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Prospective roles for Canadian oncology nurses in breast cancer rapid diagnostic clinics

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ABSTRACT

The introduction of rapid diagnostic clinics for breast cancer increases oncology nurses' (ONs) responsibility for patient education and coordination of multidisciplinary care. Developed as an outcome of the E-Mentorship Oncology Nursing Program, this paper proposes new roles for these nurses to respond effectively and competently to such diagnostic innovation.

The Oslo Manual Conceptual Framework of Innovation inspired the idea of change in prospective ONs' roles, corroborated by the Canadian Association of Nurses in Oncology's Standards of Practice and Competencies. New roles for ONs that are informed by the domain of information dynamics and evidence-based care are proposed.

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The adoption of this diagnostic innovation provides a base for the widespread incorporation of the aforementioned standards and redesigned innovative in ONs care.

INTRODUCTION

New knowledge and skills in an innovative health care environment usually act as stimuli for change in the health industry. Advances in technology have resulted in better diagnostic capabilities, faster and better solutions for medical problems, and new and more effective interventions (Harrington & Voehl, 2010). It is crucial for Oncology Nurses (ONs) to be exposed to creative and flexible ways to adapt to innovation, and become enthusiastic partners and key players in the redesign and adaptation of methods for health care delivery.

A recent improvement in one specific area of oncology is the introduction of Rapid Diagnostic Clinics (RDC), particularly for breast cancer (BC), which is currently being implemented across Canada. This change in health care delivery provides an example of how innovation in diagnostic technology can stimulate change in professional roles, as well as patient care. "The Rapid Diagnostic Clinic has significantly improved diagnostic wait times and overall experiences for patients with a highly probable diagnosis of breast cancer" (Arnaout et al., 2012, p. S59). Rapid diagnostic clinics for BC usually offer one-day diagnostic testing and prompt results. One such example is the Gattuso Rapid Diagnostic Clinic located at Princess Margaret Cancer Centre in Toronto.

In order to support the evolution of clinical care, ONs are increasingly required to become facilitators of change, or change agents, who adapt to innovative work methods (Sullivan, 2012). Oncology nurses have multiple roles: they navigate support (Lord, 2007), provide support to patients, and facilitate the coordination of steps in the diagnosis process (Farrell, Molassiotis, Beaver, & Haven, 2011). They also act as a liaison to community agencies and between hospital departments, facilitate the one-day diagnosis, conduct physical examinations, and support women entering the clinic to confirm or dismiss the diagnosis of BC (Lord, 2007). The evolution of diagnostic technology presents challenges for ONs to expand and develop their skills and knowledge in a context of providing cost-effective, timely, efficient, and patient-centred care.

In response to the diagnostic innovation of RDCs for breast cancer, we propose new roles for ONs in which they have more responsibility for patient education (if compared to cancer centres since the urgent, contextual nature of decision-making with RDC constitutes a differential for the patient's education process) and the coordination of multi-professional care. The idea for these new roles, described in this paper, is an outcome of a research partnership among two faculty mentors and two recent graduate mentees in the McMaster University E-Mentorship Oncology Nursing Program.

LITERATURE REVIEW

Breast cancer is one of the most common cancers affecting women in Canada. It is anticipated that one in nine women will have breast cancer, and one in 29 of those women will die from the disease (Canadian Cancer Society [CCS], 2012). Breast cancer is ranked as the second leading cause of death among female cancer patients; it was projected that 22,700 new cases would be diagnosed in 2012 (CCS, 2012; CCS's Steering Committee on Cancer Statistics, 2012). The BC-RDC is a relatively new diagnostic approach that aims to offer prompt access to specialist assessment and confirmation of diagnosis (Britton et al., 2009; Brouwers et al., 2009; Hui et al., 2010). Faster assessment is highly desirable since the median wait time for a woman who has an abnormal BC screening is 4.7 weeks to obtain a confirmation of diagnosis in Ontario (Canadian Breast Cancer Network, 2008). In 1999, the Canadian Breast Cancer Screening Initiative adopted a target of seven weeks from abnormal screen to diagnosis if a biopsy was needed. While no data exist to substantiate that a one-day BC diagnosis improves a woman's outcome, the longer wait may cause morbidity in the form of greater acute anxiety and discomfort, as well as time and expense for additional tests (Olivotto et al., 2001). Therefore, RDC represents a two-fold innovation: it ensures high quality diagnostic accuracy and it likely reduces psychological morbidities, as a result of the reduced time waiting to obtain diagnostic testing.

