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Piloting an integrated education pathway as a strategy to prepare for and encourage oncology specialty certification

by Pamela Savage, Barbara Fitzgerald, and Charlotte T. Lee

ABSTRACT

Although continuing nursing education is crucial to improve professional and patient outcomes, programs in oncology nursing remain scarce, piecemeal, and focused on one modality of treatment, which limits the effectiveness of education interventions. The objectives of this paper are to describe the development and implementation of a longitudinal specialized oncology nursing education pathway program, and the evaluation results of a year-long pilot of the first stage of the program at a large university-affiliated cancer centre. Preliminary findings indicated that participants' perceived competence in health assessment and symptom management was improved after one year of enrolment in the education pathway. Next steps following this pilot, including implications for participants with regards to attaining oncology certification are also discussed.

Similar to many nursing support groups that strive to enhance nursing capacity to advocate for patients and their families, the Canadian Association of Nurses in Oncology (CANO) "recognizes the responsibilities and mandate of nurses to promote and provide the highest standards of care for individuals, families and populations who are living with, affected by or at risk for developing cancer" (2014, p. 8). From a provincial perspective, Cancer Care Ontario (CCO) created an oncology nursing program to harness the potential and work that oncology nurses do to influence and improve the quality of the cancer system. CCO advocates for excellence in oncology nursing through standards and initiatives related to practice education and research and a number of performance metrics have been established

that regional cancer centres are expected to meet. Moreover, the attainment of specialty certification is often used in Canada as an indicator and standard to reflect that a nurse has specialized knowledge. A means for leaders to actualize such goals would be to provide nurses opportunities to engage in professional development activities.

Continuing nursing education is a crucial aspect of professional development. The American Nurses Association (American Nurses Credentialing Center, 2011) defines continuing nursing education as "planned educational activities intended to build upon the educational and experiential bases of the professional nurse for the enhancement of practice, education, administration, research or theory development to the end of improving the health of the public" (p. 106). The benefits of continuing nursing education, such as self-reported improvements in perception and behaviour, have been described in the literature (Furze & Pearcey, 1999).

However, barriers to obtaining such education and certification have been noted, including a lack of funding, unclear expectations from administrators, and staff shortages (Furze & Pearcey, 1999). Specifically within the field of oncology nursing, challenges remain in ensuring oncology nursing capacity to deliver quality patient care in an increasingly demanding, complex health system. For instance, only 27% of nurses in a large urban, academic cancer centre in Ontario had an oncology specialty certification as of 2010 (Princess Margaret Cancer Foundation, 2012).

It has been suggested that standardization of care, a known outcome of continuing education, enhances safety and patient outcomes (Jacobson et al., 2009). Nevertheless, as described in the following section, most of the continuing nursing education efforts in oncology are piecemeal, classroom-based, and focused on a single aspect of oncology practice, such as chemotherapy administration.

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BACKGROUND ON CLINICAL PATHWAY, NURSE RESIDENCY PROGRAMS

Our literature review identified fewer than 10 empirical studies on nursing internship and residency programs at the post-licensure level that examined longitudinal programs for staff nurses in oncology. When Razavi et al. (2002) examined the effects of a 105-hour communication skills training program on oncology nurses' use of more empathic language with patients, they found that participants used substantially more emotionally laden words than did nurses in the control group. Moreover, the patients of these nurses also used more emotionally laden language in interactions after the training program. Similarly, Kruijver et al. (2001) found that a week-long

communication skills training workshop led oncology nurses to ask more psychosocial questions, and their patients to engage in more emotion-filled communication. According to Razavi et al. (1993), nurses reported improved self-concept and reduced occupational stress after a psychological and communication skills training program that included 24 hours of training over an eight-week period.

Although several such short-term interventions have been aimed at developing specific skills among oncology nurses, no empirical studies have emerged to date about longer term, comprehensive residency programs designed specifically for oncology nurses. Anderson, Hair, and Todero (2012) determined that while the content and structure of existing residency programs varied substantially, several components were common: reduced clinical hours, four to eight hours per month of classroom experience, and using a “supportive experiential clinical learning approach” with the new nurse being precepted for three to 12 months. In general, these oncology and general nurse residency programs were associated with positive outcomes, including improved job satisfaction and sense of autonomy (Altier & Krsek, 2006; Anderson et al., 2012), performance, critical thinking, and nursing competency (Beecroft, Kunzman, & Krozek, 2001; Herdrich & Lindsay, 2006), and reduced feelings of stress (Krugman et al., 2006). As a result, these residency programs were also associated with substantially reduced turnover and consequent large reductions in recruitment costs that generally greatly outweighed the costs of the residency programs themselves (Beecroft et al., 2001; Marcum & West, 2004; Pine & Tart, 2007). However, Anderson et al. (2012) argued that most or all of these previous programs lacked a clear, expressed theory of change that was tested, and that future studies should specify one, in order to determine what components were actually leading to beneficial outcomes.

