

**Regional Oncology Nursing Council
Of
Southeastern Ontario**

**Registered Nurses
2005 Oncology Learning Needs Survey:
Across the Continuum of Cancer Care**

**Final Report
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Regional Cancer Program

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Executive Summary

A survey was conducted to assess the learning needs of Ontario nurses related to the Canadian Association of Nurses in Oncology Standards of Care, Role and Competencies. The Standards of Care define the entitlements for individuals with cancer and their family (CANO, 2001). The learning needs survey showed that most nurses (62.3%) working with cancer clients/patients are oncology generalist nurses. The amount of time per week nurses spend on cancer related activities or care varied such as 26% of nurses spend less than one hour per week, 32% spend 1-10 hours, 16% spend 11-20 hours and 12% spend 21-30 and 13% of nurses spend 31 hours and greater per week. These percentages may include casual, part-time and full time RNs working with cancer and non-cancer client activities and patient populations. Continual learning at work was highlighted as an important need of nurses. Ninety percent of respondents stated that, on average they spend less than one hour per week on-the-job learning. The number one learning preference is 30 minute in-services, followed by agency support to attend conferences, someone to call, self-directed modules, texts and journal, video or teleconferencing, access to library, one-on-one learning, participation in research and lastly, participation in a journal club. The study indicates that initiatives should be taken by the Regional Oncology Nursing Council to implement strategies for improving access to relevant education for oncology nurses in Ontario.

Registered Nurses 2005 Oncology Learning Needs Survey: Across the Continuum of Cancer Care

The overarching goal of the Regional Oncology Nursing Council of Southeastern Ontario is to foster regional oncology nursing excellence consistent with the Canadian Association of Nurses in Oncology (CANO) standards of care, roles and competencies and provide regional leadership for evidence-based individualized patient cancer care. CANO is the national professional organization for oncology nursing. Under the auspices of CANO/ACIO, adult and pediatric oncology nurses have delineated nine standards of care. These standards are client-focused statements to ensure that all individuals and their families receive the level of care and expertise from the nurses who care for them across the cancer care continuum. This study examined the learning needs of oncology nurses in southeastern and central Ontario nurses as a preliminary step in the development of educational initiatives to prepare nurses to meet these standards.

Background

Regional oncology expert nurses from Kingston, Frontenac, Lennox & Addington (KFL&A), Lanark, Leeds & Grenville (LL&G), Hastings, Prince Edward County (H&PEC), Victoria, Haliburton & Northumberland (VHN) and Peterborough counties assembled to create the Regional Oncology Nursing Council of Southeastern Ontario (RONC-SEO) in October 2002. The council represents nurses engaged in cancer related activities and cancer care such as genetic counseling, screening, prevention, community care, treatment, palliative care, education, research and administration. In addition special populations (Aboriginal, Corrections Canada, Armed Forces, Pediatrics, Mental Health) and provincial cancer agencies (Cancer Care Ontario, Pediatric Oncology Group of Ontario) are represented.

The development of regional oncology nursing education initiatives across health care agencies and educational institutions (Queen's University, St. Lawrence College, Laurentian University, Loyalist College, Trent University and Sir Sandford Fleming College) is among the RONC-SEO priorities. Collaboration should enhance existing postgraduate oncology education and curricula as well as the development of new undergraduate and postgraduate education. To meet these priorities the

RONC-SEO required a profile of oncology nurses in Southeastern Ontario and information on their learning needs.

Research Objectives

The objectives of this study were to identify:

1. registered nurses who provide cancer care to patients in central and southeastern Ontario;
2. their learning needs related to the CANO standards of care and
3. their current patterns and preferred methods of work-related learning.

Literature Review

A literature review was undertaken on the value of learning needs surveys and their contribution to the development of continuing education programs that might improve the quality of oncology care. A specialized form of educational research is a learning need assessment. A learning need is defined as a gap between current or changed circumstances or a desirable set of circumstances (Kristjanson & Scalon, 1989). Continuing professional learning is more likely to lead to a change in practice since the education effort is linked to a personal incentive (Grant & Stanton, 2000). It is not uncommon for nursing organizations to survey learning needs based on standards of care in the hope that education based on learning needs will lead to changes in practice (Fitch & Palmer Wickham, 1993; Lockhart & Brice, 1996; Cancer Care of Nova Scotia [CCNS], 2002).

