended blending the BCC and imaging nurse positions.

### Implementation

Although the team researched components of the imaging and BCC roles prior to the change, combining the two posed a potential challenge. Many questions arose. What components were common to both roles? Could one person provide sufficient expertise in both areas? How would time be allocated adequately between the two roles? The challenges were addressed in several ways. The QI team recommended hiring an experienced BCC and training the nurse for imaging duties. The nurse manager and director of imaging supported the approach, and an experienced BCC was hired. The nurse enjoyed the challenge of learning a new area of expertise and creating the new, blended role. Feedback from imaging staff and the radiologists guided the nurse as the novel role evolved. Creativity and openness helped to address the needs of the imaging staff and patients. Figures 1 and 2 review the tasks undertaken by the BCC/imaging nurse at RMC.

## Case Study. Example of the Role of the Combined Breast Care Coordinator/Imaging Nurse

A 78-year-old woman with intermittent abdominal pain presented for an abdominal ultrasound. The ultrasound technologist noted a large pancreatic mass. The radiologist contacted the patient's primary physician and continued the workup with a computed tomography (CT) scan, which demonstrated a liver mass suspicious for metastasis from the pancreas. After review and discussion, the patient consented to a CT-guided biopsy of the liver mass the same day. The imaging nurse did preprocedure teaching and contacted the patient's son. The patient had a frozen section biopsy of the liver mass. In postprocedure recovery, the patient and her family heard the new diagnosis of pancreatic cancer with liver metastasis from the radiologist. The nurse offered the patient and son emotional support along with information about her type of malignancy. A follow-up oncology consultation was scheduled for the next week, and information from the imaging department was faxed to the oncology clinic.

## Project Evaluation and Outcomes

An initial challenge for the new nurse was to gain acceptance and trust from the various practitioners. The goal was to have physicians view the BCC as an addition to and enhancement of their physician role, one that would help improve patient care overall versus interfere with their role as consulting physicians and overstepping patient boundaries. Five years after implementation, good collaboration exists between the practitioners and the BCC. Post-treatment surveys completed during the first year after creation of the new role validated the benefits that the QI team projected would occur. Patients have benefited from early nursing involvement and appreciate the nurse's care across the continuum. Results demonstrated that 97% of patients (N = 36 surveys returned) agreed or strongly agreed that they were satisfied with the care they received from the BCC. The number of patients with breast cancer diagnosed or treated at the facility has increased from 58 in 1999 to 98 in 2003.

Since the inception of the BCC/imaging nurse role in 2001, the number of interventional procedures performed in the imaging department has grown significantly. Because of the rise in time-consuming procedures, a part-time nurse has been recruited. Most of the facility's imaging patients involve oncology, general medical, or surgical diagnoses. The RNs are basic life support-certified, and each has at least 15 years of medical-surgical experience. Orientation to the imaging role consisted of training

with a variety of sources with expertise in imaging techniques and the use of moderate sedation. A critical care or emergency nurse accompanies patients who require cardiac monitoring. Because of the infrequency of cardiac-monitored patients, the lack of advanced cardiac life support certification has not been detrimental.

Having a nurse in the imaging department was new for the radiologists and radiology technologists. For the first six months, the nurse needed to demonstrate how she contributed to the coordination of care, provided emotional support, and implemented the activities outlined in Figure 2. After the initial period, the radiologists and technologists valued and appreciated the nursing activities and have reported increased efficiency and an ability to free radiologists' time for reading films. Coordination of care prior to interventional procedures has resulted in fewer complications, has helped outpatients avoid numerous emergency department visits, and

has increased satisfaction. Survey responses from patients speak to the value of meeting their emotional needs during even routine examinations. Coordination of care has improved patient flow by decreasing wait time and avoiding potential complications.