Rapid Diagnostic Clinics also entail the evolution of ONs' roles. This innovation in the health care environment has prompted ONs to take on a more directive role in facilitating BC diagnosis, including triaging women referred to the clinic and arranging imaging and biopsies (Lord, 2007). Rapid diagnostic clinics allow for other changes in nursing practice roles that involve a level of partnership among professionals and non-professionals in health care provision (Bryant-Lukosius, DiCenso, Browne, & Pinelli, 2004).

A set of nine standards and seven competencies underlie the roles of ONs, as defined by the Canadian Association of Nurses in Oncology (CANO) Practice Standards and Competencies (CANO, 2006). These standards outline the ONs' responsibility to provide professional, evidence-based care that is patient- and family-centred, respectful, and tailored to the individual needs of patients and families. ONs are expected to advocate for patients and significant others and provide them with information necessary to make informed decisions and navigate the health care system. The standards are complemented by seven core role competencies which require ONs to provide a comprehensive assessment based on patient needs, establish supportive and therapeutic relationships, and apply nursing knowledge and skills to patient care to provide the best outcomes. ONs are expected to use critical thinking skills and nursing knowledge to teach and coach patients and to provide care that is ethical and based on best scientific evidence.

AIM OF THE PAPER

This paper proposes new roles for Canadian ONs in breast cancer rapid diagnosis clinic (BC-RDC) that will improve

nursing practice and be responsive to patients' and family members' particular needs in times of diagnosis uncertainty.

CONCEPTUAL FRAMEWORK

The Oslo Manual Conceptual Framework of Innovation (Organisation for Economic Co-operation and Development, n. d.) inspired our thinking about the prospective roles of ONs in BC-RDC. This framework consists of four fundamental domains for introducing innovation within an organization: conditions, science and engineering base, transfer factors, and information dynamics. *Conditions* refer to environmental factors, such as funding availability, organizational policy, employee education, and social factors that function to either foster, hinder, or discourage innovation. This domain emphasizes the importance of having a supportive environment that is open to change, as well as the presence of early adopters of innovation who are aware of the risks related to change and improvements. The second domain of innovation, *science and engineering base*, refers to the intellectual setting for the aforementioned process, that is, the knowledge gained from scientific research and development of new technology and skills needed to fuel and support innovation. The third domain, *transfer factors*, refers to the human, social, and cultural characteristics that determine the organization's ability to adopt an innovation; this implies the social context and ease of information dissemination among the relevant individuals who are able to apply the knowledge gained from the science and engineering base and can propel the organization forward. *Information dynamics*, the fourth domain, involves the organization's ability to purposefully identify and use opportunities (i.e., technology and skills) to create and/or improve a product or process.

This framework was an appropriate guide for our work as the introduction and expansion of RDCs in cancer organizations and regional cancer programs can be viewed as an example of innovation in healthcare and need of changes in professional roles. Rapid diagnostic clinics embody the characteristics of true innovation and each of the aforementioned domains is relevant for introducing the new processes required to respond to patients' needs triggered by the rapid resolution of uncertainty related to BC diagnosis.

FORESEEING NEW ONS ROLES IN BC-RDC

The proposed ONs' roles are framed by the CANO Standards of Care, congruent with its Practice Standards and Competencies, and aligned conceptually with each domain of the Oslo Manual Concept Framework of Innovation, as presented in Table 1.