Two Canadian Oncology Nursing surveys were found in the literature. The Canadian Association of Nurses in Oncology (CANO) implemented a survey to identify topics that would be useful for planning national and provincial conferences (Fitch & Palmer Wickham, 1993). The survey design captured a wide range of information (topic areas, educational formats, perspectives on certification, patient and family needs). With a response rate of 23% (n=1530), findings suggested that interactive sessions were a preferred learning method.

Cancer Care Nova Scotia (CCNS) and CANO implemented a survey based on CANO Standards. The response rate was 49% (n=2300) and findings suggested that there was a need for continuing education programs "tailor made" to regions or districts and advanced education modules for those nurses with more experience (CCNS, 2002). The preferred methods of receiving continuing education identified

included: person-to-person, conferences and formal education courses. Other key findings were financial compensation was needed for nurses to participate in continuing education, especially for tuition reimbursement and travel costs and that workplace support by managers/administrators was important as was the need for replacement nurses for those nurses attending continuing education sessions (CCNS, 2002).

No studies were found regarding information on the specific learning needs of oncology nurses in southeastern and central Ontario. The deficit prompted a survey of this population.

Survey Method

A learning needs assessment was conducted in August 2005. A total of 1,417 surveys were mailed to registered nurses in the study region, which includes those RN's who provide direct clinical care (prevention, intervention, restorative) to cancer patients in agencies represented on the RONC-SEO. Names of contacts and permission to use the names were obtained from agencies represented on the council.

The investigative team developed an original survey instrument based on the survey "Nurses Needs Assessment in Cancer Care Education" (CCNS, 2002) (verbal and written permission was received from the authors (Howe et al.) The survey included two sections. Section 1 consisted of 23 questions on social demographics. Section 2 consisted of specific questions on learning needs related to each of the nine CANO standards of care and an open-ended question to capture additional information.

A panel of five expert oncology nurses from the RONC-SEO established face and content validity of the instrument. Written ethics approval was received from the Queen's University Research Ethics Board and consent was implied if the survey was returned.

The following recruitment strategies were used: survey packages were circulated to participants that included stamped, return envelopes; posters were displayed in the region; presentations were made at venues such as nursing practice councils and e-mail reminders were sent to nurses. The learning needs survey was not funded. However, host agencies offered in-kind support. Surveys were returned

via interagency mail or by return post. Descriptive data analysis was by conducted with SSPS-12 and manual thematic analysis was applied to qualitative comments.

Results

The number of valid returned surveys was 269, representing a response rate of 19%. The highest number of surveys (1082) was distributed within (KFL&A) and that may explain the 66.7% response rate from this participant site. The second highest response rate was VHN (13.8%) followed by H&PEC, Peterborough, LL& G and other (Barry's Bay).

Social demographics

Tables 1 (a) provides information on age, role and education. With reference to research objective 1, which aimed to identify nurses who provide oncology cancer care for the regions represented on the council, it was found that 87 participants were over 50 years in the age range, 83 were between the ages of 41 and 50 years, 54 participants were between 31 to 40 and 35 participants were between 20 and 30 years of age. The age range of working nurses is consistent with current statistics.

The direct care/liaison nurses nursing role was reported by 154 nurses (64.3%) representing the highest role category number. The second highest role category, "other", was reported by 49 nurses (19.8%) were Breast Screening Nurse Examiners or Public Health Nurses.

Two hundred (76.3%) nurses were diploma prepared and 55 nurses (21%) had their bachelors nursing degree. Fewer were prepared at the Masters level (5.7%) and one nurse reported being a candidate for their Doctorate nursing degree.

Seventy nurses (26.5%) had specialty education in oncology/palliative care. This may reflect a trend towards obtaining specialized education.

