What Do Orthopaedic Nurses Do?

Implications of the Role Delineation Study for Certification

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The Orthopaedic Nurses Certification Board (ONCB) conducts a role delineation study (RDS) every 5 years. Results identify tasks performed by orthopaedic registered nurses, nurse practitioners, and clinical nurse specialists, and musculoskeletal health conditions commonly seen by patients under their care.

PURPOSE: The purpose of the study was to define current practice patterns among orthopaedic nurses and validate content for future certification examinations.

METHOD: An online survey methodology was used to identify task and knowledge statements that represented orthopaedic nursing practice.

FINDINGS: Of 5,634 e-mails sent, 1,194 valid responses were returned (response rate 22.7%). This is consistent with results of the Orthopaedic Nurses Certification Board's 2007 RDS (23.3% response rate) and is considered acceptable for an RDS.

CONCLUSION: Survey results were analyzed with assistance of psychometric staff at Applied Measurement Professionals, Inc., and used to review and revise examination specifications for the 3 certification programs. New specifications were implemented with March 2012 testing.

Consumer protection is a primary purpose of specialty nursing certification. Certification publicly demonstrates nurses' specific knowledge and their ability to meet specialty practice standards. It thus improves patients' confidence in their nurses (McMillan, Heusinkveld, Chai, Miller-Murphy, & Huang, 2002).

The Orthopaedic Nurses Certification Board (ONCB®) develops, maintains, and administers the only orthopaedic certification examinations in the United States. Of critical importance in meeting the goal of consumer protection is the need to ensure that the blueprints used to construct the examinations are based on current practice in orthopaedic nursing. Rapid changes in nursing practice require a formal role delineation study (RDS) to be conducted every 3–5 years to compare current practice to specifications for all certification examinations (American Educational Research Association, American Psychological Association, & the National Council on Measurement in Education, 1999). The ONCB's three certification programs are accredited by the Accreditation Board for Specialty Nursing Certification (ABSNC). Repeating the RDS at least every 5 years is consistent with the ABSNC accreditation standards (ABSNC, 2012).

Background

Incorporated in 1986, the ONCB offered the first ONC® examination at the Annual Congress of the National Association of Orthopaedic Nurses (NAON) in Phoenix, AZ, in 1988. Since that first test, more than 10,000 registered nurses have taken the ONC examination. More than 6,000 nurses currently hold this basic certification credential. In October 2006, the ONCB launched examinations for orthopaedic nurse practitioners (NPs) and clinical nurse specialists (CNSs). Slightly more than 100 advanced practice nurses (APNs) now hold the ONP-C® and OCNS-C® credentials. The ONCB has conducted role delineation studies every 5 years since the inception of its ONC certification program, with the 2005 and 2010 studies also including NP and CNS roles in support of the APN certification programs. This article describes the related literature, methodology, and results of the ONCB's 2010 role delineation study (RDS), and implications for orthopaedic nursing certification.

Literature Review

Specialty nursing certification organizations have used various methods to conduct their RDSs. For example, the American Board of Occupational Health Nurses has used a modified Delphi method to describe duties and tasks associated with a job, as well as worker characteristics and working conditions (Salazar, Kemerer,

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Amann, & Fabrey, 2002). However, the most common method for conducting an RDS has long been a survey. The ONCB has used survey methodology to conduct RDSs since its inception. As described later, other certification boards also have used this method.

The National Certification Board of Pediatric Nurse Practitioners and Nurses established an advisory committee of subject-matter experts to oversee the survey process for the RDS (Barnsteiner, Richardson, & Wyatt, 2002). These experts determined that pediatric nurses practice in a number of functional roles: "direct caregiver, educator, counselor, consultant, advocate, care coordinator, or health systems manager" (p. 166). The survey, which sought to define the domains of practice and functional roles, was distributed to more than 1,300 certified pediatric nurses in the United States, 400 noncertified pediatric nurses in the United States, and 600 noncertified pediatric nurses in Canada. Respondents indicated if a task was part of their regular practice and, if so, the importance of the task to their role as pediatric nurses. They also were asked about the percentage of time they spent in the identified functional roles. Finally, survey respondents indicated the top-five children's conditions with which they spent most of their nursing time.

