

# Revising the Blueprint for the Oncology Certified Nurse (OCN®) Examination: A Role Delineation Study

Susan C. McMillan, PhD, ARNP, FAAN, Karen Heusinkveld, DPH, RN, FAAN,  
Sally Chai, PhD, Cynthia Miller-Murphy, RN, MSN, CAE, and Chi-Yu Huang

**Purpose/Objectives:** To conduct a role delineation study of basic oncology nursing practice as a basis for revision of the blueprint for the Oncology Certified Nurse (OCN®) examination.

**Design:** Three-phase study of oncology nurses' practice.

**Sample:** 735 oncology nurses randomly chosen from all nurses who are OCN® certified.

**Methods:** A pilot survey was mailed to a small group to allow refinement of the survey instrument. The revised survey then was e-mailed to a total sample of 3,000 OCNs®. The results and input from experts on the subject matter were used to revise the test blueprint.

**Main Research Variables:** Frequency and importance of 223 oncology nursing activities previously identified by the group of experts in oncology nursing.

**Findings:** The highest ranked items for the combined frequency and importance scales pertained to the subscales Professional Performance, Patient/Family Education, Comfort, Protective Mechanisms, and Coping. The lowest ranked activities pertained to subscales Research, Detection, Sexuality, and Prevention.

**Conclusions:** The blueprint for the OCN® examination reflects entry-level oncology nursing practice and includes eight domains of practice: Quality of Life (36%), Protective Mechanisms (13%), Gastrointestinal and Urinary Function (10%), Cardiopulmonary Function (8%), Oncologic Emergencies (7%), Scientific Basis for Practice (12%), Health Promotion (3%), and Professional Performance (11%).

**Implications for Nursing:** Because oncology nursing is changing, reconfirming and updating the blueprint for the certification examination is necessary. Certification examinations beginning in April 2003 will be based on the revised blueprint.

## Key Points . . .

- Certification is a desirable way to protect healthcare consumers, validate nurses' qualifications, establish minimal competency standards, and recognize nurses who meet those standards.
- A role delineation study is the best way to link current oncology nursing practice with the Oncology Certified Nurse (OCN®) examination, which certifies competency in oncology nursing.
- Oncology nurses reported an increased focus on quality-of-life activities related to comfort and coping and a decreased focus on health-promotion activities, such as cancer prevention and detection.

opment of specialty areas of nursing by establishing minimal competency standards and recognizing those who have met the standards (Nielsen et al., 1990). Certification publicly attests to nurses' achievement of specific criteria and standards and, therefore, strengthens patients' confidence in nurse caregivers.

*Susan C. McMillan, PhD, ARNP, FAAN, is the Lyall & Beatrice Thompson professor of oncology quality of life in the College of Nursing at the University of South Florida in Tampa; Karen Heusinkveld, DPH, RN, FAAN, is the Myrna R. Pickard professor of nursing in the School of Nursing at The University of Texas at Arlington; Sally Chai, PhD, is a principle consultant in the Professional Services Development Division at ACT, Inc., in Iowa City, IA; Cynthia Miller-Murphy, RN, MSN, CAE, is executive director of the Oncology Nursing Certification Corporation (ONCC) in Pittsburgh, PA; and Chi-Yu Huang is a psychometrician at ACT, Inc., in Iowa City. Funding for this study was provided by ONCC. (Submitted June 2002. Accepted for publication July 15, 2002.)*

Digital Object Identifier: 10.1188/02.ONF.E110-E117

Certification is an important means of protecting healthcare consumers. Nursing certification is the process by which a nongovernmental agency uses predetermined standards to validate registered nurses' qualifications and knowledge of practice in a defined functional or clinical area of nursing. Certification promotes the devel-

The Oncology Certified Nurse (OCN®), Advanced Oncology Certified Nurse (AOCN®), and Certified Pediatric Oncology Nurse (CPON) credentials enable the public and employers to identify nurses who have attained a qualifying level of knowledge in oncology nursing. Therefore, OCN®, AOCN®, and CPON examinations must measure the knowledge necessary for the competent practice of oncology nursing at the basic and advanced levels. To satisfy this requirement, role delineation studies are necessary to ensure that certification examinations remain connected to actual current practice.

