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## CHAPTER 1

# Oncology Nursing Science Priorities

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### Introduction

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With the rapid advancement in cancer treatment and the continuously changing healthcare environment, nurses constantly are challenged to provide effective patient care. In order to improve cancer care, oncology nursing science must focus on areas of study that address relevant cancer care issues and have a major impact on people with cancer. The establishment of oncology nursing science priorities provides guidance for the generation of new knowledge to direct practice, education, health policy, and ultimately patient care.

Oncology nursing science priorities were established more than 25 years ago. The seminal work of Oberst (1978) was the first to identify priorities, followed by decades of work from national and international authors. This chapter describes the history of establishing oncology nursing science priorities with a specific focus on the Oncology Nursing Society's (ONS's) long-standing history of conducting oncology nursing research priorities surveys. National and international oncology nursing science priorities are reviewed and compared. Lastly, the different ways in which these priorities are used to advance nursing science are described.

### Establishing Oncology Nursing Science Priorities

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#### National Priorities

The United States has taken the lead in establishing oncology nursing science priorities. Oberst (1978) used the Delphi technique to delineate priorities among nurses who were working in U.S. cancer centers, general hospitals, and

community settings and were interested in the special problems of patients with cancer. The Delphi technique obtains consensus through repeated individual questioning from a group of knowledgeable individuals or an expert in a particular area. Three survey rounds were used to determine priorities for clinical research in cancer nursing. Initially, a panel of 575 nurses was surveyed, and 245 of the nurses completed all three rounds. The 575 nurses who completed at least one survey round identified 1,800 potential research problems that were analyzed and grouped into 101 research topics. The five highest-ranked topics were (Oberst)

1. Relieving nausea and vomiting
2. Nursing interventions for pain
3. Comprehensive discharge planning and follow-up programs
4. Coping with grief and death
5. Prevention and treatment of stomatitis.

These priorities were intended to guide nurse scientists and clinicians in selecting clinical problems to study and in jointly designing innovative ways to improve the nursing care of people with cancer.

In 1992, the Association of Pediatric Oncology Nurses (APON) established research priorities for pediatric oncology nursing using the Delphi technique. Two survey rounds were used, with the second round designed from the results of the first. All APON members were invited to participate ( $N = 1,528$ ), and 297 members responded with a total of 586 research ideas. The Nursing Research Advisory Committee at St. Jude Children's Research Hospital analyzed these ideas for any overlap or similarity. The resulting 75 research priorities were then rated by importance by 227 APON members. The five most important research priorities were (Hinds et al., 1994)

1. Measuring quality of life (QOL) and late effects in long-term survivors of childhood cancer
2. Evaluating effectiveness of anesthesia, sedatives, or other supportive or educational techniques in reducing patients' anxiety about painful or diagnostic procedures
3. Comparing the safety and effectiveness of different pharmacologic and nonpharmacologic techniques used for pain control
4. Documenting the effects on nurses of exposure to chemotherapeutic agents
5. Identifying factors that influence how children and adolescents comply with treatment regimens and evaluating interventions designed to help family members cope with the treatment process and its outcomes. (These two priorities were both ranked as the fifth priority.)

ONS began establishing oncology nursing science priorities in 1980. Since then, ONS members have been surveyed approximately every four years to identify research priorities. From 1980–1994, the ONS Research Committee surveyed the ONS membership five times to determine the Society's research interests or priorities (Funkhouser & Grant, 1989; Grant & Stromborg, 1981; McGuire, Frank-Stromborg, & Varricchio, 1985; Mooney, Ferrell, Nail, Bene-

dict, & Haberman, 1991; Stetz, Haberman, Holcombe, & Jones, 1995). A goal of the ONS Research Committee is to promote and support collaboration in research among people with shared interests, so initially the survey results were used to create an ONS Directory of Members' Research Activities for members to purchase (Grant & Stromborg). Although the committee organizational structure no longer exists at ONS, project teams convened by the ONS Steering Council and the ONS Board of Directors conducted the ONS Research Priorities Survey in 2000 and 2004 to collect data for the development of the ONS Research Agenda and to establish oncology scientific priorities (Berger et al., 2005; Ropka et al., 2002).

The ONS Research Priorities Survey provides a list of research topics from which respondents can choose. This list was originally developed by members of the ONS Research Committee in 1980 (Grant & Stromborg, 1981), and each subsequent survey has built upon the list of research topics identified in the previous survey. Topics have been added to or deleted from each survey to reflect issues or topics currently relevant to oncology nursing. In 1994, the topics were organized into seven major categories: symptom management, care delivery issues, psychosocial aspects of care, special populations, continuum of care, health promotion behaviors, and treatment decision making (Stetz et al., 1995). These categories also have been modified with each subsequent survey.