In a large urban, academic cancer centre in Canada with over 500 nurses, a four-year Specialized Oncology Nursing Education (SONE) Pathway program was developed in response to the need for a longer, comprehensive, specialized education residency program for oncology nurses. Its objective was to develop nursing capacity to promote the quality of patient care, as well as enhance clarity of the nurses’ role, thereby improving the full scope of nursing practice, and both prepare and motivate nurses to obtain specialty certification (Princess Margaret Cancer Centre, 2012). These changes would, in turn, facilitate clearer and more focused administrative practices, such as having a program of resources available for guiding professional development of staff nurses. This paper will describe the development and implementation of the SONE Pathway, a proposed evaluation framework, and initial results of a one-year pilot based on the first phase of the SONE.

DEVELOPING THE SONE PATHWAY

Based on findings from a literature review and feedback from internal stakeholders confirming the need for a more comprehensive continuing nursing education program in oncology, a

team of nurse leaders, administrators and educators from a large academic cancer centre, was formed in 2010 to identify desired outcomes, develop curriculum, and implement and evaluate a longitudinal education initiative. Nurse leaders guided development of the program and provided support for its implementation and evaluation; clinical educators prepared and delivered the education materials. Staff nurse representatives were consulted to verify needs and feasibility.

Planning the curriculum

Benner’s (1984) model, From Novice to Expert, and the Canadian Association of Nurses in Oncology’s (CANO, 2006) advisory documents provided the foundation for the content and structure of the SONE Pathway. Based on Benner’s theory, in which nurses pass through five levels of proficiency in the acquisition and development of a skill, and on the CANO Standards and Role Competencies document that outlines three roles in oncology nursing (generalist, specialized, and advanced) and nine standards of care (Canadian Association of Nurses in Oncology, 2006), we assumed that nurses would experience the learning trajectory from novice to expert for each standard applicable to their role. The generalist nurse cares for individuals with cancer in a non-specialized oncology setting. The specialized oncology nurse, who works primarily with oncology patients, is expected to have advanced oncology knowledge, skills, and judgment. All nurses working at cancer centres or units with a majority of oncology patients are considered specialized oncology nurses. The advanced oncology nurse has a Master’s degree in nursing or related disciplines with an oncology clinical focus and a certification in oncology and/or hospice palliative care. These advanced practice nurses engage in advanced clinical practice, education, research, leadership, and collaboration. In addition, CANO’s document described seven competencies specific to specialized oncology nurses: comprehensive health assessment, supportive and therapeutic relationships, management of cancer symptoms and treatment side effects, teaching and coaching, facilitating continuity of care / navigating the system, decision making and advocacy, and professional practice and leadership.

Clinical nurse educators developing the SONE Pathway also explored educational strategies, learning outcomes, educational experiences, assessment, educational environment, and individual students’ learning style and personal timetable (Iwasiw, Goldenberg, & Andrusyszyn, 2009). In addition, they considered Hodges et al.’s (2011) recommended elements for a successful continuing education program: dedicated continuing education leaders; presence of a deliberately planned curriculum that is longitudinal, integrated, and inter-professional in nature; and integration of a comprehensive evaluation plan. In the program they designed, oncology nurses were to follow one of three education pathways, according to their role. The specific sets of courses proposed for each pathway addressed CANO standards, which also correspond to the blueprint of the Canadian Nurses Association (CNA) specialty certification in oncology nursing (Canadian Association of Nurses in Oncology, 2013). The SONE Pathway was designed to take one year for generalists and four years for nurses in specialized and advanced roles. After determining the

course curriculum, clinical educators prepared teaching materials based on resources available from CANO, the Oncology Nursing Society, the de Souza Institute*, and other evidence-based curriculum and literature.

