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## The Oncology Nursing Society Ambulatory Office Nurse Survey

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In the early 1990s, the Oncology Nursing Society (ONS) published several reports of national surveys about salary, staffing, and professional practice patterns in office-based nursing, infusion therapy centers, and ambulatory care oncology clinics (ONS, 1990a, 1990b, 1992). These reports detailed the emerging role of the nurse in these various outpatient settings (ONS, 1990a, 1990b, 1992). Today, oncology care is delivered increasingly in outpatient, ambulatory, or office settings in response to trends influenced by patient preference, improved supportive medications, and financial advantages. According to the ONS database, more than 10% of ONS members report that they work in ambulatory settings.

Recently, the ONS Workforce Survey reported that outpatient-based RNs were more likely than inpatient RNs to report caring for an increased number of patients and that physicians had delegated an increased number of tasks for them to perform (Lamkin, Rosiak, Buerhaus, Mallory, & Williams, 2002). Schim, Thornburg, and Kravutske (2001) reported survey findings that assessed practice patterns of RNs in a variety of ambulatory care settings. Results revealed that ambulatory RNs' perceptions of what they actually do in daily practice is disconnected from what they believe is important to do. Several authors have reported the value of an expanded RN role in the ambulatory setting (Richter & Felix, 1999; Schroeder, Trehearne, & Ward, 2000a, 2000b) and have proposed nurse-sensitive indicators of "quality" care (Mastal, 1999). Although these are not oncology-specific reports, the issues are pertinent because they are based in the ambulatory setting.

The purpose of this survey was to determine which aspects of care staff RNs were responsible for across a variety of ambulatory and office settings, whether the nurses believed that these aspects of care should be managed by an RN, and the key issues related to practice that respondents believed needed to be addressed by the professional organization.

The survey was developed by a project team led by Anne M. Ireland, MSN, RN, AOCN®, and included Linda Arneson, BSN, RN, OCN®, Laurel Stark, BSN, RN, OCN®, and Judy Williamson, MS, RN, AOCN®. ONS staff support was

provided by Gail Mallory, PhD, RN, CNAA, and Judith A. DePalma, PhD, RN.

The project team met in February 2002 to outline the key areas of practice related to ambulatory and office nurses involved with chemotherapy administration. Content experts reviewed the developed survey that was then pilot tested by 40 randomly selected members of the Ambulatory/Office Nursing ONS Special Interest Group (SIG). The mass distribution occurred in May 2002. Given the expanded and complex roles of the oncology nurse in the ambulatory environment, all aspects of clinical practice were deemed beyond the scope of one survey. Therefore, a decision was made to limit the definition of clinical practice to chemotherapy treatment because it is the most frequent treatment currently supported in ambulatory settings.

The survey included the broad practice areas of

- Clinical care
- Chemotherapy administration
- Safety
- Symptom management
- Outcomes
- Telephone triage
- Patient education
- Delegation

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- Care delivery models
- Staffing
- Patient scheduling
- Clinical trials
- Reimbursement
- Professional development
- Legislative issues and policies
- Nursing shortage
- Key issues
- Practice and personal demographics.

Most areas had questions that asked who had the primary responsibility for specific aspects of care and how important the respondent thought it was for the RN to have the primary responsibility for those particular aspects of care. The intent was to determine which aspects of care nurses believed they should be primarily responsible for and compare this with the person in their settings who actually was responsible for these particular aspects of care. Areas of practice with the greatest differences between value and actual responsibility will be emphasized in this article. These differences fell into two categories.

- Highly important for RNs to have primary responsibility but, in actual practice, other providers have that responsibility
- Minimally or not important at all for RNs to have primary responsibility, but, in actual practice, RNs are spending a great deal of time performing

Other questions were asked using a Likert rating scale or a list of options that could be checked, and comments were requested at the end of each topical section. Frequencies, percentages, ranges, and means were calculated for these results. The voluminous narrative responses to the comment questions were reviewed for common themes or categories.

The survey was e-mailed to all ONS members who designated their work settings as ambulatory or office and who had e-mail addresses (N = 3,705). Seventy-six additional copies were e-mailed to members of the Ambulatory/Office Nursing and Chemotherapy SIGs who designated their work settings as ambulatory or office but who did not appear on the former list. Paper surveys were mailed to all members of the Ambulatory/Office Nursing and Chemotherapy SIGs who designated work setting as ambulatory or office but did not have e-mail addresses (N = 48). Total distribution was 3,829, and 325 completed surveys were returned (response rate of 8.5%). The low response was likely the result, in part, of the length of the survey questionnaire (18 pages) and its complexity. Each item had several response subsets (Who performs this task? How important is it that an RN perform the task? Who do you feel should perform the task?) that may have added to the complexity and discouraged participation.

## Demographics

### Sample

Of the 325 respondents, 96% were female and 85% worked full-time (at least 30 hours per week). The average age of respondents was 44 years (range = 23–62 years), and the average years in nursing was 20 (range = 2–41 years). Respondents averaged 14 years in oncology nursing (range = 1–33 years) and 9 years in ambulatory or office nursing (range = 1–28 years).

Most frequently, the respondents' primary positions were described as direct patient care providers (47%) or nurse managers (26%). Current salary ranged from \$15.01 to more

than \$30 an hour, with 29% reporting more than \$30 an hour and 36% reporting \$24.01–\$30 an hour.