The American Board of Neuroscience Nurses also used a task force of expert nurses to develop the survey for the RDS (Villaneuva, Thompson, Macpherson, Meunier, & Hilton, 2006). Board members selected nurses with experiential and geographic diversity, as well as diversity in educational preparation. The task force reviewed previous RDSs and other materials, developing a list of interventions and disorders with rating scales for the new survey. An online 255-item survey was designed to gain three types of information: demographic data, specific neurological disorders encountered in nursing practice, and nursing interventions performed (with ranking of importance). As with other surveys, the section on nursing interventions asked respondents to identify both frequency and importance as they related to actual nursing practice. Surveys were e-mailed to more than 3,000 AANN members as well as nonmember certified neuroscience nurses.

Beginning in 2001, the American Nurses Credentialing Center and the National Board for Certification of Hospice and Palliative Nurses (NBCHPN) began to develop a specialty certification for advance practice nurses in hospice and palliative nursing (Clark, Berry, McSteen, & Fabrey, 2009). The first examination was offered in 2003. By 2005, NBCHPN had gained sole ownership of the program; the organization's leaders identified a need to ensure that the APN program continued to represent current practice. To meet this need and to ensure continued compliance with NBCHPN policy, members of an APN Advisory Committee conducted the necessary activities to identify APNs' current responsibilities in hospice and palliative care and to develop examination specifications. A task list for a survey instrument was constructed using previous APN and registered nurse surveys, with 205 tasks approved by the APN Advisory Committee. Of 3,754 surveys distributed via e-mail to noncertified nurses, 180 completed surveys were received by the deadline (6.6% response rate). However, of 271 APNs already certified by NBCHPN, 59 (22%) completed and returned the survey.

Nursing members of the American Society for Metabolic and Bariatric Surgery began development in 2005 of a specialty nursing certification program based in care for morbidly obese and bariatric surgery patients (Berger et al., 2010). Consistent with certification industry best practices, the group conducted a practice analysis as an empiric foundation for the new examination. Because this represented the first practice analysis for the specialty, a task force was convened to define the practice of bariatric nursing. Tasks initially were identified in three roles: bariatric nurse coordinators, bariatric program directors, and direct-care nurses for morbidly obese and bariatric surgical patients. A larger group of nurse volunteers representing the three roles of interest participated in interviews, focus groups, and surveys. Their work led to a final description of bariatric nursing practice in four domains: clinical management, multidisciplinary team collaboration, outreach, and program administration; 45 specific tasks and 54 knowledge statements were identified as the basis for a web-based survey. After a pilot of 60 nurses, the survey was determined to demonstrate content and face validity. It was distributed to 1,084 nurses from American Society for Metabolic and Bariatric Surgery membership, academic, and bariatric programs across the United States. Of 1,028 eligible participants, 504 surveys were returned (49% response rate).

In 2011, the National Board for Certification and Recertification of Nurse Anesthetists (NBCRNA) conducted its most recent professional practice analysis to ensure that its national certification examination continued to identify the knowledge and skills needed by newly certified nurse anesthetists in providing competent care (Muckle, Plaus, Henderson, & Waters, 2012). The National Board for Certification and Recertification of Nurse Anesthetists' previous practice analyses had been conducted in 1996, 2001, and 2007. The 2011 study began with performance of a gap analysis of the current examination outline, resulting in minor revisions to several knowledge statements. The modified content outline then was adapted to an online survey format. Three scales were used by respondents: performance expectation, criticality, and frequency. All 36,123 active nurse anesthetists were surveyed; 9,003 qualified, usable responses were obtained (24.9% response rate).

Statistical analyses were completed on returned surveys by all the certifying boards mentioned previously. The analyses helped subject-matter experts for each board to discriminate between important and unimportant disorders and interventions. Those items were translated into a matrix that ultimately provided a blueprint for each certification examination. The previously summarized reports are representative of the literature concerning role delineation studies in nursing specialty certification; not all boards publish the results of every RDS, but processes do tend to be consistent across the industry. This is, in part, influenced by accreditation agencies such as ABSNC, which identify expectations in their standards for conduct of the RDS that supports examination development and maintenance (ABSNC, 2012). The ONCB's process in conducting the 2010 RDS is described later.

Purpose

The purpose of the 2010 ONCB RDS was to collect data on basic and advanced orthopaedic nursing practice to define current practice patterns and validate content for future certification examinations. Analysis of responses was completed in 2011, and RDS results were used to revise examination specifications that were launched with the March 2012 testing cycle.

Methods

For its sixth role delineation study in 2010, members of the ONCB again chose to use a survey methodology. Members of the ONCB Test Committee served as the subject-matter experts for survey development, and later review and application of survey findings to the specifications for each of the three certification examinations. Test Committee members held at least one of the ONC, ONP-C, or OCNS-C credentials, had prior knowledge of the examination items and content, and were able to compare orthopaedic nurses' responsibilities identified in the survey to current examination outlines. In addition, this group reflected the diversity represented by the ONCB's certificants with respect to orthopaedic subspecialty, professional role, geographic location, and educational preparation.