When comparing past ONS surveys, methodologic differences in questionnaires, sampling technique and size, and design must be considered. Close comparison of the established research priorities across the surveys is limited because of significant differences in the instructions given to participants (see Table 1-1). For example, in the 1980 and 1984 studies (Grant & Stromborg, 1981; McGuire et al., 1985), participants were asked to identify their top five research interests, whereas subsequent surveys asked participants to identify what they perceive to be the priorities in oncology nursing research. In the 1988 study (Funkhouser & Grant, 1989), participants were asked to identify their top five research priorities, and in the 1991 study (Mooney et al., 1991), they were asked to identify their top 10 research priorities. The past three surveys asked the respondents to use a Likert scale (1 = not at all important and 5 = extremely important) to identify research priorities within a provided list (Berger et al., 2005; Ropka et al., 2002; Stetz et al., 1995).

Sampling approaches also varied. Convenience, random, and a combination of sampling methods were used. *Convenience sampling* uses the most readily available people as study participants, and *random sampling* uses a selection process in which each person has an equal chance of being selected (Polit & Beck, 2004). Initially, the entire ONS membership was surveyed; however, over the years, participants evolved to include two groups: all ONS members who are nurse scientists (doctorally prepared), and a random sample of all other ONS members, primarily consisting of clinicians (Berger et al., 2005; Ropka et al., 2002). This sampling approach promotes clinician and nurse scientist partnerships in advancing oncology nursing science. The priorities of both groups

**Table 1-1. Oncology Nursing Society (ONS) Research Priorities Surveys 1981–2004: Methods**

Study	Sample	Number Responding	Response Rate	Survey	Instructions Given to Participants
1980 (Grant & Stromborg, 1981)	ONS membership (N = 2,205)	998	45%	One-page mailed questionnaire	Select and rank the five areas in which you hold high research interest.
1984 (McGuire et al., 1985)	ONS members who read the <i>Oncology Nursing Forum</i> (sample size not specified)	342	Not reported	Questionnaire printed in the <i>Oncology Nursing Forum</i>	Identify from the content the areas in which you are interested in doing research.
1988 (Funkhouser & Grant, 1989)	Convenience sample of ONS members involved in research and leadership (N = 700)	213	30%	Two-page mailed questionnaire	Select and rank the five topics that are priorities in oncology nursing research.
1991 (Mooney et al., 1991)	Convenience sample of ONS members involved in research and leadership (N = 429)	310	70%	Mailed questionnaire	Rank from 1–10 the top 10 priorities for oncology nursing research.
1994 (Stetz et al., 1995)	Random sample of 10% of ONS members who identified patient care as primary functional area, the ONS leadership, and all ONS Advanced Nursing Research Special Interest Group members (N = 2,178)	789	36%	Mailed questionnaire	Rate each of the 93 items using a five-point Likert scale (1 = not at all important to 5 = extremely important) and rank what you perceive to be the top 10 priorities for nursing research.

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**Table 1-1. Oncology Nursing Society (ONS) Research Priorities Surveys 1981–2004: Methods (Continued)**

Study	Sample	Number Responding	Response Rate	Survey	Instructions Given to Participants
2000 (Ropka et al., 2002)	Random sample of general ONS membership excluding researchers (n = 1,850) and all ONS researcher members (n = 150)	788	39%	Mailed questionnaire  Incentive offered to participants: entry into a drawing for 10 \$25 gift certificates for ONS publications of the recipient's choice	Rate each of the 113 topics using a five-point Likert scale (1 = not at all important to 5 = extremely important) in reference to the question "What are the most important issues related to health and health care for individuals affected by cancer that can be addressed by oncology nursing research?"
2004 (Berger et al., 2005)	Random sample of general ONS membership (n = 2,205) and all ONS members in the United States with doctoral degrees (n = 627)	431	15%	Electronic survey  Incentive offered to participants: entry into a drawing to win one of three one-year ONS memberships	Rate each of the 117 topics using a five-point Likert scale (1 = not at all important to 5 = extremely important) in reference to the question "How important is it to conduct new research in each of the following topics?"

were considered separately and as a whole, with findings adjusted to remove the effect of the oversampling of the nurse scientist group. The 2000 ONS Research Priorities Survey found that nurse scientist respondents prioritized evidence-based practice, outcomes of cancer care, family issues, and health policy as more important than clinicians did; however, both groups prioritized many areas similarly, such as pain, QOL, early detection, prevention and risk reduction, and fatigue (Ropka et al.). The 2004 ONS Research Priorities Survey found that nurse scientist respondents ranked an additional 10 topics in the top 20 research priorities that the adjusted general membership sample did not rank. These topics were older adults, clustering of symptoms, socioeconomically disadvantaged patients, racial/ethnic/cultural groups, access to cancer care, exercise/physical activity, low health literacy, functional status changes, self-management/self-efficacy, and survivorship (Berger et al.).