Approximately half (48%) of the respondents reported their highest level of education in nursing as a baccalaureate degree, 18% had earned an associate degree, and 18% a master's degree. Seventeen percent reported no education in nursing beyond a diploma. Certification as an Oncology Certified Nurse® (OCN®) was held by 74% of the respondents, and 9% held Advanced Oncology Certified Nurse® certification (see Table 1).

### Practice Setting

Respondents were divided evenly across settings with half being employed in ambulatory or outpatient settings and half in physician practice or office settings. More than half (56%) of the respondents reported working in a hospital or multi-hospital system, and 31% functioned in community cancer centers. Fifty-six percent identified their practice settings as for-profit. Respondents represented 49 states and two provinces of Canada. Sixty respondents stated that their practice encompassed more than one state. The average number of treatment chairs in the practice setting was 12 (range = 1–45), and the average number of treatment beds was four (range = 1–50). Immediate supervisors most frequently were nurse administrators (59%), followed by nonclinical administrators (21%) and physician administrators (20%). The presence of a nurse in the practice setting was required after 5 pm by 55% of the respondents, on weekends by 33%, and on holidays by 26%. Sixty-four percent stated that the practice had one to five physicians (range = 1–50), with 56% stating that one or

**Table 1. Sample Demographics**

Variable	$\bar{X}$	Range
<b>Age (years)</b>	44	23–62
<b>Practice years</b>		
Years in nursing	20	2–41
Years in oncology nursing	14	1–33
Years in ambulatory or office nursing	9	1–28
Variable	n	%
<b>Current primary position</b>		
Direct patient care provider	146	47
Nurse manager	81	26
Nurse practitioner	21	7
Clinical nurse specialist	17	5
Other	47	15
<b>Salary range (per hour)</b>		
\$15.01–\$18	13	4
\$18.01–\$21	18	6
\$21.01–\$24	54	17
\$24.01–\$27	67	21
\$27.01–\$30	47	15
Above \$30	92	29
No response	22	7
<b>Level of education</b>		
Baccalaureate degree	149	48
Associate degree	57	18
Master's degree	56	18
Diploma	52	17
<b>Certification</b>		
Oncology Certified Nurse®	222	74
Advanced Oncology Certified Nurse®	27	9

two offices were in the practice (range = 1–45). The number of RNs in the practice ranged from 1–40 ( $\bar{X}$  = 9).

Fifty-two percent of the respondents stated that 80%–100% of their practice was oncology. Two hundred sixty responded that 100% of their patients were adults. Only three respondents stated that 90%–100% of their practice was pediatrics. The number of patients receiving chemotherapy during a week averaged 101 (range = 1–500).

## Clinical Care

Clinical care, defined as the support of chemotherapy treatment in the ambulatory or office settings, was approached with a list of relevant clinical activities to determine who had the primary responsibility for these activities in the clinical setting and which activities were valued as responsibilities for the nurses.

Although the task of putting the patients in the rooms was considered “minimally or not at all important” for RNs to do by 77% of the respondents, about 42% of the time RNs escorted patients to their treatment or infusion rooms. Unlicensed ancillary personnel (UAPs) were responsible for this task 50% of the time. Approximately 43% of the time, RNs measured pretreatment weights and vital signs; UAPs did this 57% of the time. It was considered “minimally or not important” for RNs to do this by 64% of the respondents. Peripheral laboratory draws were considered “minimally or not important” for RNs to do by 70% of respondents, but the laboratory draws were done by RNs 55% of the time and by UAPs 42% of the time.

With regard to more technical skills, importance and percentage of time that the skill was performed by the RN had less of a difference. The majority of the time, the RN administered IV medications (99%), started peripheral IV lines (98%), accessed and drew blood from vascular access devices (98%), administered blood transfusions (97%), and gave intrathecal chemotherapy (97%). Nurses also primarily handled telephone triage (92%), managed prescription refills (88%), and assisted with invasive procedures (83%). UAPs were, for the most part, used in limited numbers for such duties. They assisted with invasive procedures about 11% of the time, started peripheral IV lines less than 1% of the time, renewed prescriptions about 8% of the time, and managed telephone triage 4% of the time. UAPs did not administer blood transfusions, IV medications, or intrathecal chemotherapy. They very rarely (1%) accessed and drew from vascular access devices. Generally, the respondents reported that they believed these more technical skills should be performed by the RN staff, except for the intrathecal chemotherapy, where 30% believed that it was not important at all for the RN to perform this clinical skill. This disagreement may be because nurses believed that physicians should be performing intrathecal chemotherapy. Table 2 lists importance ratings for all areas surveyed.

Many of the nurses commented that they thought ancillary staff could reasonably get patients into rooms and take preadmission weights and vital signs; however, others mentioned that this was an important time for rapport building and assessment for RNs that UAPs might not be able to do. Budget constraints and staff shortages have dictated that many offices use medical office assistants and phlebotomists to perform various tasks such as drawing blood for laboratory work, putting patients into rooms, or getting preadmission weights and vital signs.

The consensus was that as long as UAPs are well trained and understand their duties, they can perform these tasks.