In September 2010, Test Committee members were challenged with seven distinct tasks to complete the role delineation study:

1. Develop a sampling plan.
2. Identify tasks and knowledge statements for the survey instrument.
3. Identify major classifications of tasks and knowledge statements.
4. Determine the rating scales for the three areas on the survey (task, frequency, importance to role).
5. Determine the relevant demographic variables of interest.
6. Discuss the linkage between the knowledge and task statements, and how they will be used to create or revise the examination specifications.
7. Integrate the components of the survey in preparation for pilot testing.

Sample

Test Committee members first developed a broad definition of the target practitioner to capture responses from orthopaedic registered nurses, NPs, and CNSs. For the purposes of this study, the target practitioner was defined as a registered nurse "with relevant work experience in any setting with a variety of patient populations with musculoskeletal conditions" (Applied Measurement Professionals & ONCB, 2011, p. 5). With this definition in mind, committee members devised a plan to obtain an adequate sample of orthopaedic nurses. Because the survey was to be distributed to NPs, CNSs, and registered nurses working in orthopaedic practice, the two primary sources of names and e-mail addresses were ONCB certificants and NAON members with known e-mail addresses and a willingness to be contacted by e-mail. After the lists were merged and any duplicates eliminated, the final list consisted of 5,634 potential respondents who self-identified as orthopaedic nurses. E-mails were sent to invite their participation in the 30-minute online survey. The e-mail explained the purpose of the study and indicated that no individual data would be reported. Completion of the survey was taken as informed consent from participants.

Survey Design

After the sampling plan was determined, Test Committee members turned their attention to the development of the survey tool. Consideration was given first to the present examination specifications and the results of the previous role delineation study. The 2005 survey served as the initial draft for the new tool and included a composite list of task and knowledge statements that represented registered nurses and APNs. The final survey included 62 task statements representing the role and responsibilities of the orthopaedic nurse and 157 knowledge statements representing the expected body of knowledge of orthopaedic nurses.

Because the purpose of the survey was to ensure that examinations address current roles of orthopaedic nurses, Test Committee members ensured that each task was linked to a knowledge statement, and each knowledge statement was relevant to at least one task. All statements were categorized into 11 different domains, with variation between the ONC and APN examinations. The first five domains (clinician/practitioner, educator, manager, consultant, and researcher) are associated with functions of NPs and CNSs. The additional six domains reflect activities performed by orthopaedic registered nurses who may earn the ONC credential: self-care, pain, complications, activity, nutrition, and psychosocial needs. While these areas appear uniquely on the ONC examination specifications, they also represent practice concerns for orthopaedic APNs. Survey respondents were asked to rate knowledge and task statements, using a single significance scale (see Table 1).

In addition to the role-related statements, the survey requested demographic information about respondents, such as region of employment, type of practice facility, certifications held, percentage of time dealing with musculoskeletal health, specific medical conditions seen, the number of years as an RN, the number of years as an RN in orthopaedics, highest level of education completed, prescriptive authority, sex, and race.

Table 1. Significance Rating Scale

Rate the significance of each statement by choosing one of the options on the following scale:
0 = Not necessary for my job
1 = Minimally significant
2 = Moderately significant
3 = Significant
4 = Very significant
5 = Extremely significant

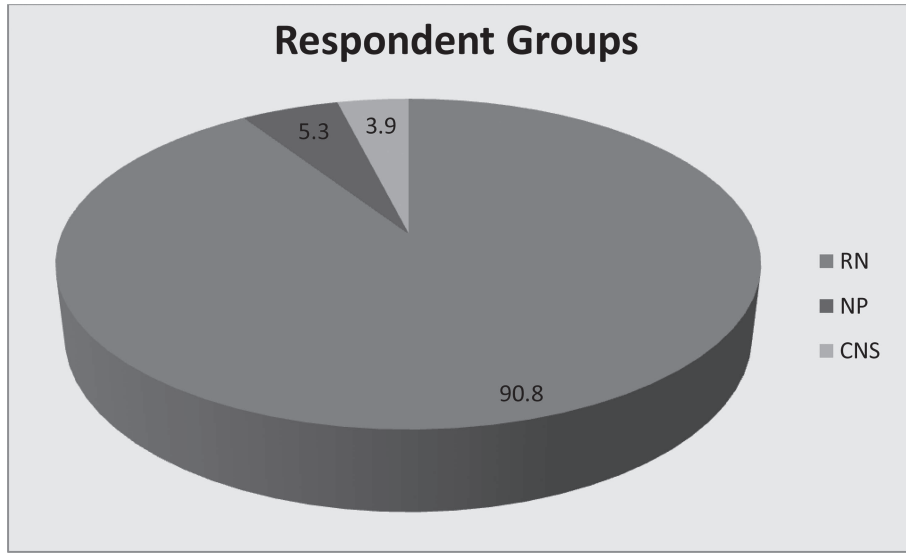

FIGURE 1. Survey respondents by role.