The major priorities of the Oncology Nursing Society (ONS) since its inception in 1975 have been the education and development of oncology nurses and the advancement of oncology nursing as a specialty. As ONS grew in size and broadened its goals, the leadership and membership at large became interested in developing an oncology nursing credential as a way of obtaining formal recognition of professional expertise. In 1984, a core curriculum was finalized and a committee of nursing experts prepared an outline of the knowledge required for basic practice as an oncology nurse. Because no role delineation study preceded the outline, it provided the framework for the first test blueprint. The ONS leadership realized that a systematic certification program was essential for the development, administration, and evaluation of certification; therefore, it formalized the Oncology Nursing Certification Corporation (ONCC) in 1984. Headed by its Board of Directors, ONCC has successfully guided the oncology nursing certification process for the past 18 years.

The first certification examination was administered at the 1986 ONS Annual Congress, and 1,384 RNs successfully earned the OCN® credential. Because certification examinations must reflect nurses' knowledge and ability to apply that knowledge to current practice, ONCC undertook the first role delineation study for the generalist oncology nurse in 1989 (Ropka, Norback, Rosenfeld, Miller, & Nielson, 1992). The study was conducted to define the responsibilities and knowledge necessary for competent job performance of newly certified nurses. The study findings provided a core body of important tasks and knowledge on which substantial professional agreement existed. The results were to be used to assess and document the content validity and job-relatedness of the existing certification program for oncology nursing and to provide input for the structure and content of future examinations.

The second role delineation study of the basic oncology nurse was published in 1997. It was intended to determine whether and how the test blueprint and future examination questions should be revised (McMillan, Heusinkveld, & Spray, 1997). From the data gathered, the blueprint for the OCN® examination was redesigned to include eight domains of practice.

Currently, oncology nurses face more complex cancer-related responsibilities than in previous years because of changes in technology, clinical research, treatment options, healthcare structuring, public expectations of quality care, and the nursing shortage. Sicker patients and fewer nurses make it imperative for nurses to increase their knowledge and competency in managing the complexities of cancer care.

ONCC policy states that role delineation studies should be conducted every five years, thus it was time for the third generalist oncology nursing role delineation study to be conducted. The purpose of it was to describe the current practice of oncology nurses in the United States to provide a basis for the revised test blueprint for the OCN® examination.

## Methods

The study was guided by the authors and a Committee of Subject Matter Experts (see Figure 1) who represented all geographic areas of the United States and many different areas of oncology nursing practice. A three-phase process was used to conduct the study and develop the revised test blueprint: Phase 1 was a pilot study of the survey instrument, phase 2 was the role delineation survey of a national sample of oncology nurses, and phase 3 used the results of the survey to make revisions to the OCN® examination.

### Phase 1: Pilot Study

The purpose of the pilot study was to obtain feedback about the adequacy of the survey that would be used in the study and to make improvements to its design before distributing it to a national sample. To draft the pilot survey, the Committee of Subject Matter Experts met with ACT, Inc., an organization that provides educational assessment and workforce development, and ONCC staff on March 31 and April 1, 2001, in Tampa, FL. The committee began with the survey form that had been designed and used in the role delineation study published in 1997 and made revisions based on their perceptions of changes in practice that had occurred in the intervening years.

**Sample:** Because the draft survey was based on the same well-established format used for the survey conducted in 1997, a small sample of convenience was used for the pilot study. This sample of 110 OCNs® was contacted via e-mail to respond and provide feedback on the adequacy of the pilot instrument, which was posted on a private site on the World Wide Web. As many as 60 of the invitations were not delivered or seen by the intended recipients because of delivery errors or expired e-mail addresses. With the assumption that the invitation was delivered to at least 50 valid e-mail addresses, the 13 responses obtained represented a response rate of 26%.

**Instrument:** The survey instrument had three sections. The first contained 16 demographic items. Section 2 presented 223 activities of oncology nursing at the generalist level that respondents were asked to rate in terms of frequency and importance. The response choices for importance and frequency are presented in Figure 2. Section 3 presented a seven-item questionnaire designed to elicit feedback from respondents about adequacy of the pilot survey form. The sample of nurses was invited to participate via e-mail, and the nurses were asked to respond to the survey on the Web. The results of the survey were analyzed by ACT