## Chemotherapy Administration

Chemotherapy administration was segmented into the most important aspects, such as ordering and mixing of the medications, actual administration of the drugs, patient teaching, and management of side effects. Primarily, RNs (49%) or pharmacists (35%) ordered chemotherapy drugs. Chemotherapy was mixed and prepared by staff RNs (39%) or pharmacists (55%). Staff RNs nearly always (99%) administered the chemotherapy. Staff RNs also provided patient education about 95% of the time and symptom management for side effects 97% of the time. The nurse manager of many facilities seemed to be an extra pair of hands at times and also was responsible for chemotherapy administration, patient education, and symptom management when staffing required help. Generally, the directors and nurse practitioners in the practices did not administer chemotherapy.

The respondents reported that it was minimally or not very important for RNs to order (48%) and mix (56%) the drugs. These responses varied because not all facilities had pharmacists or pharmacy technicians available to order and mix the drugs. The administration of chemotherapy was considered important for RNs to do by 99% of the respondents. The respondents also believed that RNs should be primarily responsible for patient teaching (99%) and symptom management of side effects (98%).

The majority of the respondents (68%) administered chemotherapy on a daily basis, 13% at least once a week, and 15% less than once a month. The respondents' comments indicated that many of the sites have nurses assigned to specific areas such as physicians' offices and infusion areas. In some cases, staff members appear to float between the areas depending on how busy the setting is. A variety of comments was made concerning the size of the staff and frequency of chemotherapy administration. At some sites, chemotherapy was administered daily, whereas at others, chemotherapy was scheduled on specific days of the week and settings were staffed accordingly.

## Safety

Safety issues included the policies and procedures in place related to extravasation, hypersensitivity, double checking of chemotherapy prior to administration, use of infusion pumps, recalculation of chemotherapy dosage and body surface area (BSA) calculations, and patient identification (see Table 3). Almost all (94%) responded that they had a policy or procedure for extravasation, 88% had one for hypersensitivity reactions, 84% for double checking chemotherapy with another RN prior to administration, and 81% had a policy or procedure for use of infusion pumps. Recalculation of BSA and dosage ordered was covered by policy in most practices (71%). More than half (60%) had a policy or procedure for formal identification of the patient. Other policies mentioned in the comments section were numerous and most frequently included subcutaneous access devices, peripherally inserted central catheters, declotting vascular access devices, control of chemotherapy hazards, patient assessment and reassessment, patient teaching, transportation, chemotherapy administration, total parenteral nutrition, evaluation of laboratory results,

**Table 2. Performance and Importance of Clinical Care**

Task	Who Is Performing?	n (%)	How Important Is It That the RN Performs This Task?	n (%)
IV medications	Staff RN	308 (99)	Very important	303 (97)
	Staff licensed practical nurse (LPN)	–	Somewhat important	8 (3)
	Pharmacist or pharmacy technician	–	Minimally important	2 (1)
	Unlicensed ancillary personnel (UAP)	–	Not important at all	1 (0)
	Nurse manager	2 (1)		
Blood transfusions	Staff RN	207 (99)	Very important	217 (92)
	Staff LPN	1 (1)	Somewhat important	13 (6)
	Pharmacist or pharmacy technician	1 (1)	Minimally important	2 (1)
	UAP	–	Not important at all	5 (2)
	Nurse manager	1 (1)		
Accessing and drawing from vascular access devices	Staff RN	296 (97)	Very important	268 (88)
	Staff LPN	3 (1)	Somewhat important	22 (7)
	Pharmacist or pharmacy technician	2 (1)	Minimally important	8 (3)
	UAP	2 (1)	Not important at all	6 (2)
	Nurse manager	1 (0)		
Peripheral IV starts	Staff RN	308 (98)	Very important	272 (87)
	Staff LPN	2 (1)	Somewhat important	28 (9)
	Pharmacist or pharmacy technician	1 (0)	Minimally important	7 (2)
	UAP	2 (1)	Not important at all	7 (2)
	Nurse manager	1 (0)		
Telephone triage	Staff RN	272 (91)	Very important	261 (85)
	Staff LPN	6 (2)	Somewhat important	35 (11)
	Pharmacist or pharmacy technician	6 (2)	Minimally important	8 (3)
	UAP	7 (2)	Not important at all	3 (1)
	Nurse manager	7 (2)		
Intrathecal chemotherapy	Staff RN	56 (97)	Very important	110 (58)
	Staff LPN	–	Somewhat important	10 (5)
	Pharmacist or pharmacy technician	–	Minimally important	12 (6)
	UAP	–	Not important at all	57 (30)
	Nurse manager	2 (3)		
Prescription renewals	Staff RN	250 (88)	Very important	181 (58)
	Staff LPN	8 (3)	Somewhat important	77 (25)
	Pharmacist or pharmacy technician	12 (4)	Minimally important	36 (12)
	UAP	11 (4)	Not important at all	18 (6)
	Nurse manager	4 (1)		
Assisting with invasive procedures	Staff RN	238 (82)	Very important	166 (54)
	Staff LPN	16 (6)	Somewhat important	90 (29)
	Pharmacist or pharmacy technician	14 (5)	Minimally important	36 (12)
	UAP	19 (7)	Not important at all	15 (5)
	Nurse manager	4 (1)		
Pretreatment vital signs and weight	Staff RN	125 (43)	Very important	41 (13)
	Staff LPN	28 (10)	Somewhat important	73 (23)
	Pharmacist or pharmacy technician	58 (20)	Minimally important	111 (35)
	UAP	76 (26)	Not important at all	90 (29)
	Nurse manager	1 (0)		
Peripheral laboratory draws	Staff RN	94 (54)	Very important	38 (12)
	Staff LPN	6 (3)	Somewhat important	56 (18)
	Pharmacist or pharmacy technician	37 (21)	Minimally important	93 (30)
	UAP	36 (21)	Not important at all	125 (40)
	Nurse manager	2 (1)		
Placing patient in room	Staff RN	122 (42)	Very important	20 (6)
	Staff LPN	23 (8)	Somewhat important	53 (17)
	Pharmacist or pharmacy technician	60 (21)	Minimally important	100 (32)
	UAP	85 (29)	Not important at all	141 (45)
	Nurse manager	–		