Engaging stakeholders

Stakeholders were consulted from the earliest stages of planning. Senior nursing leaders and educators discussed the concepts behind the SONE Pathway with managers and nurses to ensure that other perspectives (e.g., concerns related to costs, arranging coverage for nurses who attend class) were considered in the program's design. When hospital leaders from other disciplines were introduced to this initiative, their endorsement (as demonstrated by, for instance, co-operation and support of staffing changes when participants are replaced by temporary staff at clinics) expressed an authoritative recognition of nurses as experts in caring for oncology patients, as indicated by increased inter-professional collaboration.

Table 1: Evaluation scheme for SONE		
Kirkpatrick's Model	SONE Program Evaluation Variable	Instrument
Satisfaction	1. Satisfaction with course workshops	Participant Satisfaction Survey
	2. Satisfaction with overall pathway	Specialized Oncology Nursing (SON) Pathway Evaluation
Learning	1. Confidence in knowledge	Specialized Oncology Nursing (SON) Pathway Evaluation
	2. Evidence of increased knowledge	Pre- and post-test scores for each workshop
	3. Oncology practice standard competencies	CARD - Competency Assessment and Role Description
Behaviour	Percentage of nursing time spent on each CANO standard of practice	Seven-item survey on perceived percentage of time spent on each of the CANO standards of practice
Results	1. CNA Certification	Data collected annually
	2. Team perception – satisfaction	Three-item survey

* The de Souza Institute is a centre of learning dedicated to improving cancer care in Ontario by supporting excellence in oncology nursing. This Institute delivers education and mentorship programs, provides assistance in achieving specialty certification of oncology and hospice palliative care, offers funding for graduate fellowships for nurses pursuing a Master's or PhD degree in a health, social science or education-related field, advances research and evidence-based care, as well as provides personal support to nurses in managing work-life balance (Cancer Care Ontario, 2012).

Identifying outcomes and measurements

The team proposed that a combination of subjective and objective measures be used to evaluate the program. The various measures were based on Kirkpatrick's classic Learning Evaluation Model (Kirkpatrick, 1994) and Cook's (2010) recommendations for evaluation. In keeping with Kirkpatrick's Model, it was intended that the following dimensions of learning outcomes be measured: reaction (as indicated by satisfaction or happiness), learning, behaviour, and results. See Table 1 for the instruments the team proposed to use to measure these outcomes.

Description of the program

The pathway in the program is divided into three phases: orientation, residency, and professional / leadership development (see Table 2).

During the orientation phase for specialized oncology nurses, all nurses new to the institution receive two weeks of generic hospital nursing and oncology-specific nursing orientation. The majority of content is delivered via classroom and online learning (mandatory and during paid time) and includes a review of hospital procedures and policies. After that, nurses receive a clinical orientation focused on the following elements of the oncology patient's experiences: their journey from disease detection to treatment (surgery, radiation therapy, systemic therapy); inpatient versus outpatient experience; well follow-up; survivorship; and palliative and end-of-life care. This orientation includes clinical visitations and observerships, during which participants witness the range of cancer care delivery (e.g., observing cancer surgery, as well as laboratory and diagnostic procedures). All observerships include guided questions and reflections for the learner. At Week 5, nurses begin a one-on-one clinical preceptorship that lasts for approximately eight weeks, depending on the individual's nursing and/or oncology experience. The goals of the orientation phase are:

- to ensure all staff nurses are competent and demonstrate the ability to utilize a patient-centred approach to assess and address the supportive care needs of oncology patients and their families;
- to build a culture of inquiry in the clinical environment that allows nurses to exercise clinical judgment when interacting with patients/families and the interprofessional team; and
- to embed the principles of learner accountability, promote lifelong learning/goal setting, and encourage the pursuit of innovative leadership endeavours.

Table 2: Phases in specialized oncology nurse pathway	
Phase	Length
Orientation <ul style="list-style-type: none"> Generic hospital orientation Clinical orientation (clinical visits) Clinical preceptorship 	From date of hire up to 12 weeks ** Some sub-specialty areas may require longer orientation time depending on learner's prior experience and subspecialty area of hire.
Residency	Post-orientation up to 24 months
Professional/Leadership Development	Post-year two up to year four

Nurses in the program are encouraged to participate in reflective learning and embrace learner accountability around knowledge acquisition and goal setting in their daily practice. To foster this process, they are asked to rate their level of competence from novice to expert using the Competency Assessment and Role Description (CARD) measure adapted from CANO's practice standards (Canadian Association of Nurses in Oncology, 2006). Learning reflections are part of the SONE courses and nurses are asked to present "lessons learned" during their orientation experience. Newly hired nurses are required to complete the CARD on Week 3 of orientation to identify their learning needs and establish a learning contract. Nurses' progress and performance are evaluated at regular intervals within the first year of hire (within the first week, at three months, after one year) to ensure learning needs are identified and addressed in a timely manner.