- 
- Helen Bolf, RN, BSN, OCN®, Duluth, MN
  - Christine Ellis, RN, BSN, OCN®, Tampa, FL
  - Linda Flemm, RN, BSN, OCN®, Darien, IL
  - Beth Goodkin, BSN, RN, OCN®, Portsmouth, NH
  - Dawnell Gregory, RN, OCN®, Sarasota, FL
  - Elizabeth Harwood, RN, OCN®, Beaverton, OR
  - Cathy Jackowski, RN, OCN®, Dayton, OH
  - John Kitchens, RN, OCN®, Crosby, TX
  - Wilma Knutson, RN, OCN®, Duluth, MN
  - Kimberly Luebbers, RN, BSN, OCN®, Burlington, VT
  - Daryll Lee Wells, RN, CHPN, MS, Latrobe, PA
  - Kathy Wilkinson, RN, BSN, OCN®, Billings, MT
- 

**Figure 1. Committee of Subject Matter Experts**

**Importance:** How important is the performance of this activity to the safe and effective outcomes of your nursing practice?  
0 = Not important  
1 = Somewhat important  
2 = Important  
3 = Extremely important

**Frequency:** How often do you perform this activity during the course of a year?  
0 = Never: I never do this.  
1 = Seldom: I do this once or twice a year.  
2 = Monthly: I do this once a month.  
3 = Weekly: I do this every week.  
4 = Daily: I do this daily.  
5 = More than once a day: I do this more than daily.

Figure 2. Response Choices for Importance and Frequency Scales

staff and revealed that the instrument required no revision. The instrument was finalized for use in the major study.

Validity of the final survey instrument was ensured by the manner of its development and through item-by-item review by content experts. Reliability was assessed using an internal consistency method and reported as coefficient alphas.

Phase 2: National Survey

Role delineation involved sending the revised survey form to a large sample of oncology nurses.

**Sample:** A random sample of 3,000 OCNs® was generated by ONCC staff from a database of more than 20,000 OCNs®. The 3,000 nurses were identified as candidates to be invited to participate in the survey.

**Procedures:** To initiate the survey in November 2001, an alert letter was sent to the initial random sample of 3,000 OCNs®. The alert letter announced the survey initiative and the importance of the study to the profession and offered instructions for participants to answer the Web-based version of the survey. About a week later, participants who did not answer the Web survey received a follow-up letter, which included a postcard that could be sent to ONCC to request a paper version of the survey. A third mailing was planned to consist of a letter reminding nonrespondents to answer the Web survey. However, because the response rate after the second mailing was lower than in previous ONCC practice analysis surveys, the third mailing, which was conducted in early February 2002, was changed to include a copy of the paper survey. Prior to mailing via e-mail or the U.S. Postal Service, the survey was divided into two forms, A and B, with about half of the activity statements in Section 2 appearing on each form. All of the surveys included Section 1, which asked about demographic variables. The survey was split to shorten the task of responding to the 223-item questionnaire.

Phase 3: Test Revision

The results of the survey were used to revise the test blueprint. Before the final meeting of the Committee of Subject Matter Experts, ACT prepared an assignment for the panel. For the assignment, each subject matter expert was given

- A software program used to facilitate the linking of knowledge, skills, and abilities to survey activities or tasks
- An instruction sheet for using the program
- A copy of the OCN® test blueprint.

The software program used by ACT was designed to allow each subject matter expert to link a knowledge/skill/ability with any activity on the survey for which the knowledge/skill/ability is required at entry level. For this study, each major heading in the current OCN® test blueprint was used as a knowledge/skill/ability. For example, for the first domain, Quality of Life, the subject matter experts considered whether each knowledge/skill/ability in that domain (i.e., comfort, coping, sexuality, and supportive care) was required to perform each of the activities or tasks on the survey. ACT compiled the results of the linking assignments in a table that identified whether an activity and knowledge/skill/ability were linked for purposes of further analysis. An activity and a knowledge/skill/ability were considered to be linked if the majority of the subject matter experts had linked them. After each survey task item was linked to one or more major knowledge/skill/ability in the test blueprint, the major categories within each domain received weight from the associated tasks. The result was a preliminary revised OCN® test blueprint.

From April 5–7, 2002, the subject matter experts met with ACT representatives to construct the test blueprint. At the start of the meeting, the purpose of the study was reviewed, as were the major phases of the study, with emphasis on the results of the task survey and the schedule and anticipated outcomes of the meeting.

In subsequent sessions, the subject matter experts reviewed the preliminary OCN® test blueprint that had been generated by ACT as a result of the survey and the linking assignment. First, they reviewed the content outline, considering ways to better define and organize the categories of content. They then reviewed the preliminary weights and their knowledge of entry-level generalist practice to make decisions about adjusting the weights and the corresponding number of test items assigned to each category. The final result of the meeting was the revised OCN® test blueprint, which will be implemented in 2003.