**Table 3. Safety Policies and Procedures**

Policy in Place	n (%)
Extravasation management	291 (94)
Hypersensitivity reactions	273 (88)
Double-checking of chemotherapy by RN prior to administration	261 (84)
Infusion pump programming	249 (80)
Recalculation of chemotherapy dosing	223 (72)
Recalculation of body surface area and area under the curve	221 (71)
Patient identification prior to administration	183 (59)

N=325

intrathecal procedure and competency, area-under-the-curve calculation, oral chemotherapy, blood sampling from central lines, mixing of chemotherapy, growth factor parameters, infusion of specific agents (paclitaxel, rituximab, infliximab, and IV immunoglobulin), double check by RN of patient's performance status prior to chemotherapy, pain management, emergency events, cardiac arrest, symptom management, telephone triage, patient orientation, patient referral and screening, double-check take-home or overnight infusions, standing orders for Warfarin, bisphosphonates, absolute neutrophil count calculation, patient consent and follow-up, nausea and vomiting, and documentation standards.

Chemotherapy orders were handwritten in 63% of the respondents' settings, on preprinted order sheets in 38%, and ordered by computer in 19%. Documentation of chemotherapy included name of drug (99%), dose of drug (99%), route of administration (99%), site of administration (98%), presence of blood return (94%), and patient education (90%) (see Table 4). Other facts that were required in documentation were start time (85%), patient tolerance (84%), stop time (77%), and BSA calculation (69%). Most of the respondents (98%) believed that their methods of documentation were effective.

## Symptom Management

In regard to teaching materials available on symptom management, 74% used materials developed by external sources and 68% used materials developed in their own organizations. The comments reflected that a combination of materials was used most commonly—materials from the National Cancer Institute or other agencies, pharmaceutical company information, or specific information developed in their own organizations. ONS has identified several priority areas for symptom management. When asked about these five top priority symptoms, respondents reported that they needed to help their patients manage neutropenia 84% of the time, pain 82% of the time, anorexia 67% of the time, cognitive impairment 60% of the time, and insomnia 56% of the time. Other symptom management areas mentioned included bowel care, nausea and vomiting, oncologic emergencies, neuropathy, stomatitis, dehydration, and fatigue. By far, the most frequent comments were related to improvement of patient satisfaction and quality of life. Most discussed helping patients and families cope with illness and treatment.

## Outcomes

Nurses' perceptions of the influence that their interventions had on outcomes were determined for several nurse-sensitive outcomes. Respondents perceived that they "frequently or

sometimes" increased patient and family satisfaction (100%), affected quality of life and improved quality of care with timely interventions (99%), increased their own job satisfaction with timely and effective interventions (99%), prevented hospital admissions with timely symptom management (98%), and decreased the cost of care (95%).

The teaching that was done by nurses was considered very important, as was the support and counseling that nurses are able to offer patients and families. Other benefits mentioned were more productive use of physician time, keeping patients to their schedules, and a better reputation for their institutions in the community. Safety also was mentioned because of the nursing role in the monitoring of complicated chemotherapy schedules, improved patient compliance and understanding, and increased accuracy of data collection for clinical trials. Financially, the nurses perceived that they decreased futile care by helping patients and families move toward hospice, secured compassionate assistance for pharmaceuticals, and helped frequently with insurance issues and case management questions. The comments illustrated the nursing role as being integral throughout the entire continuum of care from diagnosis through treatment and then return to wellness or admission to hospice.

## Telephone Triage

Most of the nurses surveyed (93%) reported that they used a telephone documentation form to record telephone encounters with patients and families. Of these, about 19% indicated that they used a written assessment guide with recommended questions based on the reason for the call. Additional written comments suggested that several of the nurses work in environments where the content of phone calls is incorporated into the progress notes of patients' charts, into a triage book, or dictated into the electronic record.

The majority of ambulatory nurse respondents (54%) reported that telephone triage was part of every nurse's assignment; 27% of the nurses reported that they had a designated "telephone triage nurse." Additional comments indicated that in some settings nurses worked with a specific physician and triaged all phone calls for those patients. In other settings, assignment to triage responsibilities rotated on a weekly basis.

## Patient Education

Once again, the approach to this area of clinical practice was who was responsible for patient education and the importance of the RN having primary responsibility for patient teach-

**Table 4. Chemotherapy Documentation**

Type of Documentation	n (%)
Name of drug	312 (99)
Dose of drug	311 (99)
Route of administration	310 (99)
Site of administration	308 (98)
Presence of blood return	295 (94)
Patient education	281 (90)
Start time	267 (85)
Patient tolerance	264 (84)
Stop time	243 (77)
Body surface area calculation	216 (69)

N=325

ing. Patient education on treatment and related side effects (94%) and symptom management (94%) were the areas the respondents most strongly felt should be an RN responsibility. The majority also felt strongly about nurses' responsibility for education about procedures (73%) and disease process (69%). General orientation to the clinical space and patient flow processes was considered the least important for primary responsibility by nurses. Nurses actually had the primary responsibility for patient education in all five areas, including general orientation (see Table 5).