After the survey draft was completed, each committee member completed the online pilot survey. Comments were collected from these content experts and the group convened to discuss possible changes to the survey tool. Changes were largely editorial, as group members continued to be in agreement concerning the relevant tasks to be included in the survey. A final online survey was prepared after this discussion. E-mail invitations including the survey link were sent to 5,634 nurses. A reminder e-mail was sent 1 week prior to the survey deadline. Further incentives to complete the survey included a drawing for an iPad and copies of NAON's *Core Curriculum for Orthopaedic Nursing* (7th ed.) and *Introduction to Orthopaedic Nursing* (4th ed.).

Findings and Discussion

Of the 5,634 e-mails sent, 1,194 valid responses were returned; after allowance for bad addresses, this represented a response rate of 22.7%. This is consistent with results of the survey for the ONCB's 2007 RDS, which had a 23.3% response rate and is considered to be very acceptable for a role delineation study. Of these responses, 1,078 (90.8%) self-identified as orthopaedic nurses, 63 (5.3%) as orthopaedic NPs, and 46 (3.9%) as orthopaedic CNSs on the basis of the ONCB definition of the target practitioner described previously. Test Committee members concluded that the high percentage of registered nurse respondents was representative of the specialty (see Figure 1). In addition, 91% (n = 1,086) of the respondents agreed that the list of knowledge statements at least adequately pertained to the knowledge of orthopaedic nurses.

All regions of the United States were well represented by the respondents (see Figure 2). The majority of RNs CNSs were from the Midwest, whereas most NP respondents were from the Northeast. An area of

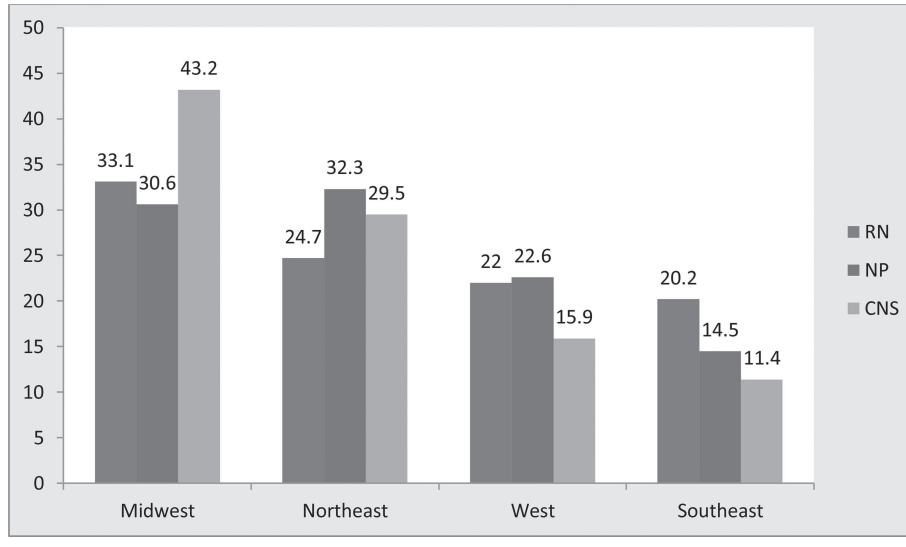

FIGURE 2. Survey response by U.S. geographical region.