Table 1 (a)
Social Demographics

Variable	N	Frequency %
Age		
20-30 years	35	13.5
31-40 years	54	20.8
41-50 years	83	32
Over 50 years	87	33.6
Role		
Direct Care/Liaison	159	64.3
Other, e.g. Nurse Examiner	49	19.8
APN/CNS/NP	8	3.2
Educator	8	3.2
Mgr./Admin.	6	2.4
Education		
Diploma	200	76.3
Bachelors	55	21
Masters	15	5.7
PhD Candidate	1	0.4
Specialty		
Post RN Oncology	21	8
Post RN Palliative	13	5
Certification-CON(C)	32	12.3
Certification-CHPCN(C)	04	1.5

Table 1 (b) provides information on years of nursing experience, cancer and cancer treatment. Years of nursing experience varied little between four categories with the highest being in the 0-10 years (27.2%) followed by working greater than 30 years (25.7%), then working 21-30 years (24.1%) and the lowest 11-20 years (23%). No experience (56.5%) in prevention and screening nursing was reported.

Nursing experience with different cancers varied little between 12 categories with the top four being breast cancers (67.6%) followed by lung cancers 61.1%, colorectal cancers 57.3% and prostate cancer 49.6%. These four cancers also reflect the most common cancers diagnosed in adult men and women.

Surgery (56.9%) was the most common cancer treatment modality nurses were experienced in, whereas fewer nurses (9.2%) had experience with stem cell treatments.

Table 1 (b)**Work Experience**

Variable	N	Frequency %
Years experience in nursing		
0-10 years	70	27.2
11-20 years	59	23
21-30 years	62	24.1
Over 30 years	66	25.7
Years experience in prevention & screening		
None	140	56.5
1-10 years	75	30.2
11-20 years	19	7.7
21-30 years	8	3.2
Over 30 years	6	2.4
Cancer disease experience		
Breast	177	67.6
Lung	160	61.1
Colorectal	150	57.3
Prostate	130	49.6
Gynecology	130	49.6
Lymphoma	121	46.2
Leukemia	115	43.9
Head and Neck	113	43.1
Multiple Myeloma	110	42
Genitourinary	103	39.3
Melanoma	103	39.3
Central Nervous System	74	28.2
Cancer treatment experience		
Surgery	149	56.9
Chemotherapy	103	39.6
Radiotherapy	71	27.1
Hormonal	38	14.5
Stem Cell	24	9.2

Perceived learning needs

Objective 2 examined learning needs related to CANO standards of care. In Tables 2 (a-i), the percentage of response for each learning need is shown, as well as the level of response (High > 68, Moderate 34-67 and Low < 33). A high percentage of participants (85%) reported a need for continuing education in the pathophysiology of cancer. A moderately high (66%) preference was stated for understanding familial cancer risk factors, long-term effects of cancer treatment (64%), e.g. chemotherapy, and how these effects are managed.

Regarding client and family care, participants identified a need to understand cancer in the older adult (64%); survivorship needs of client and family (52%); how

to facilitate family support (49%), including telephone support (44%); how to manage psychosocial distress of individuals and their families (47%) and how to conduct telephone assessments. A moderately high percentage of participants identified a need to learn about supporting self-determination and decision making in clients, as in helping clients and families prepare for death.

Information about co-ordination of care was identified, such as how to facilitate access to screening for special populations, e.g. rural (cervical/colorectal - 53%, breast -46.2%); what resources are available across health care agencies (63.8%); and how to facilitate supportive care referrals (43.1%).

A number of participants identified a need to learn more about personal/interpersonal skills. For example, fifty four percent expressed a need to learn how to handle conflict over perceived ethical issues and 49% identified a need to learn how cope with fatigue.