The surveyed nurses used a variety of tools in their settings to facilitate patient education. Almost all of the nurses (99%) reported using printed materials that patients and families could take home. The majority (76%) stated that they used audiovisuals in their practice settings, 59% used teaching guidelines, 34% had established a formal patient education class for patients receiving chemotherapy, and 15% said that they had a nursing position whose primary responsibility was patient education. Sixty-nine percent of the respondents reported that they had a documentation form to record the completed patient education. Only 24% of the nurses surveyed reported that their practice settings supported the practice of billing for the patient education provided. Many respondents reported using a low-level visit code to cover patient education time; however, several nurses also commented that patient education was integral to the care rendered, seen as a "safety measure," and perceived as "medically necessary."

Delegation

The survey team perceived that delegation would be an area where significant changes are occurring in ambulatory settings. Questions were included to elucidate areas of delegation from others to the nurses as well as from the nurses to others.

Table 5. Responsibility for and Importance of Patient Education

Area of Patient Education	Who Has the Primary Responsibility?	How Important Is It That the RN Have the Primary Responsibility for Teaching?
Treatment and related side effects	94% staff RN	94% very important
	5% nurse manager	5% somewhat important
	2% staff licensed practical nurse (LPN)	
Symptom management	96% staff RN	94% very important
	4% nurse manager	5% somewhat important
Procedures	93% staff RN	73% very important
	3% nurse manager	22% somewhat important
	2% staff LPN	5% minimally important
	2% unlicensed ancillary personnel (UAP)	
Disease process	94% staff RN	69% very important
	5% nurse manager	25% somewhat important
	2% UAP	5% minimally important
General orientation	84% staff RN	49% very important
	9% UAP	28% somewhat important
	5% nurse manager	18% minimally important
	2% staff LPN	6% not important at all

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

The respondents reported that physicians or physician assistants (PAs) most commonly performed invasive procedures such as bone marrow aspirations and paracenteses (91%) and administered intrathecal chemotherapy. However, 5% of the staff nurses performed invasive procedures and 11% of staff nurses administered intrathecal chemotherapy. The majority of the nurses (86%) believed that doing invasive procedures was minimally important or not important at all, and 78% believed that administering intrathecal chemotherapy was minimally important or not important at all. As mentioned earlier, this finding is possibly because the nurses believed that physicians, NPs, or PAs should perform intrathecal chemotherapy.

Other aspects of delegation—those not requiring a physician order—also were explored. The respondents believed that it was very or somewhat important for RNs to be primarily responsible for decision making and ongoing management of palliative care. Currently, these two aspects of palliative care primarily are handled by physicians and PAs, but these may be areas that need to be explored for further involvement by nurses because they frequently assist or facilitate decision making with patients and families.

The respondents believed that it was less important for RNs to be responsible for ordering laboratory tests or notifying patients with abnormal test results. This was indicated by the lower percentage of "very important" responses. But when "very" and "somewhat important" responses are combined, the numbers regarding laboratory test activities totaled approximately half of the respondents. In some settings or situations, nurses have the responsibility for ordering laboratory tests and notifying patients of results, whereas in others, this is not as important (see Table 6).

Care Delivery Model

Respondents were asked to define the care delivery model used in their settings. The three models listed were **functional** (providing nursing care as needed during client visits to a random group of clients depending on day's assignment), **primary care** (providing nursing care to the same clients in a specified group during each ambulatory visit), or **medical** (assisting the physician as needed, carrying out nursing aspects of medical care). Most nurses described their care delivery model as functional (40%) or primary care (39%). Twenty percent reported using the medical model of care. More than half (51%) stated that they were satisfied with their model of care; 41% stated that they were very satisfied with their model of care; and less than 10% of the respondents reported being minimally or not satisfied at all with their care delivery model.

Staffing

Questions relating to staffing attempted to gain insight into the number of patients that an RN, working in an outpatient area where chemotherapy is administered, treats in any given day, what percentage of the nurse's time is spent on specific roles, and whether a staffing tool is available.

Nurses were asked to indicate how many patients per day they provided care to, including providing treatment to new chemotherapy patients, continuing chemotherapy patients, and nonchemotherapy or supportive care patients and providing patient education. The majority of nurses (85%) reported that they treated one to three new patients receiv-