Specialized oncology nurses have two years to complete the residency phase. Year 1 is dedicated to specialized oncology knowledge gathering and clinical skill building for their specific clinical area. During this time nurses are required to take the deSouza Provincial Standardized Chemotherapy and Biotherapy Course which meets Cancer Care Ontario standard for administering

chemotherapy. Nurses are encouraged to access a number of established oncology nursing courses offered by the de Souza Institute and expected to complete a set of foundational oncology courses designed to ensure that they can safely and effectively care for their specific oncology patient population (see Table 3).

On completion, nurses should be able to perform comprehensive assessments, make timely critical decisions, provide effective interventions, and evaluate patient outcomes. This was assessed by tests administered as part of each course, including pre- and post-training tests for the foundational components.

In Year 2, nurses are expected to further consolidate their oncology nursing skills and knowledge through a combination of local and external courses, such as those offered by the hospital, the de Souza Institute, or CANO (most of these at no cost to participants; some require unpaid time). Participants are encouraged to obtain an Oncology or Hospice Palliative Care certificate from the CNA or certification from the Society of Clinical Research Associates (SoCRA) for nurses (in Canada) who are in clinical research coordinator roles. Participants will be informed of funding and other resources available from various organizations (e.g., de Souza Institute, Registered Nurses Association of Ontario education initiative) to facilitate this goal.

The aim of the professional / leadership development phase is to ensure nurses have the opportunity to pursue professional development activities throughout their career continuum. These activities may include engaging in professional goal setting with a clinical educator, enrolling in internal leadership and professional development courses, completing an external leadership program (such as that offered by the Dorothy Wylie Health Leadership Institute), and attending oncology nursing conferences. At the end of this phase, nurses pursue a de Souza Institute designation or further graduate studies.

RESULTS AND DISCUSSION

The program was introduced to all new staff nurses (N=43) in the ambulatory department and all 43 nurses completed Year 1 of the pilot program (see Table 4 for enrolment particulars). Data from CARD evaluation were analyzed using the Wilcoxon signed-rank test. Results suggested that the SONE program improved participants' skills and knowledge in performing comprehensive health assessment ($p<0.001$) and symptom management ($p<0.05$) after up to one year in the program (see Table 5). The fact that only these two pre-post, self-graded scores for competency showed statistically significant improvement is likely because a majority of the education content within the first year of SONE program focuses on health assessment and symptom management. In fact, a slight but non-significant decline in perceived competence in navigation was noted (from 2.48 to 2.43). The negative findings may be due to the small sample size which lacks power and increases risks for Type II error, or the curriculum. The other five areas may be better addressed in the Residency and Professional Development / Leadership phases of the program when more discussions and experiential learning occur.

Key limitations of this one-year evaluation include the use of a single self-reported measure, a small sample size which limits the use of more referential statistics, and a lack of control over other factors that may have contributed to a change in perceived

Clinical Area	Priority Courses
Chemotherapy Day Unit	<ul style="list-style-type: none"> • Chemo/biotherapy course • Solid Tumour Malignancies • Malignant Hematology • Oncology Health Assessment • Management of deteriorating patient
Solid Tumour Malignancies (in/out patient)	<ul style="list-style-type: none"> • Oncology Health Assessment • Management of deteriorating patient • Chemo/biotherapy • Radiation Safety (selected units) • Solid Tumour Malignancies • Palliative Care Education
Malignant Hematology (in/outpatient)	<ul style="list-style-type: none"> • Oncology Health Assessment • Management of deteriorating patient • Malignant Hematology • Hematopoietic Stem Cell Transplant • Chemo/biotherapy course • Palliative Care Education
Ambulatory Clinics	<ul style="list-style-type: none"> • Disease Site Group Introduction • Oncology Health Assessment • Management of deteriorating patient • Distress screening: Distress Assessment and Response Tool (DART) and Edmonton Symptom Assessment System (ESAS)
Clinical Research Program	<ul style="list-style-type: none"> • Oncology Health Assessment • Chemo/biotherapy • Solid Tumour Malignancies • Malignant Hematology • Clinical Research Safety Training • Principles-Good Clinical Research Practice • National Institutes of Health Protecting Human Research Participants Course