Table 2 (a)
CANO Standard 1

“Care is individualized, holistic and responsive and respectful of individual differences”

Identified Learning Need	Percent Response=	Level of Response (High > 68; Mod. 34-67, Low < 33)
Pathophysiology of cancer	85.1	High
Oncology emergencies	78.5	High
Intravenous Infusion Devices	50	Mod
Care of individuals receiving high dose chemotherapy with stem cell rescue	48.8	Mod
Access Devices:		
Omayo	48	Mod
Epidural	46.2	Mod
Intraperitoneal	42.9	Mod
PICC and Portacaths	27.8	Low
Cancer genetics	57.5	Mod high
Cancer risk factors:		
Familial	66.1	Mod high
Occupational	59.8	Mod high
Environmental	59.1	Mod high
Cancer treatment:		
Chemotherapy	51.2	Mod
Supportive therapies	50.4	Mod
Stem Cell	48.8	Mod
Surgery	42.6	Mod
Radiation	38.7	Mod
Hormones	37.1	Mod
Developmental stages:		
Adult oncology	63.9	Mod
Elderly oncology	53.1	Mod
Pediatric oncology	45.1	Mod
Adolescent oncology	42.7	Mod
Symptom management:		
Malignant Ascites	43.2	Mod
Peripheral Neuropathies	38.8	Mod
Lymphedema	38.2	Mod
Hand Foot Syndrome	37.3	Mod
Wound Care	36.4	Low
Pain	35.6	Low
Psychosocial Distress	35.2	Low
Nausea, Vomiting, Myleosuppression, Mucositis, Anorexia, Anemia, Delirium, Dyspnea, Fatigue, Sexuality	30	Low
Late effects of cancer treatment and management e.g. secondary malignancies, lung fibrosis and infertility	64.2	Mod high
Palliative supportive therapies e.g. analgesics	41.3	Mod
Assess family needs	33.1	Low

Table 2 (b)
CANO Standard 2
“Care is family centered”

Identified Learning Need	Percent Response=	Level of Response (High > 68; Mod. 34-67, Low < 33)
Understanding and assessing survivorship needs of client/family	52.5	Mod
Prevention of family caregiver burnout	43.5	Mod
Teach life style changes	39.9	Mod
Family assessment	36.5	Low

Table 2 (c)
CANO Standard 3

“Clients have the right to self-determination and decision-making”

Identified Learning Need	Percent Response=	Level of Response (High > 68; Mod. 34-67, Low < 33)
Decisions related to preparing patients for death	56.3	Mod
Decisions related to making related to lifestyle changes	52.8	Mod
Decisions related to and strategies for helping clients to sustaining new information	51.2	Mod

Table 2 (d)
CANO Standard 4

“Care is respectful of and responsive to their community of living”

Identified Learning Need	Percent Response=	Level of Response (High > 68; Mod. 34-67, Low < 33)
Learn compassionate communication skills	34.8	Low

Table 2 (e)
CANO Standard 5

“Care is coordinated among providers and across the continuum of cancer control”

Identified Learning Need	Percent Response=	Level of Response (High > 68; Mod. 34-67, Low < 33)
Learn about resources available across different health agencies	63.8	Mod high
Referring clients to screening programs: Colorectal Cervical Breast	57.7 54.8 49	Mod high Mod Mod
How to facilitate screening access for special populations (e.g. rural): Cervical and Colorectal Breast	53 46.2	Mod Mod
Accessing educational programs for: Weight control Smoking	51 47	Mod Mod
Facilitating supportive care referrals	43.1	Mod
Learn how to coordinate care	39.1	Mod

Table 2 (f)
CANO Standard 6

“Care is supportive, knowledgeable, caring and therapeutic relationship throughout their cancer experience”

Identified Learning Need	Percent Response=	Level of Response (High > 68; Mod. 34-67, Low < 33)
Ways to engage the client/family in discussions about impending loss and grief	51.	Mod
Management of psychosocial distress	49	Mod
Recognizing professional (compassionate) fatigue and learn strategies to cope	49	Mod
Psychosocial support over the telephone	44.3	Mod
Assessment of symptoms over the telephone	36.4	Low
Learn concepts of supportive care	34.8	Low

Table 2 (g)**CANO Standard 7**

“Care is based on theory, science and incorporates principles of evidence-based practice, best practice or available evidence”