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**Table 6. Delegation**

Area of Delegation	Who Has the Primary Responsibility?	How Important Is It That the RN Have the Primary Responsibility?
Ongoing management of patients in palliative care	63% physician/physician assistant (PA) 29% staff RN 8% advanced practice nurse (APN)	35% very important 34% somewhat important 15% minimally important 16% not important at all
Facilitating the decision making to move to palliative care	78% physician/PA 18% staff RN 4% APN	30% very important 38% somewhat important 18% minimally important 13% not important at all
Ordering lab tests	73% physician/PA 21% staff RN 6% APN	17% very important 35% somewhat important 27% minimally important 22% not important at all
Calling patient with abnormal test results indicating disease progression	72% physician/PA 22% staff RN 6% APN	16% very important 24% somewhat important 26% minimally important 35% not important at all

ing their initial cycle of a new regimen. More than a third (35%) provided nonchemotherapy or supportive care for one to five patients, 40% for 5–10 patients, 16% for 11–20 patients, and 7% for more than 20 patients. The number of chemotherapy treatments varied considerably: 16% administered fewer than five treatments per day, 29% administered 5–10 treatments, 30% administered 10–15 treatments, 10% administered 15–20 treatments, and 13% administered more than 20 treatments. In addition, the majority of the nurses surveyed also fielded 10 or more patient phone calls per day (55%). Some nurses (14%) fielded 25–100 phone calls per day. More commonly, nurses spent 10%–30% of their time on specific roles such as symptom management, telephone triage, patient education, chemotherapy administration, case management, assisting with clinical trials, or patient scheduling. Many nurses commented that estimating the percentage of their time spent on each role was difficult because these functions often overlapped with each patient. Another common comment was that the survey did not provide a column where they could specify the time commitment for mixing drugs. The majority of the nurses (76%) believed that the nurse-to-patient ratio was reasonable in their practice. More than 80% of respondents replied that they did not use any kind of staffing tool to assist with staffing decisions but based their staffing on patient volume and types of treatment to be provided. Of the 20% who did use a tool, only four (6%) found the tool to be very useful, whereas 41% reported their tool was either useful or somewhat useful. Almost 10% found the tool not useful at all.

### Patient Scheduling

Scheduling of patients in the ambulatory setting for the infusion room was the primary responsibility of 41% of the responding nurses, and even more (54%) were fixing scheduling problems as they arose. Comments to clarify UAPs provided the following specific job titles: secretaries, administration staff, clerks, and scheduling coordinator.

More than half the respondents believed that these tasks were either “very important” or “somewhat important” for the staff RN to be performing (see Table 7).

### Clinical Trials

Clinical trials have become an integral part of oncology practice, especially related to chemotherapy treatment. This section was intended to determine whether clinical trials were performed in the practice setting, whether clinical trial nurses were employed to carry out the trials, and what the staff RNs’ roles were with clinical trials. Of the nurses surveyed, 86% reported that clinical trials were conducted in their practice settings with 75% reporting that clinical trial nurses were available. The staff nurses’ role in the context of clinical trial care was primarily to follow protocols and collect data through documentation and blood draws. Two other roles seen in almost half of the settings were managing investigational drugs and following patients who participated in the clinical trials. Through comments, the respondents added the following roles: helping to prepare protocols for submission to funding agency and the institutional review board, keeping study books up to date, patient education, symptom management, toxicity verification, and dose modification calculation (see Table 8 for more details on other aspects of the RN role).

### Reimbursement

Reimbursement issues were explored in the survey as they related to the ambulatory setting. Nurses believed that the most important responsibilities for the RN were completion of the billing ticket for services provided by the RN (44%) and the review of patient charges for accuracy (33%). In actual practice, nurses were primarily responsible for these two activities in 74% and 39% of the responding settings, respectively. In addition, 49% of the respondents stated that nurses were responsible for procurement of drugs for indigent patients, although only 23% of the respondents believed that this was very important (see Table 9).

### Professional Development

Professional development included programs provided in the settings (i.e., orientation, maintenance of competencies, and a

**Table 7. Scheduling**

Area of Scheduling	Who Has the Primary Responsibility?	How Important Is It That the RN Have the Primary Responsibility?
Infusion room scheduling	42% unlicensed ancillary personnel (UAP) 41% staff RN 12% pharmacist 3% staff LPN 1% nurse manager	33% very important 28% somewhat important 22% minimally important 17% not important at all
Fixing scheduling problems	30% UAP 54% staff RN 10% pharmacist 2% staff LPN 4% nurse manager	32% very important 32% somewhat important 22% not important at all 14% minimally important

Table 8. Roles of the RN in Clinical Trials

Clinical Trial Task	n (%)
Follow protocols	240 (88)
Data collection (documentation, blood draws)	173 (63)
Investigational drug management (storing, mixing, and administering)	132 (48)
Follow participating patients	125 (46)
Recruit sample (identify appropriate patients for the trial)	93 (34)
Secure informed consent	70 (26)
Introduce clinical trials to appropriate patients	67 (25)
Other	29 (11)

basic chemotherapy course) and support for external, informal, and formal continuing education. Eighty-five percent of the respondents believed that professional development of the nursing staff was very important in their settings.

Orientation programs were provided for 78% of the respondents. These programs averaged 35 days in length (range = 1–180 days). Nearly half (43%) believed that the orientation “adequately” prepared them to practice in their settings, whereas 26% thought that the orientation program “very adequately” prepared them for practice. Of the competencies RNs reported they had in place in their clinical settings, those that were listed by at least half of the respondents were chemotherapy (95%), safety issues (94%), starting peripheral IVs and doing blood draws (92%), symptom management (79%), oncologic emergencies (76%), ethical issues (61%), and administration of blood products (50%). Cultural competency (41%), clinical trials (35%), and traditional competencies of basic cardiopulmonary life support, fire safety, and disaster training (0.6%) were expectations less frequently in the ambulatory settings of the respondents. Clarification of other competencies included nutritional assessment, vascular access devices, charting, billing, filling of hepatic infusion pumps, and use of the specific computer system.