competence in participants. Also, due to confidentiality issues, participant demographics were unavailable for analysis. Other factors such as unit size, nursing experience, and institution tenure may have played a role in self-assessed competence and performance (Baron, Kerr, & Miller, 1992; Michinov, Olivier-Chiron, Rusch, & Chiron, 2008). In other words, the current initiative is a pilot project which aims to gather preliminary information to inform broader implementation with more robust evaluative measures.

From an administrative perspective, implementing the SONE Pathway program has provided resources (i.e., education module and external support) and tools (i.e., specific measures for each activity, and overall self-assessment of strengths and limitations in the context of the CANO standards of practice) to further clarify staff nurses' performance appraisals, which is often a challenge (Wilkinson, 2013). The multitude of education items and clear standards outlined in the program also helps nurses in their professional development. Additionally, data generated from evaluations of the program can help nurse leaders to better identify and justify education needs and funding requirements, and have a plan to address them. For instance, the aforementioned suggestion of decline in perceived competence in navigation following orientation may mean that further educational content in this area is needed.

For staff nurses, participation in the SONE program provides ongoing, dedicated access to education materials and guidance that leads to specialty certification. More importantly, specialty certification, in turn, promotes life-long learning and professional development through its certification maintenance requirement.

Through planning and implementation of the SONE Pathway program, we note that it is imperative to have managers' support and resources for adequate coverage to allow staff nurses

to participate in course work. This requires ongoing reminders and senior management endorsement, once financial support and infrastructure have been established at the institution level. Moreover, communication is crucial amongst educators, managers, patient flow coordinators, nurse leaders, and staff nurses. Following year one of this project, we aim to expand the program to all staff nurses in the institution, which requires lobbying for further funding and administrative support. Some recent literature may be helpful to guide these next steps in garnering sustainable support (Lankshear, Kerr, Laschinger & Wong, 2013; Matthews & Lankshear, 2003; O'Rourke, 2003).

CONCLUSION

This paper provides a description of a continuing oncology nursing education program that features a longitudinal curriculum; its implementation focused attention across the hospital hierarchy on the role of nurses and all aspects of nursing care for this population. The process itself establishes a standard, longitudinal approach to education that promotes clarity about the role and competencies of oncology nurses and the resources required to meet these expectations in a large urban centre. Additionally, it is hoped that the increased exposure to continuing education will motivate and prepare participants for oncology specialty certification. Nevertheless, findings from this preliminary report are tentative. Further investigations are needed to evaluate the long-term outcomes of the program and to explore the feasibility of its transfer to other oncologic care settings.

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Table 4: Participant year 1 enrolment (March 2012 to April 2013 cohort)

Characteristic (N=43)	Frequency (%)
Care setting (N=39)	
Inpatient	18 (46.2%)
Outpatient	21 (53.8%)
Experience (N=40)	
New graduates (had graduated within 12 months at the start of program)	9 (22.5%)
Clinical destination (N=39)	
Malignant hematology	14 (35.9%)
Solid tumour	2 (5.1%)
Systemic therapy	7 (17.9%)
Head and neck modified	6 (15.4%)
Gastroenterology modified	6 (15.4%)
Palliative care	2 (5.1%)
Others	2 (5.1%)

Table 5: Self-reported competence of SONE program participants

CARD Domain	Mean at baseline+ (SD) (N=24)	Mean after orientation+ (SD) (N=24)
Comprehensive health assessment	2.30 (1.08)***	2.74 (1.10)***
Symptom management	2.26 (1.10)*	2.49 (1.04)*
Supportive / Therapeutic relationship	2.78 (1.34)	2.86 (1.02)
Coaching	2.66 (1.31)	2.78 (1.09)
Navigation	2.48 (1.08)	2.43 (1.12)
Advocate	2.77 (1.23)	2.92 (1.17)
Leadership	2.37 (1.14)	2.38 (1.11)

+ Likert scale ranged from 1 to 5, '1' = 'novice' to '5' = 'expert'

*p < 0.001 ***p < 0.05, 2-tailed

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