In 2004, ONS began using the Internet to survey members about oncology nursing research priorities (Berger et al., 2005). This method is more cost-effective than a mailed survey. Although the response rate for the 2004 electronic survey was lower than previous years when the survey was mailed, it is consistent with response rates from the mailed surveys (Dillman, 2000).

To enhance participation in the survey, participants received a postcard or e-mail reminder in 2000 and 2004. ONS also offered incentives for completing the survey. Participants were entered into a drawing for ONS publication gift certificates and ONS membership (Berger et al., 2005; Ropka et al., 2002). These procedures were based on the Tailored Design Method recommended by Dillman (2000), an authority in survey research.

Although limitations exist in comparing the ONS research priorities identified by past surveys, recognizing priority trends is meaningful for advancing oncology nursing science (see Table 1-2).

**Cancer Prevention and Detection:** Except for the 1984 survey, cancer prevention and detection always ranked as one of the top 10 research priorities. The continued interest in prevention and early detection is consistent with the healthcare environment's emphasis on health prevention and the National Cancer Institute's (NCI's) cancer control focus. Lifestyle and environmental factors are responsible for a majority of cancer diagnoses, and a dearth of research in these areas exists (NCI, 1997).

**Decision Making:** Decision making was first recognized in 2000 as the 18th priority. In 2004, decision making about treatment in advanced disease was ranked second, and decision making about treatment was ranked fourth. This reflects the healthcare system's shift to a more consumer-driven system that supports the individual's role in decision making. People with cancer face decisions regarding multiple treatment methods that were not available in the past. Those with advanced cancer often make difficult decisions regarding whether to continue with treatment.

**Pain:** Despite advancements in the pharmacologic management of pain, this priority has ranked in the top five priorities since the first ONS Research Priorities Survey. Oncology nurses are clearly not satisfied with pain control

<b>Table 1-2. Oncology Nursing Society Research Priorities Surveys 1980–2004: Top 10 Ranked Research Priorities</b>							
<b>Rank</b>	<b>1981 (Grant &amp; Stromborg, 1981)</b>	<b>1984 (McGuire et al., 1985)</b>	<b>1988 (Funkhouser &amp; Grant, 1989)</b>	<b>1991 (Mooney et al., 1991)</b>	<b>1994 (Stetz et al., 1995)</b>	<b>2000 (Fopka et al., 2002)</b>	<b>2004 (Berger et al., 2005)</b>
1	Patient or health teaching	Pain control and management	Prevention and early detection	Quality of life <sup>a</sup>	Pain	Pain	Quality of life
2	Coping and stress management	Symptom management	Symptom management	Symptom management <sup>a</sup>	Prevention	Quality of life	Participation in decision making about treatment in advanced disease
3	Pain control and management	Patient or health education	Pain control and management	Outcomes measures for interventions <sup>b</sup>	Quality of life	Early detection	Patient and family education
4	Prevention and early detection	Coping and stress management	Patient or health education <sup>a</sup>	Pain control and management <sup>b</sup>	Risk reduction and screening	Prevention and risk reduction	Participation in decision making about treatment
5	Symptom management	Role of specialist	Coping and stress management <sup>a</sup>	Cancer survivorship	Ethical issues	Neutropenia	Pain
6	Hospice care	Professional issues (certification) <sup>a</sup>	Home care	Prevention and early detection	Neutropenia	Hospice/end of life	Tobacco use and exposure <sup>a</sup>

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Table 1-2. Oncology Nursing Society Research Priorities Surveys 1980–2004: Top 10 Ranked Research Priorities (Continued)							
Rank	1981 (Grant & Stromborg, 1981)	1984 (McGuire et al., 1985)	1988 (Funkhouser & Grant, 1989)	1991 (Mooney et al., 1991)	1994 (Stetz et al., 1995)	2000 (Fopka et al., 2002)	2004 (Berger et al., 2005)
7	Family support	Patient support systems <sup>a</sup>	Economic influences on oncology	Research utilization	Patient education	Oncologic emergencies	Screening and early detection of cancer <sup>a</sup>
8	Nurse burnout <sup>a</sup>	Characteristics of oncology nurses	Cancer rehabilitation	Cancer rehabilitation	Stress, coping, and adaptation	Suffering	Prevention of cancer and cancer risk reduction
9	Protective mechanisms <sup>a</sup>	Counseling	AIDS	Cost containment <sup>c</sup>	Detection	Fatigue	Palliative care <sup>b</sup>
10	Counseling	Home care	Compliance with treatment	Economic influences <sup>c</sup>	Cost containment	Ethical issues	Evidence-based practice <sup>b</sup>