Within the domain of *conditions*, the role specifications are expected to respond to the advances in diagnostic procedures and work redesign and alleviate pressure on the health care system through cost-effective methods. Rapid diagnostic clinics are expected to contribute to early diagnosis, thereby preventing unnecessary costs of advanced cases of BC. The new roles are designed to expand ONs' particular contribution to the prevention of unnecessary human suffering by supporting better outcomes. Oncology nurses will be called on to educate

the target population of patients and their significant others on early detection of BC and the benefits of RDC. Additional challenges to the ON's educational role will be the time pressure related to the short length of time for diagnosis confirmation along with extra psychological pressure on health care professionals to create and consolidate a strong system of referral and counter referral to support patients. The use of solid experiential and scientific evidence to generate insights on RDC operation and effectiveness will be facilitated by familiarity with other health care professionals' roles in all types of RDCs, including those located in other countries.

Other relevant input to consider will be the reactions of patients' and their significant others to the RDC process, their views on the new educational experiences such as use of decision-making tool, and facilitated discussion with nurses, and an understanding of the elements that assist patients to become engaged in the RDC process. It is necessary to say that some women may see it as threatening to have a more rapid diagnosis of BC. Fear of immediately receiving such diagnosis may require a particular teaching approach to allow them

to acknowledge the reality, be mentally and emotionally ready for the educational process, and to feel safe enough to become engaged in the decisional process. As proposed in Table 1, some proposed roles will be to observe patients' characteristics as learners and use evidence-based information from patients' experiential knowledge to appraise readiness and openness to learn about BC-RDC.

In the domain of *transfer knowledge, skills and expertise*, ONs are expected to maximize the cost-efficiency of RDCs and monitor the benefits and outcomes. This assumes they are working in an environment or process that welcomes new knowledge for input into the redesign or work engineering for ONs throughout the flow of technical actions related to rapid diagnosis, supporting education and psychological actions, and the decision-making process. Oncology nurses are advised to consider the clientele's openness and readiness to embrace novelty and act autonomously. As a core professional in the development and sustainability of a health information system, ONs would collaborate with the RDC manager regarding information management and evaluation. This would

Table 1: Prospective ON roles in BC-RDC as framed by the CANO Standards of Care and inspired by the Oslo Manual Conceptual Framework of Innovation

Roles according to the domain of conditions	Roles according to the domain of science / engineering base	Roles according to the domain of transfer factors	Roles according to the domain of information dynamics
<p>Be responsive to:</p> <ul style="list-style-type: none"> • A new work design engineered for financial constraints in the health care industry • A need for early diagnosis to improve the diagnostic process and offer same day investigation and diagnosis of BC (PSC-7) • A social desire to prevent unnecessary human suffering by BC (PSC-6) • A need of educating the clientele about the benefits of BC-RDC (PSC-4) • Challenges of building a feasible referral and counter referral system among health professionals (PSC-5) 	<p>Stay tuned with:</p> <ul style="list-style-type: none"> • Research-based evidence from other countries who have implemented BC-RDC (PSC-7) • The experience of health care professionals who have worked in similar clinics of RDC in other diseases (PSC-7) • The testimonies of patients who have received diagnosis in other RDC clinics & diseases (PSC-7) • Innovation in methods of work-based on the reports and documentation of tested culturally and ethnically sensitive health education tools for minorities (PSC-4; 7) 	<p>Perform to:</p> <ul style="list-style-type: none"> • Maximize actions to ensure the cost efficiency of operating BC-RDC (PSC-7) • Design new nursing interventions in the flow of BC diagnostic events (PSC-7) • Use socially inclusive education strategies to accommodate various literacy levels, age, gender, health beliefs, and emotional readiness to learn about BC-RDC (PSC-4; 6) 	<p>Front-run to:</p> <ul style="list-style-type: none"> • Increase patients' levels of satisfaction with overcoming uncertainty and feeling emotional safety related to BC-RDC (PSC-5) • Facilitate a smooth, continuous flow of new patients from referring doctors (PSC-5) • Create with IT staff a common e-platform for health information (PSC-5; 7) • Celebrate consolidation of ONs roles in BC-RDC by tracking ONs' positive self-evaluation of acquired new teaching, advisory, and management technical skills (PSC-7) • Forge extended partnerships responding to spontaneous requests from patients' significant ones for information and involvement in the caring process (PSC-2;4;6;7) • Evaluate outcomes to reaffirm the ONs leadership in the health care organization, innovative cancer treatment (PSC-7) • Disseminate information on ONs' new roles in BC-RDC to attract ONs to magnet organizations (PSC-7) • Redefine a system of inter-professional communication (PSC-5; 7)