Results

Phase 2: The Survey

**Sample:** A total of 735 OCNs® responded to the survey. Table 1 summarizes the response numbers and percentages by survey format and total group. Of the respondents who answered the demographic items, 96% were women and 91% were Caucasian. The average age of respondents was 46 years. The largest number (45%) had been certified for five years or less. The sample represented most regions of the country, with slightly more respondents coming from the more densely populated northeastern United States (see Table 2).

Table 1. Survey Response Numbers and Percentages

Variable	n	%
Respondents who returned Web surveys	367	47
Respondents who returned paper surveys	418	53
Respondents who completed survey form A	385	52
Respondents who completed survey form B	350	48
Total number of completed surveys received	735	25

N = 3,000

**Table 2. Demographic Data**

Characteristic	%
<b>Gender</b>	
Female	96
Male	4
<b>Racial or ethnic origin</b>	
African American	3
Hispanic	1
Native American Indian or Alaskan Native	0
Asian or Pacific Islander	4
Caucasian	91
Other	1
<b>Total years as an OCN®</b>	
0–5	45
6–10	30
11–15	25
<b>U.S. region</b>	
North	0
Northeast	17
East	12
Southeast	14
Great Lakes	14
North Central	11
Midplains	10
South	8
Southwest	3
West	12

Note. Because of rounding, percentages may not total 100.

The majority of respondents (85%) said that they were not enrolled in school. Among those who identified themselves as full- or part-time students ( $n = 110$ ), 41% were pursuing a master's degree in nursing. For most, the highest degree in nursing held was a baccalaureate (42%) or master's (10%). The highest degree held in any other field predominantly was a baccalaureate (52%).

Respondents most often reported that they had worked in nursing 21–25 years (19%), with 11–15 years in oncology nursing (29%). The majority (76%) identified patient care as

their primary functional area of responsibility. Most often, they reported working in urban communities (48%). The majority of their time was spent in outpatient settings.

The largest number of respondents reported working in community hospitals (23%), followed by physicians' offices (16%). The specialties cited most often were medical oncology (40%) and chemotherapy (24%).

**Ranked survey items:** The highest ranked activity items in the total survey are presented in Table 3, categorized by their respective subscales. Professional Performance had the largest number of top-ranked items (four). Other subscales represented in the top 10 were Patient/Family Education (two items), Comfort (two items), Protective Mechanisms (two items), and Coping (two items). The lowest ranked items (see Table 4) were predominantly from the Sexuality (four items), Prevention (two items), and Detection (four items) subscales. Further information was gained by observing which items in each subscale were ranked highest by survey respondents (see Table 5).

## Discussion

### Subject Matter Experts

The subject matter experts who comprised the committee were diverse in that they represented most geographic areas of the United States and were from varied practice settings and ethnic groups. Although only one man served as a subject matter expert, the number of male OCNs® is very low. This diversity was an important element in helping to ensure that the process represented all certified oncology nurses. In addition, the study investigators (authors Susan C. McMillan and Karen Heusinkveld), the ONCC representative (author Cynthia Miller-Murphy), and ACT staff (author Sally Chai) were very experienced with role delineation studies and blueprint development.

### Survey Sample

The survey sample also was representative of all OCNs®. The 735 OCNs® who responded were predominantly female, with slightly more men (4%) responding compared to the 1997 survey (2%). The average age of respondents (46 years) was somewhat older than those in the 1997 survey (41.4

**Table 3. Top Ten Ranked Items From the Total Survey**

Subscale	Rank	Nursing Activity
Professional Performance	1	Follow occupational safety guidelines related to universal (i.e., standard) precautions.
Professional Performance	2	Advocate for patients and families.
Professional Performance	3	Use ethical principles in decision-making.
Patient/Family Education	4	Provide information specific to patient and family needs regarding disease process, treatment and procedures, management of potential side effects, follow-up care, and community resources.
Patient/Family Education	5	Reinforce information presented as needed.
Comfort	6	Assess patients' perceptions of comfort and well-being.
Protective Mechanisms	7 <sup>a</sup>	Assess patients' hematopoietic status and immune status (i.e., lab results, history, physical assessment).
Coping	7 <sup>a</sup>	Provide patients and families with support (emotional, spiritual) throughout the disease process.
Professional Performance	8	Follow occupational safety guidelines related to chemotherapy.
Comfort	9	Evaluate patients' pain management outcomes.
Protective Mechanisms	10	Maintain a safe environment for patients.