<sup>a</sup>Tied for rank  
<sup>b</sup>Tied for rank  
<sup>c</sup>Tied for rank

Note. Based on information from Mooney et al., 1991.



in cancer care. More intervention research is needed in this area, as indicated by almost 60% of the 1994 ONS Research Priorities Survey respondents (N = 789) who indicated the type of research needed for this priority (Stetz et al., 1995). The type of research needed for ranked priorities was not previously reported by ONS Research Priorities Surveys. The distinction between pharmacologic intervention and nonpharmacologic intervention research was not made in identifying the need for more intervention research in pain control. As more nonpharmacologic pain interventions emerge, research in this area is needed.

**Patient and Family Education:** Teaching patients and families is an essential component of nursing. Patients with cancer and their families require education about many cancer care issues, including diagnosis, treatment, self-care, recurrence, survivorship, and end of life. Patient and family education is consistently ranked as an important research priority among ONS members, and in 1981, it was ranked as the number-one priority.

**Quality of Life:** This cancer care issue has been ranked in the top three priorities since 1991. It was not listed as a topic area on the 1980 and 1984 surveys but was ranked 31st on the 1988 survey because participants listed this priority in response to the open-ended item of “other priorities” (Funkhouser & Grant, 1989). QOL ranked as the highest priority in the most recent ONS Research Priorities Survey (Berger et al., 2005). The initial high ranking of this cancer care issue in 1991 probably reflected the NCI designation that QOL should be included as an outcome measurement in cancer clinical trials (Mooney et al., 1991).

**Tobacco Use and Exposure:** Tobacco use and exposure was added to the 2004 Research Priorities Survey and ranked as the sixth research priority (Berger et al., 2005). This new priority is of high importance because of the direct relationship of tobacco use and exposure and the incidence of lung cancer and other cancer-related diagnoses.

## Addressing Identified Research Priorities

What progress has been made toward addressing these research priorities topics? Has the knowledge not been generated, or do nurses not know of the research? If the answer is one of poor dissemination to practicing nurses, then dissemination efforts must be examined. Nurses also need to learn to be critical consumers of research in order to integrate evidence-based care into their practice (Waddell, 2002). To gather information on nurses’ understanding of the research evidence, the 2004 ONS Research Priorities Survey added a question to address participant familiarity with the current research about each topic category. Data showed that clinicians were most familiar with the cancer symptom management research (Berger et al., 2005).

If progress has not been made in the study of research priorities, the quantity and quality of research needs to be addressed (Waddell, 2002). Graduate schools of nursing should encourage the development of thesis and disserta-

tion research that focuses on identified research priorities. Directors of nursing research in clinical settings should encourage research in the practice environment, as well. Research must contribute to the goal of evidence-based nursing practice.

## International Priorities

In Canada, Degner et al. (1987) partially replicated Oberst's study and obtained similar results. Oncology nursing science priorities also are established in Australia, Europe, Ireland, the Netherlands, South Korea, and Norway by the Delphi technique or by a mailed questionnaire (Ambaum, Courtens, & Fliedenes, 1996; Browne, Robinson, & Richardson, 2002; Lee et al., 2003; Murphy & Cowman, 2006; Rustoen & Schjolberg, 2000; Yates et al., 2002).

The five most recent international oncology nursing research priorities studies, including the 2004 ONS Research Priorities Survey, were conducted during the past six years (see Table 1-3). Yates et al. (2002) mailed a survey to all 589 members of the Oncology Nurses Group of Queensland, Australia, with a response rate of 54.2%. Participants responded to an open-ended question to identify five priority areas of research related to oncology/palliative nursing. The top four priority areas as indicated in the table were identified by at least 40% of the participants who responded to this question.

Also in 2002, a Delphi survey identified research priorities of European Oncology Nursing Society members. Participants represented 15 European countries, and 223 nurses responded to the first survey. The second survey asked the participants to rank their top five research priorities, and 117 nurses responded (response rate was not reported for either survey). A recognized limitation to the survey was its translation into multiple languages, including Czech, French, German, Italian, and Spanish (Browne et al., 2002).

In South Korea, the Korean Oncology Nursing Society (KONS) conducted a descriptive study in 2003 to establish oncology nursing research priorities for research agenda development. The survey questionnaire was a revised version of the 2000 ONS Research Priorities Survey, which was translated into Korean. Participants were asked to rank five items in order of research priority. All 219 KONS members received the survey by mail, and the response rate was 33.8% (Lee et al., 2003).