Legend: CANO Practice Standards and Competencies for the Specialized Oncology Nurse (2006): Practice standards and competencies (PSC): PSC-1 – Individualized and Holistic care; PSC-2 – Family-Centred Care; PSC-3 – Self-Determination & Decision-Making; PSC-4 – Navigating the System; PSC- 5 – Coordinated Continuous Care; PSC-6 – Supportive Therapeutic Relationship; PSC-7 – Evidence-Based Care; PSC-8 – Professional Care; PSC-9 – Leadership

include the incorporation of an extensive systemic evaluative process that explores levels of satisfaction among all the individuals involved in the algorithm of the RDC as well as referral sources to oncologists. Collaboration involving information technology will place ONs in a crucial position to ensure that information will not be lost and will be promptly available for all when needed. The dynamic phase of outcome evaluation (Champagne, Contandriopoulos, & Pineault, 1986) throughout organizational RDC implementation, as well as a tracking system of changes, will be necessary. Ultimately such processes could also be used to document the professional development and accomplishments of ONs and reflect the application of their creativity, compassion and knowledge of the new method of work. The creation of a RDC promises reduced waiting times and offers ONs an opportunity to expand their role in creating an integrated information system. While few RDCs currently operate in Canada—as of 2009, only three provinces (Ontario, Quebec, and British Columbia) offered BC-RDC (Cancer Care Ontario, 2009).

CANO STANDARDS OF PRACTICE AND CORE COMPETENCIES: UNDERPINNING PROPOSED ROLES

The predominant standard for the proposed ONs' roles is the CANO's evidence-based care practice standard (PSC-7), which corresponds with a strategic fit between scientific knowledge and technological innovation such as that exemplified by the RDC. This standard involves a logical relationship between the goal to be achieved and the means proposed for doing so. Also, evidence-based ONs' roles could be consolidated due to the dynamic nature of the RDC and its potential impact on the "continuum of cancer control such as screening, early detection, pre-diagnosis, and diagnosis" (CANO, 2006, p. 4). Moreover, the nature of cancer center work often separates these stages and the workflow is focused on assessment, treatment or follow-up assessments. There is a requirement for ONs to be aware of opportunities to discuss/educate about all facets of cancer care from prevention to palliation.

These roles can be more closely evidence-based once they are evaluated by studies exploring women's and significant others' levels of satisfaction with ONs' educational and psychosocial interventions during the pre-diagnostic phase. We expect that studies of ONs' appreciation of interventions to ensure continuity of care and to facilitate ONs' full participation in the RDC multidisciplinary team will confirm that ONs' new roles are responsive to technological demands, promote an expedient process of informed decision-making by women, and allow for interventions that are sensitive to women's varied psychological, cultural and cognitive profiles.

There are other CANO standards of practice that do not correspond to any aspect of the proposed ON roles. First, the individualized and holistic care standard (PSC-1) was not included because no change in this standard is foreseen. Second, the self-determination and decision-making standard (PSC-3), suggesting an emphasis on individual behaviour in navigating the health care system, does not fit with the context in which ONs will assume the role of patient advocate in delivering

