

Nationwide Doctor of Nursing Practice/Advanced Practice Registered Nurse Survey on Roles, Functions, and Competencies

Michael A. Carter, DNSc, DNP, DCC
University of Tennessee Health Science Center, Memphis

Michaela Jones, DNP
Columbia University School of Nursing, New York, New York

Educational preparation for advanced practice registered nurses (APRNs) continues to shift from the master's degree to the doctor of nursing practice (DNP). Previous analysis of the roles, functions, and competencies of APRNs by Honig, Smolowitz, and Smaldone (2011) identified differences in practice between Master's of Science in Nursing (MSN)- and DNP-prepared APRNs. The aim of this study was to use the survey instrument created by Honig et al. to survey DNP/APRNs from across the nation and gain insight into their roles, competencies, and functions. A convenience sample was drawn from DNP graduates from the 13 schools provided by the American Board of Comprehensive Care (ABCC) as eligible to sit for the ABCC examination. A total of 375 individuals from 33 states who reported that they were in practice as a nurse practitioner (NP) completed the survey. Differences between the initial study and this study indicated that DNP NPs currently provide care across settings but with less inpatient care, less subacute care, and less palliative care than was reported in the initial analysis. Pregnancy-related care was the least common clinical service provided. Overall, this research indicates that DNP NPs prepared in comprehensive care are providing direct clinical care across settings to complex patients consistent with the comprehensive care domains for the ABCC certification examination (Honig et al., 2011).

Keywords: comprehensive care; nurse practitioners; American Board of Comprehensive Care; doctor of nursing practice

Introduction

The number of doctor of nursing practice (DNP) programs grew from 20 in 2006 to 289 in 2016 with an additional 128 schools planning programs (American Association of Colleges of Nursing [AACN], 2016). A portion of these programs prepare advanced practice registered nurses (APRNs) and are expected to have practices that are different from master's-prepared APRNs (master's of science in nursing [MSN]/APRNs).

In a pilot study on DNP/APRNs and MSN/APRNs conducted by Honig, Smolowitz, and Smaldone (2011), DNP/APRNs reported significant differences in their practices when compared to MSN/APRNs, including practice across sites of care with a life span consideration. This pilot study developed and tested a survey instrument that the authors believed could be tested nationally to "(a) track roles and competencies of doctorally prepared nurse clinicians in relation to comprehensive care and (b) identify performance measures and

quality indicators for delivery of comprehensive care” (Honig et al., 2011, p. 15).

An important aspect of the Honig et al. (2011) survey was the unique definition of comprehensive care. In an earlier work, Smolowitz, Honig, and Reinisch (2010) defined comprehensive care as care that is provided when an expert clinician, who is knowledgeable about individuals’ health care needs across the life span, practices in all clinical settings; analyzes and interprets evidence as the basis for health care choices; and engages the patient in a collaborative relationship in the provision of continuous, coordinated services that include health promotion, disease prevention, and definitive disease management. This definition was created based on the work of the AACN (2006), the National Organization of Nurse Practitioner Faculties (2006), and the Council for the Advancement of Comprehensive Care (Mundinger, 2013). This unique definition of comprehensive care provides the basis for certification by the American Board of Comprehensive Care (ABCC; Carter & Moore, 2015).

Purpose of the Study

The purpose of the study was to gain insight into the roles, competencies, and functions of DNP/APRNs prepared in comprehensive care using the survey instrument created by Honig et al. (2011).

Methods

Design

The study design was a one-time, national Web-based descriptive survey administered using SurveyMonkey. No comparison groups were used. Data were collected between the dates of January 13 and March 30, 2016.

Instrument

The instrument was designed, tested, administered, and refined by Honig et al. (2011). No power analysis was reported, nor was one subsequently conducted in this study because only descriptive statistics were used. The instrument is a proprietary product not in the public domain and was used by permission.

The instrument consists of two sections. The first section is self-reported demographic information and role delineation. This section includes 16 questions including APRN role, year DNP degree received, age, gender, ethnicity, race, population focus, current practice location, type of national certification, state in which the participant’s practice is located, urban/rural location, percentage of time in five different roles, time spent in practice areas, whether participants managed their own panel of patients, how services were billed, and hospital privileges.