Approximately 98% of the respondents had a chemotherapy course available to them. The origin of the chemotherapy course was divided evenly among the specific setting, another organization, and ONS.

The majority of respondents received time off for continuing education (CE) programs (80%), had their registration paid for the CE programs (74%), had certification examination fees paid by their settings (64%), said their settings provided flexible scheduling so that personnel could attend academic programs (58%), and said their settings provided their own CE offerings, some on a monthly basis (52%). Only 5% reported no current support at their organizations for CE. Some respondents reported creative strategies they have been using to provide continuing nursing education.

Legislative Issues and Policies

Forty percent of the respondents reported that they depended on the ONS Web site for the latest news related to legislative issues. Another 40% said that they were not involved at all in such issues. Some of the other ways that nurses stayed involved with legislative matters were attending related education programs, contacting local legislators about issues, or accessing other legislative-related Web sites. Only

15 respondents were involved in the ONS ONStat program, and five of these were ONS state health policy liaisons.

Nursing Shortage

The shortage of nurses was apparent in ambulatory settings with 47% of the respondents reporting open positions. Ambulatory settings were reacting to the lack of nurses to fill their open positions by hiring less experienced nurses (50%), asking nurses on staff to work overtime to fill the needs (33%), or hiring an increased number of UAPs (11%). Twenty-three percent of the respondents reported an increase in the turnover of staff because of the shortage of nursing staff. Several comments were made about giving rushed care and working extra hours, especially in the settings affiliated with inpatient organizations. A small number of respondents (n = 20) stated that they were not yet affected by the shortage in their settings.

- Respondents reported some specific creative staffing strategies related to the shortage. These included
- Hiring critical care nurses (although not trained in oncology, they adapted well)
  - Recruiting from local hospitals and nursing schools by nurses speaking to groups of personnel or students
  - Providing flex hours
  - Actively recruiting nurses now to fill the positions of seasoned nurses when they retire in four to five years.

Table 9. Reimbursement Activities

Reimbursement Issue	Who Has the Primary Responsibility?	How Important Is It That the RN Has the Primary Responsibility?
Completion of billing ticket for services you provide	74% staff RN	44% very important
	0% staff licensed	23% somewhat important
	practical nurse/licensed vocational nurse (LPN/LVN)	16% minimally important
	13% unlicensed ancillary personnel (UAP)	18% not at all important
	13% other personnel	
Review of patient charges for accuracy	39% staff RN	33% very important
	1% staff LPN/LVN	23% somewhat important
	29% UAP	22% minimally important
	32% other personnel	23% not at all important
Procurement of drugs for indigent patients	49% staff RN	23% very important
	1% staff LPN/LVN	30% somewhat important
	14% UAP	25% minimally important
	37% other personnel	23% not at all important
Completing forms requesting diagnosis codes or billing codes	31% staff RN	13% very important
	1% staff LPN/LVN	19% somewhat important
	39% UAP	36% minimally important
	29% other personnel	32% not at all important
Counseling patients and families regarding finances	11% staff RN	8% very important
	0% staff LPN/LVN	17% somewhat important
	33% UAP	31% minimally important
	56% other personnel	44% not at all important
Communication with insurance companies	15% staff RN	5% very important
	0% staff LPN/LVN	22% somewhat important
	43% UAP	40% minimally important
	42% other personnel	33% not at all important



Almost all of the respondents (85%) said that interaction with patients kept them working in their particular practice settings, and the majority (92%) responded that the nature of the job was what they liked. Job satisfaction (69%) and the hours they worked (46%) were very high on the list as well. Other aspects of the RN role in the ambulatory setting that helped retention were the opportunities to improve the quality of nursing care and increase the OCN® role in the RN-physician collaborative approach to patient care, as well as being involved in “cutting edge” research and the knowledge shared with oncologists.

## Key Issues

Patient education was the key issue that needed to be improved in nurses’ own oncology practices, specifically more time for such education (59%) and recognition of the importance of patient education (36%). Other issues that were rated as most important to be improved were salary and benefits (47%) and professional development (45%). Issues that were rated as important included staffing (37%), support for the expanded role of the nurse (31%), and standardization of documents across practice settings (30%). Delegation of care was not as important as the other issues, with only 13% of the respondents indicating a need for improvement with what is delegated from physicians to nurses and 7% for care that is delegated from nurses to licensed practical nurses (LPNs) and UAPs.

The most important issues for the professional organization to address were very evenly distributed among helping nurses keep abreast of new knowledge (39%), the nursing shortage (29%), new technologies (26%), the need for evidence-based guidelines and practice standards (25%), and reimbursement issues (23%). Other areas of interest were promotion of certification and specialty care, genetics technology, patient advocacy, patient safety, and patient level of involvement in treatment decisions.

## Discussion

The results of this survey confirm that ambulatory or office oncology nurses are faced with increasingly complex clinical care environments and that they have a broad range of responsibilities in their practice settings. Specific points from the results are presented with either recommendations for action by ONS or actions that are in progress by the organization or other relevant professional organizations.