The research priorities of oncology nurses from the Republic of Ireland were determined in 2006. A survey mailed to 119 nurses at a national oncology specialist center achieved a response rate of 66%. Using a Likert scale, the top five research priorities were identified from a list of 57 research areas (Murphy & Cowman, 2006).

Limitations in comparing the research priorities of different countries include cultural differences, translation of surveys, and different healthcare systems. Methodologic differences in questionnaires, sampling, and design also exist. Despite these differences, identifying the trends and patterns of

<b>Rank</b>	<b>Australia 2002 (Yates et al., 2002)</b>	<b>Europe 2002 (Browne et al., 2002)</b>	<b>South Korea 2003 (Lee et al., 2003)</b>	<b>United States 2004 (Berger et al., 2005)</b>	<b>Republic of Ireland 2006 (Murphy &amp; Cowman, 2006)</b>
1	Psychosocial support	Communication, information giving, and educational needs	Prevention of cancer and cancer risk reduction	Quality of life	Effectiveness of nurse-led clinics on oncology services
2	Pain management	Symptom management (e.g., pain, nausea and vomiting, fatigue)	Pain	Participation in decision making about treatment in advanced disease	Levels of stress and burnout for cancer nurses
3	Symptom management (e.g., nausea and vomiting, constipation, mucositis, nutrition)	Experiences of disease and its treatment (e.g., psychological experiences)	Quality of life	Patient and family education	Identification of communication issues for patients throughout their cancer journey
4	Health system issues (e.g., funding, accessibility of services)	Cancer nursing research (research facilitation and research utilization)	Hospice/end-of-life care	Participation in decision making about treatment	Continuity of care among hospital, community, and hospice settings
5	Patient and community education	Cancer nursing education issues	Standards of care	Pain	Development of nurse-led interventions for the management of pain

research priorities among different countries is important in increasing awareness regarding nursing research development.

The following research priorities are highlighted because they were (a) ranked highly by more than one country or (b) unique as a result of a change in the country's healthcare delivery focus.

**Communication Issues:** This cancer care issue ranked as the highest research priority among European oncology nurses and as the third highest priority in the Republic of Ireland (Browne et al., 2002; Murphy & Cowman, 2006). Good communication is recognized as essential in ensuring that patients make informed decisions regarding treatment and how best to manage their disease (Murphy & Cowman). Participation in decision making about treatment and treatment in advanced disease are both high-ranking research priorities in the United States (Berger et al., 2005).

**Effectiveness of Nurse-Led Clinics on Oncology Services:** The roles of the clinical nurse specialist and the advanced nurse practitioner were recently established in the Republic of Ireland. The ranking of this issue as the most important research priority among oncology nurses in the Republic of Ireland may reflect this change in oncology nurses' roles and responsibilities (Murphy & Cowman, 2006).

**Pain:** Pain management is ranked in the top five research priorities for Australia, Europe, Korea, the United States, and the Republic of Ireland. Lee et al. (2003) recognized the lack of cancer pain intervention studies in Korea. In the Republic of Ireland, the identified research priority specifically addresses nurse-led intervention for pain management (Murphy & Cowman, 2006). Because pharmacologic management is well established, this is an important focus for pain research.

**Prevention of Cancer and Cancer Risk Reduction:** Korean oncology nurses ranked cancer prevention and risk reduction as the highest research priority. This may reflect the Korean Ministry of Health and Welfare's 10-Year Plan to Conquer Cancer, which was initiated in 1996 (Lee et al., 2003). As previously recognized, this also is a high-ranking research priority among ONS members.

**Psychosocial Support:** Psychosocial support was recognized as the number-one priority in Australia and the third research priority in Europe. This is a challenging but essential oncology nursing responsibility because people with cancer face many questions and uncertainties related to their disease and treatment.

**Quality of Life:** From 1994 to 2000, QOL ranked in the top five research priorities in the Netherlands, Canada, and Norway, as well as the United States (Ambaum et al., 1996; Bakker & Fitch, 1998; Rustoen & Schjolberg, 2000; Stetz et al., 1995). It continues to be the number-one priority in the United States and the third ranking research priority in Korea. With increasingly aggressive treatment regimens, people with cancer experience multiple side effects that affect their QOL.

## Use of Oncology Nursing Science Priorities Data

ONS uses the research priorities data for a variety of purposes that further research development both within and outside the Society (see Table 1-4). Identifying research priorities is essential for developing the ONS Research Agenda, providing direction for research grant funding and research initiatives, establishing the focus of nursing education programs and conferences, and providing direction in identifying areas of research study and publication by nurse scientists and clinicians.