Identified Learning Need	Percent Response=	Level of Response (High > 68; Mod. 34-67, Low < 33)
Chemotherapy & biotherapy principles	44.7	Mod
Research translation	42.3	Mod
Safe handling of chemotherapy	38.7	Mod
Evaluation of nursing interventions	37.2	Mod

Table 2 (h)**CANO Standard 8**

“Care is professional and incorporates ethical principles and legislative requirements”

Identified Learning Need	Percent Response=	Level of Response (High > 68; Mod. 34-67, Low < 33)
Strategies to enhance professional knowledge on ethical issues around conflict resolutions	54.3	Mod

Table 2 (i)**CANO Standard 9**

“Care within a system that the professional leadership is patient-focused”

Identified Learning Need	Percent Response=	Level of Response (High > 68; Mod. 34-67, Low < 33)
Building a supportive work environment with colleagues	49	Mod

Identified Issues/Initiatives

Forty percent of participants responded to an open-ended question regarding client issues and education ideas/initiatives for the Regional Oncology Nursing Council to address. Respondents' comments were analyzed and classified into 6 major themes. The themes reflected 1) issues and topics related to education, 2) reinforcement of technical skills, 3) strengthening of professional/personal skills, 4) inter-professional relations, 5) coordination of care, and 6) care of outpatients.

As seen in Tables 3 a and b, qualitative responses reinforced the quantitative data concerning need to learn about technical skills, coordinating care and providing care to outpatients. In addition, they reveal a need to learn about teaching, advanced education in oncology specialties, professional and interprofessional skills; content that is not fully addressed in the Standards of Care.

Table 3 (a)
“Themes: Education, technical skills, and professional/personal skills”

Themes	Contents
1. Education	<ol style="list-style-type: none"> 1. Preparation courses for Certification in Oncology Nursing on a part-time schedule. 2. Distance education, especially online programs 3. In-service education for those nurses working Emergency Room and Med-Surgery floors 4. In-service education for part-time nurses 5. Support for part-time nurses to attend conferences 6. Nursing research courses on family and patient populations 7. Palliative care on gynecology-oncology ref: <ol style="list-style-type: none"> (a) supporting bereaved families and patients; (b) managing symptoms in a timely appropriate manner; (c) how to titrate when in oxygen therapy; (d) supporting co-workers 8. Hematological malignancies 9. Oncological emergencies in general 10. Control of symptoms in palliative care 11. Febrile neutropenia and complications post chemotherapy 12. End of life 13. Materials for patient education 14. Effects of prescription and non-prescription drugs on the breast tissue 15. High frequency ablation of tumors 16. Use of alternative medicine, naturopathy, misconception and myths related to other therapies
2. Reinforcement of technical skills	<ol style="list-style-type: none"> 1. Communication and supportive skills in recovery room 2. Tracheotomy care, feeds gastro tubes, chest tubes 3. Accessing ICUADS / port-a-cath particularly in pediatric cancer patients 4. Cultural differences in patients 5. Precautions for administration of cytotoxic agents 6. Handling transition from complex care to palliative care Support and maintenance of nutrition
3. Strengthening of professional/personal skills	<ol style="list-style-type: none"> 1. Leadership qualities 2. Knowledge and skill in communication 3. Advocacy roles and common pitfalls in advocating 4. Mentorship 5. College of Nurses Standards of Care regarding breast cancer screening 6. Standards of practice regarding different symptoms parameters 7. Recognition of the nurses' work in Emergency Room

Table 3 (b)
“Themes; Interpersonal relations, coordination of care and care of outpatients”