<sup>a</sup> Two items tied for the seventh rank.

**Table 4. Bottom Ten Ranked Items From the Total Survey**

Subscale	Rank	Nursing Activity
Research	1 (highest)	Teach patients and family members about research protocols.
Detection	2	Participate in screening activities.
Sexuality <sup>b</sup>	3 <sup>a</sup>	Determine if patients can recognize changes that occur related to the disease process or treatment that affect sexuality.
Sexuality	3 <sup>a</sup>	Evaluate patient or family knowledge of available resources (e.g., sperm banking).
Prevention	4 <sup>a</sup>	Educate patients and families about available community resources.
Detection	4 <sup>a</sup>	Participate in educational programs for target populations within the community.
Detection	5	Participate in planning for public education about early detection programs.
Sexuality	6	Discuss with patients and their partners alternative methods for expression of sexuality.
Detection	7	Participate in planning for public education about early detection programs.
Professional Performance	8	Participate in support group activities.
Sexuality	9	Incorporate interventions for maintenance of sexuality into plan of care.
Prevention	10 (lowest)	Plan educational programs for target populations within the community.

<sup>a</sup> Two items tied for the third rank and the fourth rank.

<sup>b</sup> Entire subscale contained only four items.

years). This may be a further reflection of the aging of the nursing force. The respondents continued to be predominantly Caucasian (91%). More than half (52%) had either a bachelor's or master's degree in nursing, compared with 45% who had that level of education in the earlier survey. An appropriate amount of variability existed in the number of years in nursing and the number of years in oncology nursing. The majority (76%) spent most of their time providing patient care in a wide variety of settings, with the majority (59%) providing outpatient care. This represented a shift from the previous survey, when the largest proportion (48%) provided inpatient care, compared to outpatient care (42%). This may be a reflection of the shortage of nurses working in inpatient settings and also may be a result of shorter inpatient stays. As before, the largest numbers identified medical oncology and chemotherapy as their areas of specialization. The variability in the survey sample increased confidence in the generalizability of the results.

### Ranked Survey Items

The subscale with the largest number of highly ranked nursing activities was Professional Performance (see Table 3). The four activities were highly ranked because they were deemed to be both important and frequently occurring in oncology nursing practice. Because the items reflect safety, advocacy, and ethical decision-making, that they came out near the top is not surprising. Among other highly ranked activities, Patient/Family Education, Comfort, and Protective Mechanisms also were logical choices. The Professional Performance subscale also had some of the lowest ranked activities (see Table 4). This dichotomy occurred possibly because the Professional Performance subscale, unlike the others, included a wide variety of nursing activities.

Although some of the lowest ranked activities in the total survey were very understandable, others were somewhat disturbing. Research received a low rank, which is understandable because it is not part of the job description of most oncology nurses and is not performed frequently. Also, cancer-screening activities were performed infrequently, even by nurses who

believed in their importance. However, sexuality issues remained low in importance and frequency for most of the respondents despite the fact that sexual problems are very common among people who are being treated for cancer. This was consistent with results of the earlier survey, indicating that no progress had been made in that area. Nurse educators should focus on this area in both formal educational programs and continuing education.

Each subscale in the total survey included items about assessment; intervention, including patient and family education; and evaluation. Thirty of the 60 top-ranked items (50%) presented in Table 5 focused on assessment activities, and only 20 (33%) focused on intervention. Perhaps this is because every patient must be assessed, but only certain patients require intervention. Thus, assessments are conducted more frequently than interventions.

### Evaluating the Survey Scale

The two scales (i.e., frequency and importance) used to rate the nursing activities in the survey were evaluated by correlating them. A very high correlation would indicate that the two scales were measuring the same things. The very moderate mean correlation between the scales (0.53) implied that, although the scales were somewhat related because the activity measured was the same, the scales measured unique components of oncology nursing practice at the entry level. This increased confidence in the appropriateness of the scales. Confidence in the validity of the scales was provided by the fact that they were generated and evaluated item-by-item by a group of content experts. Reliability for the total survey was estimated using Cronbach's alpha. The survey was found to have very strong reliability ( $\alpha = 0.99$ ).