### Oncology Nursing Society Research Agenda

The first ONS Research Agenda was developed in 2001 to inform the ONS leadership, membership, and external individuals and groups about the scientific priorities of the ONS membership. The goals of the ONS Research Agenda are to

- Increase the knowledge base for oncology nursing practice through identifying cutting-edge and critical priority areas of oncology nursing science and recommend mechanisms of support.

**Table 1-4. Oncology Nursing Society: Using Research Priorities**

Table content not included in preview.

*Note.* From "Research and Oncology Nursing Practice," by D.B. McGuire and M.E. Ropka, 2000, *Seminars in Oncology Nursing*, 16(1), p. 38. Copyright 2000 by Elsevier. Adapted with permission.

- Prepare future oncology nurse scientists to be well trained and equipped to implement ongoing programs of research and to seek support from major sponsors, such as the National Institutes of Health and the American Cancer Society.
- Prepare clinical nurses as critical consumers of research findings that can be applied to practice.

The agenda is developed through a consensus-building effort of ONS nurse scientists, advanced practice nurses, and a cancer survivor. It is reviewed, evaluated, and revised at two-year intervals that coincide with the biennial ONS National Cancer Nursing Research Conference. Funding of the ONS Research Agenda Conference (2002–2007) is supported through an NCI R13 grant award (1 R13 CA101305-1) funded by NCI and the National Institute of Nursing Research. Donna Berry, PhD, RN, AOCN®, FAAN, is the principal investigator (ONS, n.d.-b) and was a member of the 2004 Research Priorities Survey Project Team. Her goal is to provide continuity between the identification of ONS research priorities and the development of the research agenda (Berger et al., 2005).

The survey results provide the important groundwork for the ONS Research Agenda. The development of the 2005–2009 ONS Research Agenda was guided by the 2004 ONS Research Priorities Survey results, priority research areas of other cancer and nursing research funding organizations, and a review of the state of the science of oncology nursing research. Priority research content areas identified by the agenda are (a) cancer symptoms and side effects, (b) individual- and family-focused psychosocial and behavioral research, (c) health promotion, including primary and secondary prevention, (d) late effects of cancer treatment and long-term survivorship issues for patients and their families, (e) nursing-sensitive patient outcomes, and (f) translational research (ONS, n.d.-b). Priority research topics are identified within each content area. The sixth content area, translational research, is essential to increasing knowledge about the dissemination of research to practice. All populations are relevant for study for all of the content areas, including populations across the life span, families and caregivers, and vulnerable populations related to health disparities in minority groups of all types (ONS, n.d.-b).

The ONS Research Agenda is a critical document for furthering ONS's mission of promoting excellence in oncology nursing and quality cancer care. The ONS leadership and membership and the ONS Foundation use the agenda in identifying research goals, funding, and initiatives.

## **Oncology Nursing Society Research Funding and Initiatives**

ONS and the ONS Foundation are credited with an extensive history of supporting the generation of knowledge. In 1984, the ONS Foundation began its small grants program, a source of seed money for oncology nurse scientists to conduct preliminary work that would lead to larger awards. The majority

of the small grant studies funded by the ONS Foundation address topics identified by the investigator; however, some small grant awards are designated for studies that address research priorities such as pain assessment and management and symptom management. Since 1984, the ONS Foundation small grants program provided funding for studies addressing the following ONS research priorities: pain (\$241,468), QOL (\$124,742), cancer prevention and detection (\$110,053), and patient and family education (\$97,329). Since the inception of the small grants program, 338 studies have received a total amount of \$2,528,014 (ONS Research Team, personal communication, May 9, 2007).

The ONS Foundation major grants program began in 1998. This program provides grant awards of \$25,000–\$500,000. The focus of many of these grant awards is determined by the ONS Research Agenda and research priorities. Research priorities and agenda content areas addressed by major grant funding include neutropenia, symptom management, nursing-sensitive patient outcomes, and translational research. Since the inception of the major grants program, 37 studies have received a total amount of \$3,798,470 (ONS Research Team, personal communication, May 9, 2007).

In 1998, the ONS Foundation Clinical Scholar Program funded a Pain Clinical Research Scholar. The goal of the scholar's program was to improve the care given to patients with cancer and their families by fostering evidence-based practice and the utilization of appropriate research findings by oncology nurses. The scholar was responsible for developing an organizational infrastructure that promotes cancer-related pain research and provides opportunities for other nurses to become involved in research. The scholar also created innovative strategies for transferring pain-related research findings into clinical practice (ONS Research Team, personal communication, May 9, 2007).