Themes	Contents
4. Inter-professional relations	<ol style="list-style-type: none"> 1. More communication and rapport between nurses from cancer care center/health agencies for a mutual understanding of roles 2. Consolidation of relations and recognition of all nurses' contribution to patient care beyond levels of hierarchy 3. Staff nurses should offer more clinical instruction, compassion, help and health teaching for occasional nurses
5. Coordination of care	<ol style="list-style-type: none"> 1. Consistency in treatment-related messages on chemotherapy among treatment centers 2. Telephone follow-up 3. Effective communication between health care providers when patients are cytotoxic to implement occupational protection/precaution 4. Continuous communication between nurses from ICU and cancer clinic when referring patients to procedures, planning follow up and discharge to home care 5. Include nurses in community in Regional Center reviews and communications 6. More individualized appraisal of direct tasks in palliative care delegated to family/friends as caregivers
6. Care of outpatients	<ol style="list-style-type: none"> 1. Management and ways to offer emotional support to patients near end stage, and families of pediatric cancer patients 2. Management of emergency conditions in Emergency Room: fever post chemotherapy 3. Care of pediatric cancer patients in Emergency Room 4. Use of analgesics and anti-emetics in Emergency Room 5. Initiation of home care, antibiotic therapy and follow up 6. Communication with patients related to home care, antibiotic therapy and follow up 7. Avoid to require palliative care patients to attend nursing clinic since they need emotional support and prevent physical tiredness 8. Advocate for community nursing funding for follow up care and support of the bereaved family and for cancer survivors.

The following verbatim comments illustrate the barriers identified prevented nurses from participating in educational opportunities. Barriers related to organization issues e.g. staffing and personal e.g. financial.

“As you can see from my survey I have great many learning needs. I feel for me having paid seminars or in-services would be extremely beneficial, as I can not afford to take courses and time off work.”

“I would really like to attend in-services and conferences regarding oncology care, but, in the workplace environment there is not enough staff to cover me while I go, and the facility I work does not pay me or pay the fee or any part

of it so I can not attend a conference...that alone is one of the major things that prevent me from attending. Full time staff gets funding but I'm part time and I usually cover the nurses who go to a conference."

Despite the awareness of their financial, personal and professional limitations that create challenges to accomplish educational goals, some nurses attach importance to be prepared to write the oncology nurse certification exam.

"I would be very interested in obtaining oncology certificate if the education was accessible within reasonable distance from home. Part time course due to full time job. Plan to further my career in palliative care in future-presently work med-surg floor."

"I would like to pursue a C.O.N. to prepare me for other/ future work with oncology patients or families. I am also interest in nursing research with this patient/ family population."

"Online educational programs are extremely more realistic to fit into busy working and life schedules. They are set at the learners pace with use of a target date. As a new grad I have taken many on-line courses and have found them to be just as good as or better than a classroom setting."

Participants also identified specific learning needs associated with their care unit, such as post anesthesia recovery, emergency:

"Working in a recovery room we care for numerous patients with cancer but limited time to involve ourselves with the teaching or extensive support. Our knowledge base and communication plus supportive skills are important. But very few remember when time in recovery."

"In emergency it is a different situation. Many times we see chemo pts who have had a tx and are now febrile...More info as to what we should be doing with these patients would be great."

Some participants commented on the CANO Standards of Care and the College of Nurses. Some answers were confusing. These comments would lead the council to think that the CANO Standards of Care are not well understood by a variety of nurses and that there is confusion that the College of Nurses of Ontario may drive them.

"I would appreciate learning more about College of Nurses standards and policies and their application to my practice. I work in a limited practice setting-breast cancer screening. Many of the questions on this survey do not apply... I would like to more about the effect of both prescription and non-prescription drugs on breast tissue."

"Some of the learning needs questions I found absurd-maybe it is because I have been in nursing for such a long period of time and looked after oncology patients during all these years I have seen many changes."

There was a suggestion to improve the CNO Patient Standard arose by one participant:

"Some friends and relatives want to help to a point but not be abandoned to do all the care need time to just be with the patient and not always doing something...need time to grieve as the patient becomes more ill. This would be covered in Patient Standard 1, 2, 6, 7, 8."

Lastly, appreciation for the RONC initiative to address the issue of their learning needs and reinforced the pertinence of such an initiative:

" Thank you for composing this questionnaire and examining the learning needs of nurses."

" Thank you for identifying learning needs of nurses as an area worthy of research."