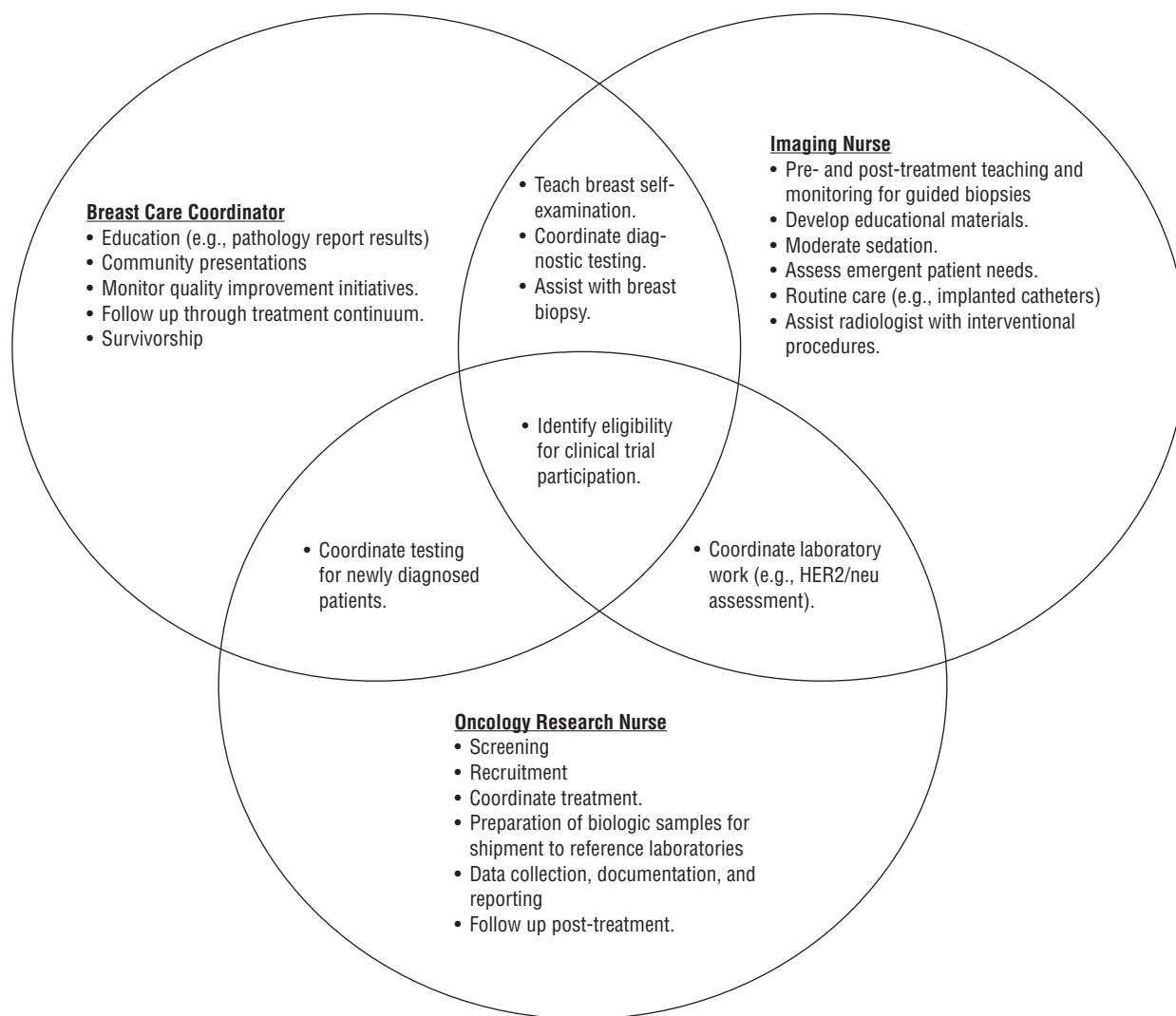
Although oncology certification is not a requirement for the combined specialist role, both nurses are oncology certified, which has proven beneficial. This is especially true for patients newly diagnosed with cancer following image-guided biopsy and for those coping with advanced diseases that require repeated procedures (e.g., thoracentesis, paracentesis). The imaging department diagnoses new cancers after CT- or ultrasound-guided biopsy an average of three times per week. A case study illustrates how the combined expertise of the BCC/imaging nurse is beneficial to patient care (see Case Study).

The addition of a part-time nurse has allowed for expansion of the blended role to include further cancer care services. Because of

budget constraints, when the part-time oncology research nurse was hired as the part-time BCC, her role responsibilities were added to the blended role. The blended role of BCC and imaging nurse naturally overlapped into the oncology research nurse role (see Figure 3). In the research role, the nurse recruits, coordinates treatment, and performs follow-up with all types of patients with cancer who are interested in participating in national cancer prevention, treatment, and symptom management clinical trials. Other cancer-related activities with which the nurses are involved include cancer support groups, coordination and follow-up of cancer screenings (skin, prostate, breast, and colorectal), in-service classes, and community presentations.

## Conclusions

From the time the QI team initially met until the implementation of the combined roles took about one year. The QI team maintained its focus of improving patient care,



**Figure 3. Blending of Three Nursing Roles**



minimized barriers, and exemplified leadership in a way that was fiscally responsible by creating a novel dual nursing position from seemingly separate nursing roles.

Having seasoned RNs with extensive oncology experience was advantageous and contributed to the success of the blended role. Learning how to assist with imaging procedures was easier than gaining oncology expertise. Specialized and age-specific training provided the additional skills required for imaging and pediatrics. Assessment skills, a strong background in patient education, and flexibility of nurses to respond to department needs are critical for the blended role.

The hybrid of care has expanded RMC's practice from the hospital into its affiliated oncology clinics. The unique approach of combining nursing roles offers patients the community standard of care and is cost effective for the hospital. An oncology background coupled with experience with medical and surgical patients improved coordination

of care across the inpatient and outpatient continuums. The blended role provides the nurses with a challenging work environment through exposure to diverse patients and a continual need to keep abreast of two specialty areas. Many smaller institutions may have a need for a BCC and imaging specialist nurse role but cannot afford two positions. A limited budget compelled the QI team to be creative. It has successfully combined not only two, but three specialty roles for maximum effect. RMC now can offer state-of-the-art care to patients with breast cancer and those needing imaging services, as well as offer access to clinical trials. Similar-sized healthcare facilities and their administrators can feel confident implementing this effective blended nursing role.

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