Nearly 20% of the responding nurses reported caring for patients in more than one state, giving rise to regulatory and licensure issues. These issues have been raised by other professional organizations and need ongoing work for resolution (American Academy of Ambulatory Care Nursing, 2004). As of October 2004, 17 states have enacted the RN and LPN/Vocational Nurse Licensure Compact created by the National Council of State Boards of Nursing (NCSBN) allowing nurses in these states to provide nursing care in other states without separate licensure (NCSBN, 2004). This compact is one mechanism to allow nurses to provide care to patients residing in other states.

The remaining discussion will deal with key points from the main areas in the survey and recommendations based on the findings.

## Clinical Care

A difference existed between the importance of the RN performing some of the more basic clinical tasks and the percentage of nurses who actually were performing these tasks, such as placing patients in the room and doing pretreatment vital signs. The RN staff probably completed some of these tasks because of a high concentration of RNs on staff. General agreement existed with the more skilled tasks as to importance and RNs performing, with the greatest difference related to intrathecal chemotherapy. This is postulated to be because nurses may believe that this invasive procedure should be performed by physicians, NPs, or PAs.

**Recommendation:** This may offer an opportunity for professional organizations to develop or revisit their standards of practice for the ambulatory or office nursing role and their statements on UAPs.

Many of the nurse respondents (40%) reported that mixing chemotherapeutic agents was their responsibility. This skill is presumed to be acquired with on-the-job training, and institutions are developing their own policies and procedures.

**Recommendation:** This is an opportunity for nurses and pharmacists to develop collaborative guidelines related to mixing techniques.

## Safety

Many respondents were willing to share existing resources from their practices such as forms and documentation tools.

**Recommendation:** The ONS Ambulatory/Office Nursing SIG may be a good repository of these valuable resources. Additionally, publication of model policies and procedures in an oncology clinical journal such as the *Clinical Journal of Oncology Nursing* would be a means to disseminate forms and tools.

The majority of nurses reported that they were using handwritten physician order forms in their practice settings.

**Recommendations:** A physician-order template would benefit nurses in these settings to ensure thorough and clear instructions for chemotherapy. A standard guide for chemotherapy documentation is needed. An electronic documentation format could be developed in cooperation with vendors of electronic charting systems to ensure comprehensive documentation of chemotherapy administration.

## Symptom Management

Nurses reported that patients require the most support around issues related to anorexia, cognitive impairment, and sleep disturbances.

**Recommendation:** These particular symptoms should be given priority when developing evidence-based guidelines and outcomes projects.

## Outcomes

Nurses believe that their interventions influence outcomes in oncology care.

**Recommendations:** Include ambulatory or office settings in any outcomes projects. Encourage the use of such settings in funded outcomes research projects. Encourage the study of the role of patient education with improved outcomes. Encourage the study of the role of specialized oncology nurses in ambulatory and office settings and outcomes, especially with some of the approaches being used to counter the nursing shortage.

## Telephone Triage

A minimal number of respondents used a telephone assessment guide.

**Recommendation:** This would be a valuable resource for nurses with telephone triage responsibilities.

## Patient Education

The level of importance and actual percentage of nurses doing patient education were very consistent, denoting the need for this to be a primary responsibility of the nurse. The issue in this area appears to be with reimbursement for patient teaching and the related issue of recognizing the importance of patient education.

**Recommendations:** A need for evidence-based guidelines for patient and family education continues to exist. Organizations need to promote reimbursement for patient education with third-party payers. This would be facilitated with more research that determines the time involved and the impact education has on outcomes.

## Delegation

Differences did exist between what aspects of care were considered important for RNs to be primarily responsible for and the actual areas where nurses had responsibility. Nurses did not believe that it was important for them to be responsible for performing invasive procedures (e.g., bone marrow aspirations, paracenteses) and intrathecal chemotherapy, yet a percentage of nurses were. On the other hand, nurses believed that they should be more responsible for facilitating decisions made to initiate palliative care and ongoing management of such care.

**Recommendations:** A position paper or standard related to RN involvement with invasive procedures and intrathecal chemotherapy is needed. The development of education to support palliative care decisions and follow-up by nurses in an advanced practice role would facilitate nurses having a more active role in this aspect of patient care.

## Staffing

The majority of respondents reported that they did not use a staffing tool to assist in planning.

**Recommendation:** Development of a new tool or testing or endorsement of an existing staffing tool would provide

oncology nurses with a resource to assist in staffing plans. Specifically, US Oncology has published a staffing model based on patient acuity that could be tested in broader clinical settings (Richardson, 2002).

## Clinical Trials

Clinical trials were conducted in the majority of the clinical settings, and clinical trial nurses generally were employed in these settings.

**Recommendations:** Promote collaborative programs or educational opportunities with clinical trial nurses and ambulatory or office nurses. Considering the high number of settings offering clinical trials, promoting the inclusion of assessment needed for clinical trials onto nursing assessment flow sheets is reasonable.

## Reimbursement

Nurses were involved in many activities related to reimbursement.

**Recommendation:** Standards of practice for ambulatory or office nurses should include activities related to reimbursement.

## Legislative Issues and Policies

An apparent lack of involvement existed by RNs in legislative activities.

**Recommendation:** Ambulatory or office nurses should be included in any education or initiatives to promote involvement in legislative activities.

## Conclusion

These results can be used to assist organizations in the development of job descriptions for ambulatory oncology nurses, further delineate the role of UAPs in ambulatory settings, and assist the relevant professional organizations in setting priorities to meet the needs of this segment of their membership.

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