socially inclusive education strategies. Being an advocate for social inclusion is another way to provide individualized care. It reminds ONs that electronic health literacy, decoding of complex medical information, high reading and numeracy skills are not universal attributes for all. Socially inclusive educational strategies must be available to democratically offer to all patients' equal learning opportunities despite their intellectual, physical, socio-cultural including ethno, religious and linguistic particularities. Third, the professional care standard (PSC-8) and the leadership standard (PSC-9) were not considered relevant because RDC for BC is a relatively new approach and ONs' roles are under development in the different areas of RDCs (Price et al., 2005). It is noteworthy to say that time will allow such leadership to emerge demonstrated by specific qualities and skills (i.e., self-confidence, innate leadership qualities/tendencies, progression of experiences and success, influence of significant others, advocacy, management expertise, and emotional intelligence) (Kelly & Crawford, 2013). As a result, and as more knowledge is generated in the future, ONs may assume leadership positions in RDCs (e.g., leadership in information technology, community outreach, team work). The CANO Standards of Practice and Competencies remain informative in reflecting on these new settings and changes in the ONs' roles.

The evidence-based care practice standard is the main component that is relevant for our proposed ONs' roles. In a systemic way, the complexity inherent in the aforementioned standard, related roles, and mobilized competencies guided the redesign of the ONs' scope of practice. We inductively developed a representation of the proposed ONs' roles (see Figure 1) to display the contextual conditions and the process base including the related target actions in sustaining the process of mobilizing assets to work toward goal achievement. The outcome of this dynamic flow is to develop a new platform of communication that will ultimately improve the ONs' work performance, patient and significant others' participation in the diagnosis process, make team communication more effective, and provide audit data for the organization's outcome evaluation.

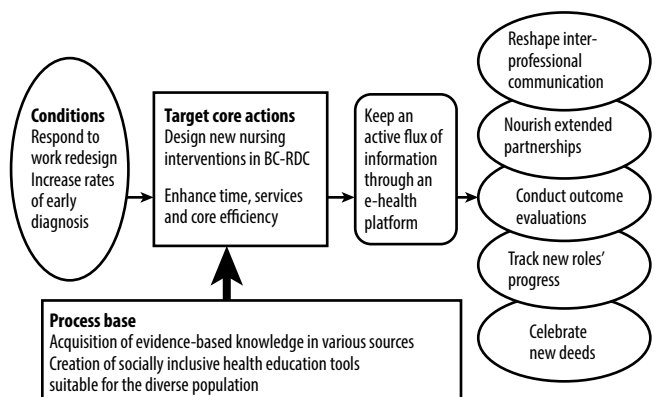


Figure 1. A systemic view of ONs' roles in BC-RDC

MENTEES' REFLECTIONS ON THIS PROJECT

Utilizing a conceptual framework on innovation led us to the design of new roles for ONs in BC-RDC that challenge conventional nursing boundaries for practice and education. By reviewing their personal assumptions about expertise, job market requirements, economic changes, and work force diversity, mentees' realized that these are all essential factors in the adoption of new models of health care delivery. Modern and socially responsive health care organizations should offer opportunities for new graduate nurses to become engaged and enhance their competencies in new scopes of practice.

The application of new technology implies the adoption of new work processes and job redesign that ultimately enhances the need for new graduate nurses to review prevailing attitudes and adjust to innovations and job expectations. Mentees learned that to stimulate innovation in health care organizations, those organizations should invest in effective structures, as provided by professional and personal support, enhance human resources through a strong commitment to training and development and the provision of job security, and attend to important cultural variations by making use of feedback and effective conflict resolution (Robbins, Coulter, & Langton, 2009). Those are administrative features whose discussion are beyond the scope of this paper since they imply an organizational investment and structure.

Innovation is usually led by idea champions and their followers and adopters (Kelly & Crawford, 2013). We envision that ONs' champions for introducing RDC would be those who possess up-to-date evidence-based knowledge and a willingness to socialize knowledge through visionary plans for the evolving practice of ONs. As a result of this sort of change, the ONs' inner potential for creativity will be mobilized. Looking retrospectively, we also reflected on the need for nursing programs to introduce undergraduate students to issues related to changing technologies that will come in the near future and how students can transfer basic knowledge to new platforms of actions and thoughts. Zanchetta et al. (2012, p. 7) noted "the urgent need for students to be educated in the use of socially inclusive teaching technology". Supporting patients at different levels of health literacy for sense-making, learning, and decision-making seems crucial for ONs in BC-RDC. We also foresee the need for ONs to be highly skilled to amalgamate a multidisciplinary body of theoretical and conceptual knowledge to respond to organizational and societal demands.