### Revised Blueprint

A comparison of the major content areas on the previous OCN® blueprint and the newly revised blueprint is presented in Table 6. The content category that had the largest number of test items in the previous blueprint (McMillan et al., 1997),

**Table 5. Top Four Ranked Nursing Activities Within Each Subscale**

Subscale	Rank	Nursing Activity
Professional Performance	1	Follow occupational safety guidelines related to chemotherapy.
	2	Document nursing processes in specific patient records.
	3	Document patients' informed consent to treatments.
	4	Assist patients in negotiating the healthcare system.
Patient/Family Education	1	Provide information specific to patient and family needs regarding disease process, treatment and procedures, management of potential side effects, follow-up care, and community resources.
	2	Reinforce information presented as needed.
	3	Assess patient and family understanding of treatment process (i.e., specific drugs, side effects, toxicities, diagnostic or evaluative tests).
	4	Assess patients' and family members' preferred learning styles
Comfort	1	Assess patients' perceptions of comfort and well-being.
	2	Evaluate patients' pain management outcomes.
	3	Assess patients and families regarding pain management concepts and pain regimens.
	4	Assess patients' side effects of analgesic therapy.
Protective Mechanisms	1	Assess patients' hematopoietic status and immune status (e.g., labs, history, physical assessment).
	2	Maintain a safe environment for patients.
	3	Assess patients for factors that potentially would compromise the integumentary system (e.g., chemotherapy, prolonged mobility, radiation, nutritional status, medications).
	4	Assess patient and family understanding of actions and precautions to take during periods of altered hematopoietic and immune function.
Coping	1	Provide patients and families with support (e.g., emotional, spiritual) throughout the disease process.
	2	Assess for symptoms and behavior of ineffective coping related to anxiety, anger, fear, fatigue, or depression.
	3	Evaluate patients' ability to verbalize concerns and needs.
	4	Assess patients' ability to verbalize concerns and needs to care team.
Ventilation	1	Assess patients for risk factors that could alter respiratory function (e.g., radiation therapy, medications, anxiety).
	2	Assess patients' respiratory status (i.e., history, environmental risks, physical examination, breathing pattern, and chest x-ray).
	3	Determine if patients and families can recognize signs or symptoms of changes in respiratory status and report to healthcare providers.
	4	Assist patients in managing alterations in ventilation.
Circulation	1	Manage and monitor administration of chemotherapy and biotherapy.
	2	Recognize and manage signs and symptoms of alteration in circulation, including deep vein thrombosis.
	3	Monitor and maintain vascular access devices.
	4	Teach patients and families to recognize alterations in circulation.
Mobility	1	Assess risks for impairment of baseline mobility (e.g., weakness, bone mets, lymphedema, fatigue).
	2	Assess patient mobility and related factors (e.g., history, gait, strength, endurance, fatigue).
	3	Assess knowledge and ability of family caregivers to assist with patients' mobility needs.
	4	Initiate interventions with patients and families to manage alterations in mobility, such as adaptation of activities of daily living, energy conservation, modification of environment, and appropriate referrals.
Nutrition	1	Assess factors that affect patients' nutritional status (e.g., nausea and vomiting, diarrhea, anorexia, appetite changes, stomatitis, taste changes, dysphagia).
	2	Provide patients and families with nutritional information specific to their needs.
	3	Evaluate whether patients' nutritional needs are being met.
	4	Facilitate optional nutrition with interventions such as medications, mouth care, manipulation of environment, and timing and frequency of meals.