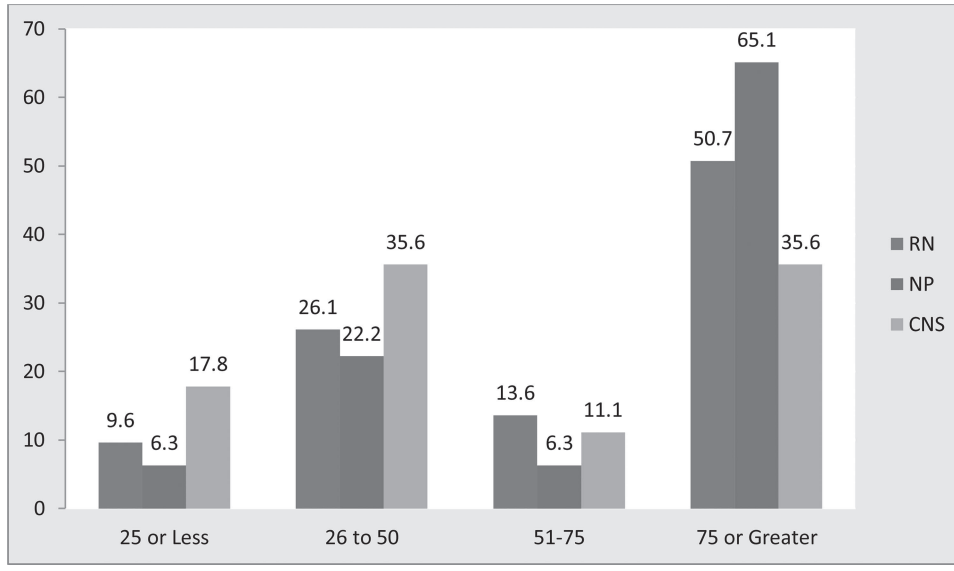

FIGURE 3. Percentage of time addressing musculoskeletal health concerns.

potential future research could include comparison to the actual number of NPs and CNSs in each region.

The majority of respondents for all three groups reported that they work 40–59 hours per week. RN and NP groups indicated that they spend the majority of their time addressing musculoskeletal health concerns. An equal number of CNS respondents indicated that either 26%–50% or 75% or more of their time is devoted to musculoskeletal health (see Figure 3). The number of years caring for patients with musculoskeletal health concerns for all groups ranged from 0 to just less than 50. The majority of respondents have spent at least 5 years focusing on the care of musculoskeletal conditions.

Figure 4 depicts the level of nursing education for respondents in all groups, and Figure 5 illustrates the highest level of education in other fields. As expected, the majority of NPs and CNSs hold a master's degree in nursing. More than a fourth of CNS respondents have a graduate degree in a field other than nursing, and more NPs hold a doctoral degree in either nursing or a non-nursing field than do the RN or CNS groups.

In addition, a majority of respondents in the three groups reported currently holding at least one of the three certifications in orthopaedic nursing (ONC, ONP-C, or OCNS-C). See Figure 6 for the percentage of certified nurses holding each credential. In addition, most respondents were female, the predominant racial/ethnic background was white/non-Hispanic, and the majority of respondents did not have prescriptive authority. Demographic results were not unexpected by the Test Committee members. Notably, nurses completing the

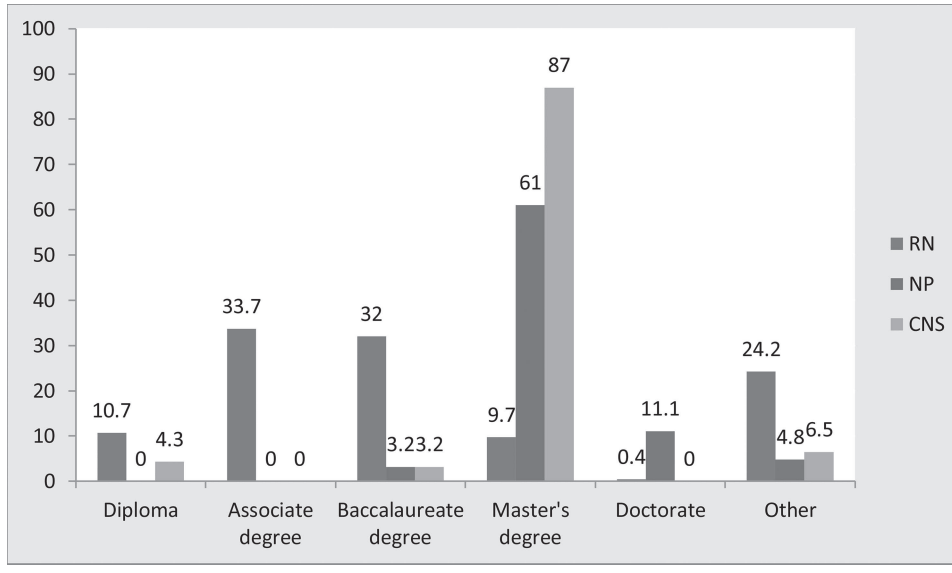

FIGURE 4. Highest level of nursing education.