" Anything that would facilitate a consolidation among oncology nurses and recognition that we all care for cancer patients and there should not be a hierarchy. Our specialty is very demanding and we need to support with other and be all treated with respect when we try to communicate."

Current patterns and preferred methods of learning

Responses to Objective 3, which was directed at current patterns and preferred method of learning and the key findings, are found in Table 4. Workplace paid time to learn varied as 90% nurses were given less than one hour per week, eight percent were given 2-3 hours to learn per week, less than one percent (0.4%) were given 4-5 hours and two percent were given over six hours per week to learn.

A high percentage of nurses (90.7%) have computer access at work (including internet was lower at 86.2%) and 93.8% have computer access at home. Of the listed preferred methods of workplace learning, 67% of nurses (n =176) indicated that they preferred thirty minutes in-services (See Table 5). Eighty-five percent of nurses (n = 223) were more apt to attend education sessions if they could be accessed at work, compared to at home (30.3%). However, eighty-seven percent of nurses actively learn on their own time compared with 5.9% of participants who do not learn on own time.

Table 4
Patterns of Work-Related Learning

Item	Frequency %
Paid time for learning at work	
Less than 1 hour	89.6
2-3 hours	8
4-5 hours	0.4
> 6 hours	2
Computer and Internet Access	
Home computer	93.8
Work computer	90
Work-Internet	86.2
Learn on home time	
Yes	94.1
No	5.9

Table 5
Preferred Method of Workplace Learning

Item	n	Frequency %
Preferred Method Workplace Learning:		
30 minute in-services	176	67.4
Financial Support to Attend Conf.	166	63.6
Self-directed Modules	128	49
Texts/Journals made available	122	46.7
Access to "Video" or "Tele" conf.	101	38.7
Access to library	79	30.3
One on one teaching	77	29.6
Participation in research	50	19.2
Journal club	27	10.3
Would attend continuing education sessions if accessed at		
work	223	85.4
home	79	30.3
a teaching facility	85	32.7
other	18	6.9

Discussion

This survey was conducted to examine the profile of nurses who provide oncology care in central and southeastern Ontario, to determine their learning needs, their approaches to learning about oncology/oncology care and their preferred methods of learning.

Most nurses have considerable experience in nursing, are diploma prepared and fall into the category of oncology generalist nurses. Few have specialized oncology preparation. However, 12 percent have obtained certification in oncology, which may be an important trend in self-directed, continuous learning among nurses who provide oncology care. The availability of specialty programs, particularly in urban areas, and increasing expectations of hiring agencies could also influence a move toward specialization.

It was found that the majority of learning needs were moderate to moderately high, particularly for knowledge about cancer and treatment skills. These findings support previous reports on the intensity of learning needs related to complexity of oncology care and advances in active and long-term treatment (Houldin, Curtiss & Haylock, 2006). These findings also suggest that learning is not keeping pace with advances in oncology and these deficits may interfere with the ability to attain standards of care. The deficits were particularly evident in participants' comments, which reinforce the quantitative data, but also isolate additional learning needs, such as collaborative and interpersonal skill development that are not fully captured by the standards of care. Others have identified the need for developing communication and psychosocial skills in oncology care (Merckaert, Libert & Razavi, 2005).

Learning at work appears to be a challenge for participants. Ninety percent of respondents stated that, on average, they spend less than one hour per week in on-the-job learning. The preference for short, inservices indicates that participants are relying on short, focused sessions that meet emerging work-related needs. This pattern suggests that deeper, in-depth learning acquired through more intensive learning programs is being neglected. Donovan & Mercer (2003) emphasize the need for promoting specialist training in oncology nursing. Learning about preventive nursing measures was not clearly identified in this study, which is further evidence of the need for a broader approach to oncology education.

The capacity to provide on-site continuing education is challenging and multifactorial. Factors include reduced budgets, fewer resources, minimal time allotted for education, a long list of topics to cover including mandatory topics e.g.

WHMIS, unit emergencies taking priority, short staffing situations, replacing staff, and other conflicts such as vacations (Franck & Langenkamp, 2000).