*(Continued on next page)*

**Table 5. Top Four Ranked Nursing Activities Within Each Subscale (Continued)**

Subscale	Rank	Nursing Activity
Neurosensory	1	Identify and manage oncologic emergencies related to neurological functioning (i.e., syndrome of inappropriate antidiuretic hormone, spinal cord compression, hypercalcemia, increased intracranial pressure, and tumor lysis syndrome).
	2	Identify patients' additional risk factors for neurosensory deficits (e.g., chemotherapy, radiation, medications, nutritional status).
	3	Assess patients' neurosensory status (e.g., labs, history, physical assessment).
	4	Maintain a safe environment for patients with neurosensory changes.
Elimination	1	Develop a plan to manage constipation and diarrhea.
	2	Evaluate patients for complications of treatment or disease process (e.g., diarrhea, constipation, dysuria).
	3	Assess patients' elimination and related factors (e.g., medications, chemotherapy, radiation, diet).
	4	Assist patients in managing alterations in elimination.
Prevention	1	Assess patients' ability and willingness to comply with preventive health practices.
	2	Teach preventive health habits (e.g., smoking cessation, dietary modification, sun protection, occupational exposure)
	3	Assess patient and family understanding of preventive health practices.
	4	Assess patient and family understanding of risk factors.
Detection	1	Evaluate patients' and families' early detection practices (e.g., breast self-examination, testicular self-examination).
	2	Assess patient and family understanding of early detection practices.
	3	Assess patients' and families' skills in early detection practices.
	4	Facilitate follow-up of positive findings from screening or self-detection.
Sexuality <sup>a</sup>	1	Assess knowledge and understanding related to contraception, safe sexual practices, and willingness to comply with recommendations.
	2	Assess patients' and their partners' perceptions and concerns related to sexuality.
	3	Assess knowledge and understanding related to fertility (e.g., disease or treatment-related).
	4	Determine whether patients can recognize changes that occur related to the disease process or treatment that affect sexuality.
Research	1	Review informed consent for research protocols and coordinate treatment (e.g., treatment plan calendars).
	2	Participate in research through activities such as data collection and documentation of information.
	3	Provide basic assessment or screening for protocol eligibility.
	4	Teach patients and family members about research protocols.

<sup>a</sup> Entire subscale contained only four items.

Quality of Life, still was the most heavily weighted in the revised blueprint, but it was more heavily weighted. This seemed like a logical and desirable outcome given that much of what oncology nurses do is related to enhancing quality of life through providing physical and emotional comfort and supporting coping. The increase in weight in the Quality of Life category dictated decreases in other categories. For example, Gastrointestinal and Urinary Function dropped from 15% to 10%. Cardiopulmonary Function saw a smaller decrease, from 10% to 8%.

The category of Health Promotion, which included the Prevention and Detection subscales, decreased again, as it did in the earlier revision. In the 1997 revision, the blueprint weight for Prevention and Detection dropped from 10% to 8%. In the current revision, it dropped from 8% to 3%. Why the trend away from health-promotion activities was occurring is unclear, perhaps because the nursing shortage is preventing nurses from participating in what is seen as “nice to do” activities versus critical activities. Another possible explanation is that as ad-

vanced practice in oncology nursing continues to develop, prevention and detection activities are seen more as in the province of oncology advanced practice nurses.

**Table 6. Comparison of Previous and Current Blueprint Categories and Weights**

Content Category	1997 Weight %	2002 Weight %
Quality of Life	27	36
Protective Mechanisms	15	13
Gastrointestinal and Urinary Function	15	10
Cardiopulmonary Function	10	8
Oncologic Emergencies	7	7
Scientific Basis for Practice	12	12
Health Promotion	8	3
Professional Performance	6	11
<b>Totals</b>	<b>100</b>	<b>100</b>

## Conclusion

The purpose of this study was to define the current role of the oncology nurse in the United States as a basis for the blueprint for the OCN<sup>®</sup> examination. The survey instrument was sound, and the sample was large and diverse. Activities performed most frequently and those most important to practice were identified and ranked and then linked with knowledge, skills, and abilities required for performing these activities. Shifts in practice were identified since the previous survey (McMillan et al., 1997). The resulting blueprint should be

representative of current oncology nursing practice and should lead to a test that is valid for assessing current entry-level practice. Not only can test developers use the blueprint for designing the OCN<sup>®</sup> examination, but certification candidates also can use it to prepare for the test, and educators can use it to guide development of educational programs in oncology nursing.

---

**Author Contact:** Susan C. McMillan, PhD, ARNP, FAAN, can be reached at Smcmilla@hsc.usf.edu, with copy to editor at rose\_mary@earthlink.net.

## References

- McMillan, S.C., Heusinkveld, K., & Spray, J. (1997). A study of the role of the generalist oncology nurse as a basis for revision of the blueprint for certification. *Oncology Nursing Forum*, 24, 1371–1379.
- Nielsen, B.B., Laszlo, J., Miaskowski, C., Heusinkveld, K., Hogan, C., Jenkins, J., et al. (1990). Certification for oncology nurses: Maturing of a discipline. *Journal of Cancer Education*, 5, 99–102.
- Ropka, M.E., Norback, J., Rosenfeld, M., Miller, C., & Nielsen, B. (1992). Evolving a blueprint for certification: The responsibilities and knowledge comprising American professional oncology nursing practice. *Oncology Nursing Forum*, 19, 745–759.