A major funding and research initiative that addressed fatigue, a frequently reported symptom of cancer and cancer treatment, was the ONS Fatigue Initiative Through Research and Education (FIRE®) supported by Ortho Biotech, Inc. This 1995–2000 initiative was a three-part project designed to increase nurses' awareness and understanding of cancer-related fatigue and increase the amount of research addressing it. A four-day professional education course was held with more than 200 oncology nursing participants from the United States, Canada, and Europe. A fatigue public awareness campaign and public education project was initiated in conjunction with National Cancer Fatigue Awareness Day in the United States. The ONS Research Committee developed a two-phased research program. Phase I provided funding for three investigator-initiated multi-institutional developmental grants of \$50,000 each. Phase II provided funding for one investigator-initiated grant of \$500,000, three multi-institutional instrument development grants of \$50,000 each, a fatigue clinical research scholar of \$70,000, and a state-of-the-knowledge conference. Through these mechanisms, the FIRE® project increased the knowledge base about the effects of fatigue on people with

cancer and the effectiveness of fatigue-related nursing interventions (Mock, Nail, & Grant, 1998).

The ONS research priorities are shared with federal agencies and other funding organizations. The 1988 ONS Research Priorities Survey was conducted in response to an invitation from Dr. Ada Sue Hinshaw, then-director of the National Center for Nursing Research (which later became the National Institute of Nursing Research) in the National Institutes of Health, asking nursing organizations to submit their nursing research priorities (Funkhouser & Grant, 1989). The ONS research priorities also are shared through expert testimony at federal, professional, and health-related advisory boards (McGuire & Ropka, 2000). The ONS Research Priorities Survey results and Research Agenda are shared routinely with other organizations and are available on the ONS Web site ([www.ons.org/research/information](http://www.ons.org/research/information)).

## Oncology Nursing Society Education Initiatives

The ONS state-of-the-knowledge conferences provide an opportunity for scientists and clinicians to determine the state of the science for priority research areas. Besides providing a synopsis of the research for a particular research priority, these conferences may result in the establishment of research networks and collaborative research in areas that need further study. Since 1994, fatigue, pain, QOL, neutropenia, sleep-wake disturbances, and nursing-sensitive patient outcomes research has been addressed at these conferences. Some of the outcomes of these conferences, including a summary of the knowledge base and direction for research and practice, were published in the *Oncology Nursing Forum (ONF)* (King et al., 1997; Nirenberg et al., 2006a, 2006b; Winningham et al., 1994).

The ONS Education Agenda incorporated the ONS research priorities identified in 2000 (Ropka et al., 2002). This document is a source for identifying and developing educational projects and programs within ONS. ONS educational programs have addressed ONS research priorities such as cancer prevention and early detection, pain management, end-of-life care, and neutropenia. ONS annual conferences hold educational and research sessions addressing many of the research priorities. These educational programs and conference sessions are an important method for disseminating research and promoting evidence-based practice.

## Direction for Research Studies and Publication

Research priorities provide guidance for nurse scientists and clinicians in identifying areas for research study and topics for publication. ONS publishes two premier journals that provide oncology information to nurses. The *Clinical Journal of Oncology Nursing (CJON)* publishes clinically focused articles, and *ONF* provides comprehensive coverage of cutting-edge developments in cancer nursing science and patient care (ONS, n.d.-a). A review of the articles



published from 2002 to 2007 was conducted to determine the number of research reports and review articles that addressed the research priorities before and after the 2004 ONS Research Priorities Survey (see Table 1-5). Although this is a rudimentary review because only the title of the article was used to determine if the article addressed a priority, it is useful to see if articles are being disseminated on the priority topics.

- The priority addressed by the highest number of articles was QOL. This was not surprising because QOL has been one of the top three priorities since 1991. Interestingly, two years after the 2004 survey, 15 articles were published in *ONF*, which was the highest number in the five-year period.
- Both journals are disseminating information on education, pain, prevention, and screening. Research reports and clinical articles have been published addressing these priorities.

**Table 1-5. A Review of Priority Topics Addressed by Articles Published in the *Oncology Nursing Forum (ONF)* and the *Clinical Journal of Oncology Nursing (CJON)* Journals: 2002–2007**