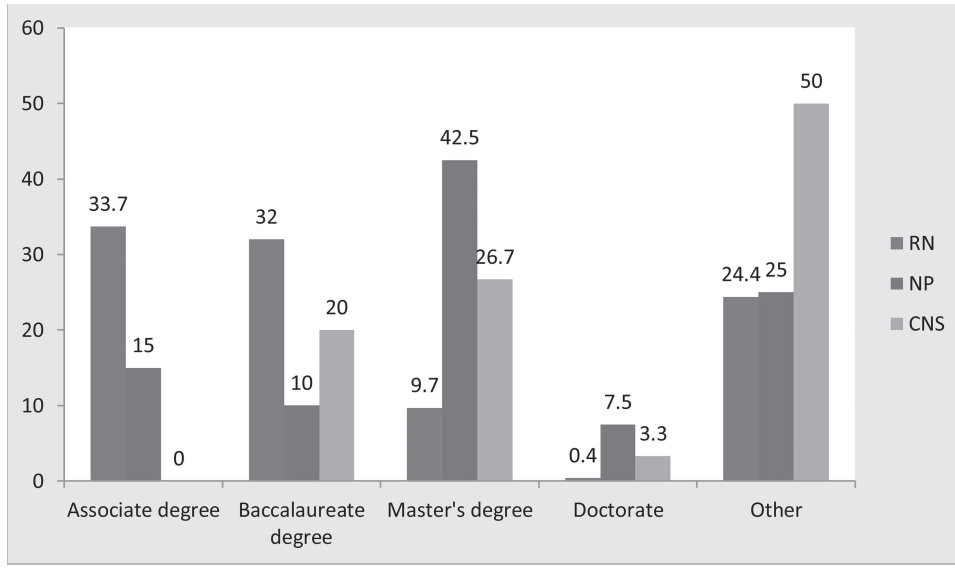

FIGURE 5. Highest level of other education.

survey also were asked to determine if it accurately depicted current orthopaedic nursing practice. More than 99% of respondents indicated that the survey reflected orthopaedic nursing "adequately" or "completely," with only two of the 1,083 respondents choosing "inadequately."

While it is important for a survey to represent the study population adequately, it is critical for the survey to elicit reliable responses. Measured by the coefficient alpha, reliability estimates the extent to which the scales represent a consistent collection of tasks statements within each role or the knowledge to perform the tasks. Table 2 provides reliability measures for roles, task statements, and knowledge statements contained in the survey.

When asked about a particular task or knowledge statement, respondents chose from one of six options for the significance scale (see Table 1). Mean ratings were calculated using only the responses that had some level of significance to nurses' jobs. In general, items with a higher mean rating could be considered to be more significant to practice. Table 3 illustrates the range and mean ratings of significance for each group of respondents. Most ratings for the three groups were significant to very significant.

All data collected through this role delineation study were used to evaluate the current examination specifications and guide any necessary changes to ensure that examinations continued to reflect current orthopaedic nursing practice in each of the three roles. Test specifications identify the percentage of items in a given role and for a given condition (e.g., pain management for degenerative disease; nutrition for metabolic disease). Also known as the examination blueprint or outline, this information is available on the ONCB website (www.oncb.org) and in ONCB brochures.

ONC EXAMINATION

Findings related to the ONC examination will be considered first. The outline for this examination implemented as a result of the RDS is divided by task as follows: self-care (14.6%–21.3%), pain (23.3%–30%), complications (20.6%–27.3%), activity (10%–16.6), nutrition (2%–6%), and psychosocial (2%–6%). See Table 4 for a comparison

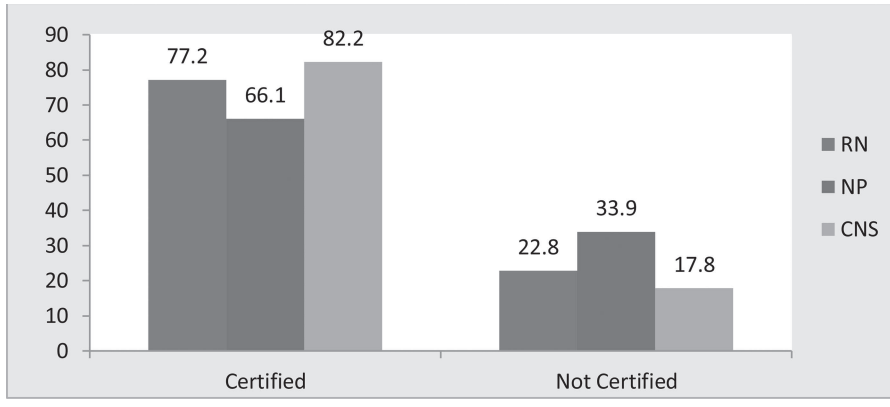

FIGURE 6. Percentage of respondents certified in orthopaedic nursing.