The role delineation portion contained 15 questions concerning body-systems content areas representative of the participants’ clinical practice. These included cardiovascular, nervous, respiratory, digestive, behavioral, musculoskeletal, skin, endocrine, renal, female reproductive, pregnancy, blood, male reproductive, and immune along with health maintenance. Participants were asked to report the percentage of practice time that spent in ambulatory, inpatient acute care hospital, emergency/urgent care, and long-term care.

The second section asked participants to indicate the percentage of their practice time spent in diagnosis and management of acute conditions, diagnosis and management of chronic illnesses, diagnosis and management of comorbid conditions, management and/or comanagement in the emergency department, and health promotion and disease prevention. Participants were then asked to provide the percentage of clinical practice time spent with infants/children, adolescents, adults, and older adults. Finally, participants were presented with 19 different comprehensive care domains from the DNP/APRN comprehensive care competencies for the ABCC Examination blueprint to indicate the value of the domain to their practice, their proficiency with the domain, and the frequency with which they performed the domain (Smolowitz et al., 2010).

Analysis

The data were analyzed using descriptive statistics and percentages for responses. Responses to questions were categorical or ranges rather than discrete numbers to further protect anonymity.

Participants

The survey was sent to all diplomates of comprehensive care and a convenience sample of DNP graduates who were eligible to sit for the ABCC Examination. The convenience sample was drawn from graduates of 13 DNP educational programs provided by the ABCC from across the nation in which graduates successfully completed the ABCC Examination. Participation was voluntary and anonymous.

Ethics

The project was approved by the University of Tennessee Health Science Center Institutional Review Board as an exempt study with waiver of signed consent.

Results

Sample

Three hundred seventy-five individuals completed the survey of which 333 (88%) reported practice as an APRN.

The remainder were excluded from analysis because they were not in practice as an APRN.

Eighty-one percent of the sample was between 30 and 59 years of age; 87% females; 85% White, 6.8% African American, 4% Hispanic, and 4.2% other or not reported. Practice locations were 49% urban, 30% rural, and 21% suburban. Hospital privileges were reported by 87.3%. Participants were from 33 different states.

The sample divided their work time as 70% direct care, 16% teaching, 8% administration, 2% consulting, 2% in research, and 2% other. Eighty-three percent indicated they managed their own panel of patients, whereas 58% billed in their own name, 27% billed under a group number, and 15% billed "incident to" under a physician's billing number.

Comprehensive Care Practice Areas

Participants were asked to report if 15 different content areas covering body systems were relevant to their current practice. The results of this analysis are shown in Table 1. The only area not viewed as relevant by a majority was pregnancy/labor and delivery/fetus and newborn.

TABLE 1. Relevant Content Areas

| Area | Relevant | Not Relevant |
|--|----------|--------------|
| Health maintenance | 96.91% | 3.09% |
| Endocrine system | 96.22% | 3.78% |
| Nervous system and special senses | 96.21% | 3.79% |
| Nutritional and digestive system | 95.55% | 4.45% |
| Behavioral/emotional disorders | 95.19% | 4.81% |
| Renal and urinary system | 93.84% | 6.16% |
| Skin/subcutaneous tissue | 92.47% | 7.53% |
| Musculoskeletal system | 91.07% | 8.93% |
| Immune system | 90.72% | 9.28% |
| Blood | 89.00% | 11.00% |
| Respiratory system | 83.13% | 16.87% |
| Female reproductive system | 79.79% | 20.21% |
| Male reproductive system | 75.60% | 24.40% |
| Pregnancy/labor and delivery/fetus and newborn | 47.42% | 52.58% |

TABLE 2. Percentage of Practice Time Spent

| Area | % of Time |
|--|-----------|
| Diagnosis and management of new acute conditions | 28 |
| Diagnosis and management of chronic illness | 27 |
| Diagnosis and management of comorbid conditions | 17 |
| Management and/or comanagement in the emergency department | 7 |
| Health promotion and disease prevention | 21 |

Participants were then asked to allocate the actual practice time they spent in five areas. The results of this are shown in Table 2.

The next portion of the survey asked the participants to consider 19 competencies. Participants were asked to report their perspective on three measures: (a) the value of the competency in practice, (b) their proficiency with this competency, and (c) the frequency that they perform the competency in their practice. Table 3 shows the results of this analysis.