2004 ONS Research Priorities	Number of Articles Published by Year					
	2002	2003	2004	2005	2006	2007
Quality of life	<i>ONF</i> : 6 <i>CJON</i> : 1	<i>ONF</i> : 5 <i>CJON</i> : 2	<i>ONF</i> : 6 <i>CJON</i> : 0	<i>ONF</i> : 4 <i>CJON</i> : 0	<i>ONF</i> : 15 <i>CJON</i> : 0	<i>ONF</i> : 6 <i>CJON</i> : 1
Participation in decision making about treatment in advanced disease	<i>ONF</i> : 0 <i>CJON</i> : 0	<i>ONF</i> : 0 <i>CJON</i> : 0	<i>ONF</i> : 0 <i>CJON</i> : 0	<i>ONF</i> : 0 <i>CJON</i> : 0	<i>ONF</i> : 0 <i>CJON</i> : 0	<i>ONF</i> : 0 <i>CJON</i> : 0
Patient and family educa- tion	<i>ONF</i> : 2 <i>CJON</i> : 2*	<i>ONF</i> : 4* <i>CJON</i> : 3	<i>ONF</i> : 4 <i>CJON</i> : 1	<i>ONF</i> : 2 <i>CJON</i> : 1	<i>ONF</i> : 0 <i>CJON</i> : 3*	<i>ONF</i> : 0 <i>CJON</i> : 1
Participation in decision making about treatment	<i>ONF</i> : 1 <i>CJON</i> : 0	<i>ONF</i> : 4 <i>CJON</i> : 0	<i>ONF</i> : 0 <i>CJON</i> : 0	<i>ONF</i> : 1 <i>CJON</i> : 0	<i>ONF</i> : 0 <i>CJON</i> : 0	<i>ONF</i> : 0 <i>CJON</i> : 0
Pain	<i>ONF</i> : 4 <i>CJON</i> : 1	<i>ONF</i> : 9* <i>CJON</i> : 1	<i>ONF</i> : 3 <i>CJON</i> : 1	<i>ONF</i> : 4 <i>CJON</i> : 1	<i>ONF</i> : 4 <i>CJON</i> : 1	<i>ONF</i> : 6 <i>CJON</i> : 2
Tobacco use and exposure	<i>ONF</i> : 0 <i>CJON</i> : 1	<i>ONF</i> : 0 <i>CJON</i> : 0	<i>ONF</i> : 1 <i>CJON</i> : 0	<i>ONF</i> : 0 <i>CJON</i> : 1	<i>ONF</i> : 0 <i>CJON</i> : 1	<i>ONF</i> : 0 <i>CJON</i> : 0

(Continued on next page)

**Table 1-5. A Review of Priority Topics Addressed by Articles Published in the *Oncology Nursing Forum (ONF)* and the *Clinical Journal of Oncology Nursing (CJON)* Journals: 2002–2007 (Continued)**

2004 ONS Research Priorities	Number of Articles Published by Year					
	2002	2003	2004	2005	2006	2007
Screening and early detection of cancer	ONF: 6* CJON: 0	ONF: 7 CJON: 2	ONF: 4 CJON: 1*	ONF: 2 CJON: 2	ONF: 6* CJON: 3*	ONF: 7* CJON: 0
Prevention of cancer and cancer risk reduction	ONF: 0 CJON: 0	ONF: 2* CJON: 1	ONF: 0 CJON: 2*	ONF: 1 CJON: 1	ONF: 5* CJON: 0	ONF: 2* CJON: 1
Palliative care	ONF: 0 CJON: 1	ONF: 2 CJON: 2	ONF: 0 CJON: 1	ONF: 0 CJON: 1	ONF: 0 CJON: 0	ONF: 4 CJON: 0
Evidence-based practice	ONF: 2 CJON: 0	ONF: 1 CJON: 2	ONF: 3 CJON: 0	ONF: 1 CJON: 1	ONF: 0 CJON: 2	ONF: 1 CJON: 3

\*Article addresses more than one research priority topic

- Very few or no articles were found on decision making and tobacco use; however, these priorities were newly identified by the 2004 ONS Research Priorities Survey. Palliative care, another new priority, was addressed in four *ONF* articles in 2007.
- Evidence-based practice also was a new priority in 2004. Both journals have a strong focus on evidence-based practice, and a column published in *CJON* addresses the clinical practice applicability of research findings from specific studies.

Information on some of the research priority topics clearly is being disseminated through ONS journals. A more thorough review of these articles is necessary to determine if the research studies have generated findings that can be recommended for practice. Perhaps more intervention research is needed in these priority areas. If this is not the case, dissemination of new knowledge to the bedside must be a priority.

## Conclusion

Establishing research priorities among practicing nurses and nurse scientists is a very successful method for advancing oncology nursing science.

Focusing oncology nursing research on problems experienced in the real world of nursing practice is important. Research should address established priorities, particularly those common research priorities identified both nationally and internationally, such as pain management, quality of life, and cancer prevention and detection. This will benefit people with cancer throughout the world.

The key to quality cancer care is evidence-based practice. Dissemination of quality research must be common practice among the nurse scientist community. Links must be continually established between nurse scientists and practicing nurses to improve the nursing care of people with cancer. By joining resources to increase the knowledge base of priority cancer care issues, research will advance oncology nursing science.

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