Table 2. Task and Knowledge Statement Reliability

Survey Sections	No. of Task Statements	Reliability (Consistency)		No. of Respondents[a]
		Between Tasks (Coefficient α)	Between Respondents (Intraclass)	
1. Clinician	20	.925	.999	1,046
2. Educator	12	.911	.996	1,098
3. Manager	5	.857	.998	1,116
4. Consultant	9	.906	.997	1,070
5. Researcher	8	.967	.988	1,080
6. Self-care	8	.964	.976	1,112
7. Pain	18	.970	.993	1,070
8. Complications	34	.968	.997	979
9. Activity	24	.961	.997	996
10. Wound management	6	.945	.985	1,086
Knowledge statements	62	.970	.998	890

[a]Only those who responded to every item in each section with a rating of 0–5 were included in these analyses.

Table 3. Range and Mean Ratings by Respondent Group

	Task Statements			Knowledge Statements		
	Range Ratings	Mean Rating	Standard Deviation	Range Ratings	Mean Rating	Standard Deviation
Registered nurse	3.02–4.45	4.45	0.37	2.69–4.58	3.86	0.44
Nurse practitioner	2.26–4.69	3.61	0.57	2.84–4.85	4.05	0.46
Clinical nurse specialist	2.35–4.60	3.46	0.46	2.32–4.60	3.78	0.51

of the current and past ONC examination test question distribution.

The task and knowledge statements in the survey guided the construction and identification of test items related to nurse responsibilities identified as significant and important in the role. Test Committee members reviewed each statement individually, using a set of decision rules to determine which task and knowledge statements would remain and which would be deleted (i.e., not used for test items). The survey included 157 task statements, with the first 54 specific to the APN role. Of the 103 tasks evaluated for the ONC group, six tasks scored less than 3.15 in significance to practice overall and less than 3.10 by region or educational preparation: apply skin traction, ensure that prosthetic limbs are applied correctly, assess patient's use of prosthetic limb, evaluate patient's ability to reenter the work environment, encourage participation in support groups, and assist with application of skeletal traction. These were deleted from consideration for the ONC examination. Six additional tasks were not considered to represent more than 50% of respondents' responsibilities. Two of these six were deleted (adherence to established standards in storing and handling tissue/bone; and teaching taping techniques to provide immobilization), and the remaining four tasks were retained by unanimous decision of the Test Committee. Members also decided these four tasks (ensure appropriate use of pneumatic tourniquets, anticipate complications associated with bone cement, perform preoperative skin preparation, and assist with surgical/diagnostic/invasive procedures) would be tested only at a basic level.

Table 4. Item Percentage by Content Area—ONC Examination

Content Area	Item Percentage After 2005 Survey	Mean Item Percentage Recommended After 2010 Survey	Item Percentage Implemented March 2012
Self-care	25	17.14	14–21.3
Pain	25	23.27	23.3–30
Complications	25	22.67	20.6–27.3
Activity	15	16.37	10–16.6
Nutrition	5	10.52	2–6
Psychosocial	5	10.02	2–6

Table 5. Item Percentage by Content Area—ONP-C Examination

Content Area	Item Percentage After 2005 Survey	Mean Item Percentage Recommended After 2010 Survey	Item Percentage Implemented March 2012
Clinician/practitioner	65	59.9	56.6–63.3
Educator	15	15.6	8.6–15.3
Manager	5	7.3	2–6
Consultant	10	8.8	7.3–12.6
Researcher	5	8.4	2–6

Eight of 62 knowledge statements were deleted because more than 27.85% of survey respondents did not use that knowledge for practice or because the statement received less than 3.2 for overall significance. These eight statements involved equipment sterilization, intraoperative musculoskeletal instrumentation, research principles, healthcare reimbursement, inventory/maintenance of supplies and equipment, inventory/maintenance of intraoperative instruments and implants, workers' compensation, and community resources.

After applying all 11 decision rules to each task and knowledge statement, the committee had 95 remaining task and 54 knowledge statements considered to reflect the current orthopaedic nursing practice. However, before a knowledge statement could be used, an additional step beyond the respondents' ratings had to be completed to ensure that it is necessary for effective role performance and not a test of knowledge potentially unrelated to practice. This was done using a matrix grid. Finally, Test Committee members organized tasks into the content outline used by candidates for examination preparation.