It is important to note that 94% of nurses are involved in learning activities on their own time and 94% have a home computer. Approximately 86% of participants have internet access, suggesting that this medium may be ideal for promoting self-directed learning among participants.

Implications of the Survey

The Regional Oncology Nursing Council is in a position to address the learning needs of oncology nurses. It can provide leadership for the Regional Cancer Program by taking the initiative to develop and implement content for continuing oncology nursing education and promote use of a wide range of teaching delivery methods that will satisfy the expressed learning needs and learning styles of nurses in various settings. Models of oncology education that address generic, as well as continuing education needs, should be developed. Leadership and support is needed to expand education, beginning with undergraduate education. The challenge for oncology nursing is to continually evaluate what it does, retaining effective intervention and working to develop new ones and refine those interventions that require improvement, thereby enhancing both practice and patient outcomes (Richardson, Miller & Porter, 2002).

Oncology nurses need to be aware of how nursing contributes to positive patient outcomes in cancer survival, chronicity of cancer (rehabilitation and survivorship) and to share their knowledge and work issues with other health care providers. Becoming involved in research initiatives that fully explore learning needs in the areas of prevention, psychological support, symptom management, quality of life for clients/patients and quality of work life for nurses is key to the development of appropriate learning opportunities and the development of policies that guide oncology care.

Limitations

Care should be taken in interpreting findings of this study. They may not represent the entire region that was surveyed, because of the variability of response from different locations in the region. Further, the response rate of 19% is low. Non-responders may differ in their demographic profile, learning needs and learning

approaches. In the months prior to and during the learning needs survey, several other learning needs surveys were being conducted including a national oncology nursing study, a provincial oncology nursing study and several healthcare agency surveys e.g. culture, blood product/transfusion. This may explain the low response rate. Some nurses may have been experiencing some "survey fatigue".

Recommendations

1. Exert leadership to promote generic education in oncology care.

The RONC should lobby regional educational institutions to promote an understanding of attitudes, knowledge, confidence and educational needs in relation to cancer care that should be addressed in undergraduate and graduate educational programs.

2. Institute educational initiatives/programs to facilitate continuing education in oncology care.

Technology can act as a knowledge translation tool and the Regional Oncology Nurses' website (<http://www.krcc.on.ca/ronc/ronc.asp>) can be the vehicle for which the Council can be the knowledge broker. The website can be the vehicle for education, which would provide critical oncology content and a medium for information exchange among nurses and other health care professionals.

Web-based delivery of distance education provides an opportunity to accommodate nurses learning needs by providing rapid access to materials, adapting materials to their learning styles and linking them to web resources can be used to augment existing content.

Biennial regional oncology nurses conferences would encourage networking and collaboration among members.

3. Collaborate with CANO on the standards of care to incorporate standards of professional practice that is conducive to delivery of oncology care.

Findings of this survey, especially the participants' individual comments, address learning needs, such as personal and collaborative skills, that is conducive to the provision of effective care. The CANO standards of care should explore the possibility of incorporating professional standards that pertain to requirements for effective practice.

4. Disseminate results of learning survey to share knowledge about oncology nurses' learning needs.

For this study, the following steps will be taken:

1. Present results at the Canadian Association of Nurses in Oncology Conferences.
2. Post preliminary results presentation is posted on the www.krcc.on.ca/ronc/ronc.asp
3. Insert survey reports into registration kits for participants attending the Inaugural Regional Oncology Nurses Conference, May 4 & 5 2006, Kingston.
4. Circulate reports to:
 - a. Vice President of the Regional Cancer Program
 - b. Regional cancer program stakeholders
 - c. Regional oncology nurses council members
 - d. Regional Chief Nursing Executives
 - e. Regional education institutions
 - f. Cancer Care Ontario Chief Nursing Officer
 - g. Nursing Secretariat, MOHLTC
 - h. President, Canadian Association of Nurses in Oncology
 - i. Pediatric Oncology Group of Ontario
 - j. Gynecological Oncology Group of Ontario

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