RECOMMENDATIONS FOR PRACTICE, RESEARCH AND EDUCATION

Oncology nurses' practice would be improved by receiving basic education and in-service education that responds to their advanced learning needs and preferences regarding the incorporation of the CANO Practice Standards and Competencies, as identified by Robb-Blenderman et al. (2006). We recommend that such educative sessions for ONs should be delivered in formats that could accommodate learning preferences and conditions to attend the sessions, such

as individual online education programs (including a portal for ONs education) and group in-class facilitation. Regarding ONs' roles as educators, some features to be taken in consideration are as follows: a) the use of effective teaching methods for patients who will learn under psychological distress; b) the patients' different cognitive abilities, learning styles, and preferences; c) the use of social media (Twitter, Facebook, YouTube) to stimulate scientific curiosity about RDCs among the general population and the at risk population, as well as the use of tele-nursing tools to monitor patients during the pre-diagnosis phase (e.g., patient portals, my chart, infowell); and d) the creation of blogs and websites to promptly respond to the quest for general and individualized information to support the choice of treatments, self-management of clinical conditions, and responding to the curiosity about BC and wellness.

Another important area of recommendation is to promote research on productivity, effectiveness, and quality of services. Cancer organizations and programs may incorporate an evaluative function during the early phases of implementation of new initiatives related to RDCs. This will create a culture that is favourable for the conduct of evaluation studies to monitor the effectiveness of the overall implementation of RDCs, including ONs' satisfaction with their job performance, productivity of RDCs, capitalization of human and material resources, as well as patient safety and satisfaction with RDC services, and patients' quality of life. ONs can educate BC patients during the RDC process and enhance the patient's involvement as a well-informed partner in the therapeutic decision-making during the early phases of breast cancer diagnosis and treatment. Therefore, it will undoubtedly reduce unnecessary psychological and spiritual suffering contributing to better quality of life (Maheu et al, 2014). To this end, a study in progress implements an uncertainty and anxiety coping intervention to assist patients who are attending for BC-RDC (Maheu et al., 2014).

The major "take away" messages to help in integrating the proposed roles to ONs in BC-RDC practice are: master pedagogical knowledge about the challenge of learning under psychological pressure; embrace innovation as an advocate/educator/consultant for ONs and patients; learn about the incorporation of innovation in oncology care using a systemic set of actions; and foresee rebuilding your role as an inspirational leader in information technology that will offer socially inclusive learning opportunities for ONs, patients, family members and the general population.

CONCLUSION

The introduction of new technologies tends to alter working environments and require ONs to adapt quickly. This means being aware of the inherent challenges that patient's complexity of care and new work environments bring, but also being aware of their improvements on all aspects of practice in BC-RDC. Roles are expected to evolve and be refined as health educators, leaders, managers, advocates, care coordinators, knowledge producers, data managers, communicators and care providers. Due to uncertain outcomes related

to the implementation of the proposed roles within multidisciplinary and ONs teams, their impacts over services effectiveness, rate of patients' involvement with RDC, program evaluation and so on, should be planned at the time of development and conducted accordingly. In-depth analysis of ONs' accounts would further enhance understanding of the intricacies of what makes a practice change successful on all levels from the achievement of competencies to work performance and ultimately to patient and significant others' participation in their care.

How far would ONs reach be if working exclusively in an RDC? The answer will be built as a result of the fast progression of Canadian ONs adopting new roles to respond to

the increasing challenges and innovations in oncology, and by their joint effort as knowledge producers in their diverse scope of practice as clinicians, managers, educators and researchers.

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