APN Examinations

Similar preparations and review of statements were done for the ONP-C and OCNS-C examinations. Tables 5 and 6 provide item percentage data for these two tests.

Test Committee members developed a set of seven decision rules and eligibility criteria for the ONP-C examination and five for the OCNS-C examination. Only the first 54 task statements on the survey were specific to the advanced practice orthopaedic nurse role and were evaluated using these criteria. Any task used in the final outline for the ONC examination was also eligible for inclusion in the two APN examinations because the scope of practice of an APN includes that of a registered nurse. One task was reworded and 14 tasks were deleted from the final content outline for the NP examination. Ten tasks were deleted because they received a "not performed" rating of greater than 38.1%. These tasks included evaluating staff competencies, developing new hire orientation, advising preceptors during staff orientation, assisting in clinical ladder for staff, evaluating new products, participating in political aspects of healthcare, assisting in the preparation of research proposals, disseminating research findings at professional meetings or in publications, promoting staff interest in research, and assisting staff incorporation of research into practice. One task, interacting with third party payors, was eliminated because it was not rated as a substantial part of practice throughout the United States. Only two of the 62 knowledge statements (inventory/maintenance of intraoperative instruments, and of supplies and equipment) were deleted and thus not assessed on the NP examination. Interestingly, one new knowledge statement was added to the existing list after discussion by committee members. This statement involved risk factors and contraindications.

For the CNS examination, two tasks were reworded and 10 tasks deleted. The following tasks were excluded because they received a "not performed" rating greater than 32%: providing direct interventions such as fracture reduction and suturing, diagnosing acute or chronic medical problems, ordering diagnostic studies, and interacting with third-party payors. One task, "prescribe nonpharmacological interventions," was reworded to "recommend nonpharmacological interventions" to reflect more accurately the CNS's involvement in planning rather than prescribing interventions. Three additional tasks (provide consultation to community organizations, participate in political aspects of healthcare, and disseminate research findings at professional meetings or in publications) were deleted because they were rated as not being significant to practice of a CNS. Six of the 62 knowledge statements were removed from the CNS examination. These six (equipment

Table 6. Item Percentage by Content Area—OCNS-C Examination

Content	Item Percentage After 2005 Survey	Mean Item Percentage Recommended After 2010 Survey	Item Percentage Implemented March 2012
Clinician/practitioner	30	46.2	23.3–30
Educator	35	20.6	28–34.6
Manager	5	10.6	2.6–6.6
Consultant	25	11.8	19.3–26
Researcher	5	9.8	2.6–6.6

sterilization, intraoperative musculoskeletal instrumentation, inventory/maintenance of supplies and equipment, inventory/maintenance of intraoperative instruments and implants, healthcare reimbursement, and workers' compensation) also were excluded from the ONC examination. With continuing change expected in healthcare, it will be interesting to determine on future surveys how responses may change for certain reimbursement and cost-effectiveness statements.

Survey responses related to research tasks were of particular interest given the expected role of APNs in promotion of evidence-based practice (EBP). Although the knowledge statement concerning dissemination of research findings at professional meetings and publications was excluded because it was not identified as significant by survey respondents, other tasks related to EBP and research were retained and reflected in the new examination specifications. These included "Identify research questions," "Conduct or participate in nursing research based on identified patient outcome criteria," and "Communicate research findings to staff and multidisciplinary groups." Clearly, APN respondents recognized a role in research and EBP in their practice settings.

Passing Point Determination

Following the role delineation study, as noted, new forms of the ONCB examinations were launched in March 2012. Accreditation standards of the ABSNC (2012) recommend conducting a new passing point study whenever new examination forms are developed. The Angoff procedure remains a preferred and commonly used method for determining examination passing points (Carlson, Tomkowiak, & Stilp, 2009; Fehrmann, Woehr, & Arthur, 1991). Accordingly, ONCB convened groups of six ONCs and seven APNs, respectively, to participate in the Angoff procedure in early 2012. Passing points for the three ONCB examinations were adjusted slightly as a result of this work, which was guided by the psychometric staff at Applied Measurement Professionals (Olathe, KS).

Conclusion

All changes to examination content were implemented with the March 2012 testing cycle. The next role delineation study will be completed no later than 2015. Any changes to examination specifications will be implemented in 2017 to ensure that the ONCB testing program continues to reflect current orthopaedic nursing practice.

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