Discussion

The participants reported a mix of clinical, teaching, and administrative responsibilities. The participants spend 70% of their time in direct care, indicating that almost a third of their time is allocated to activities that are not related to patient care. This finding compares to 57% of time spent in direct care for the sample pilot study by Honig et al. (2011). The pilot study only included APRNs who were faculty who would be expected to spend less time in direct care. National data for DNP/APRNs are not available to determine if this finding is representative of this category of clinicians.

Most of the participants (87.3%) held hospital privileges. Again, national data for other DNP/APRNs are not available but may depend on the specialty of the APRN. For example, certified registered nurse anesthetist (CRNA), clinical nurse specialists (CNS), or certified nurse-midwife (CNM) APRNs may be more likely to hold hospital privileges than those who practice mostly in ambulatory care.

Many (70%) practice in urban or suburban locations, but 30% practice in rural locations, which exceeds the estimates of all NPs in the United States who practice in rural areas (19%; Kaiser Family Foundation, 2016). The earlier pilot study by Honig et al. (2011) only studied faculty in an urban practice.

Participants reported that they provide care across a wide array of clinical areas representing complex and interrelated areas of knowledge. Pregnancy was the

TABLE 3. Comprehensive Care Domains

| Competency | Valued in Practice | Proficient | Frequently Perform |
|---|--------------------|------------|--------------------|
| Evaluate patient needs based on genetic profile, family history, age, developmental stage, and individual risk to formulate plans for health promotion and disease prevention. | 95% | 93% | 90% |
| Evaluate health risk using principles of epidemiology and clinical prevention. | 92% | 87% | 81% |
| Formulate differential diagnoses, diagnostic strategies, and therapeutic interventions, with attention to scientific evidence, safety, and cost, for patients who present with new conditions and those with ambiguous or incomplete data, complex, illness, and comorbid conditions. | 97% | 91% | 91% |
| Appraise acuity of patient condition, determine need to transfer patient to higher acuity setting, coordinate, and manage transfer to optimize patient outcomes. | 95% | 94% | 88% |
| Evaluate and direct care during hospitalization and design a comprehensive discharge plan for patients from an acute setting. | 61% | 55% | 40% |
| Direct comprehensive care for patient in a subacute setting to maximize quality of life and functional status. | 70% | 41% | 52% |
| Assemble a collaborative interdisciplinary network; refer and consult appropriately while maintaining primary responsibility for comprehensive patient care. | 94% | 94% | 88% |
| Coordinate and manage the care of patients with chronic illness using specialists, other disciplines, community resources, and family while maintaining primary responsibility for direction or patient care as the focus of care transitions across ambulatory to acute, subacute, and community settings. | 90% | 90% | 79% |
| Translate health information, incorporating shared decision making and address the specific needs of a patient in context of family and community. | 96% | 95% | 86% |
| Facilitate and guide the process of palliative care and/or decision making by patient, family, and members of the health care team. | 76% | 65% | 45% |
| Construct and evaluate outcomes of a culturally sensitive, individualized intervention. | 95% | 88% | 85% |
| Evaluate gaps in health care access that compromise optimal patient outcomes and apply current knowledge of the organization and financing of health care systems to advocate for the patient and to ameliorate negative impact. | 93% | 86% | 85% |
| Synthesize the principles of legal and ethical decision making and analyze dilemmas that arise in patient care, interprofessional relationships, research, or practice management to improve outcomes. | 93% | 83% | 78% |
| Integrate principles of business, finance, economics, and/or health policy to design an initiative that benefits/a group of patients, practice, community, and/or a population. | 83% | 71% | 61% |
| Synthesize and analyze evidence from practice, clinical information systems, and patient databases using reflection, interpretation, and cumulative clinical knowledge. | 95% | 93% | 84% |
| Evaluate quality of care against standards using reliable and valid methods and measures and propose innovative, interdisciplinary models that enhance outcomes. | 95% | 84% | 75% |
| Critically appraise and synthesize research findings and other evidence to inform practice and policy for optimal patient outcomes. | 91% | 87% | 79% |
| Assess and critically appraise clinical scholarship through participation in the peer review process. | 78% | 71% | 55% |
| Use informatics to build data to identify best practices and to identify deficits and improve delivery of care. | 82% | 69% | 63% |

only area reported as not relevant by more than half (52.58%) of the participants. National data on the inclusion of pregnancy in practice are not available for DNP/APRNs, nor did the pilot by Honig et al. (2011) include such data.

Participants reported that they divided their time in practice fairly equally among diagnosing and managing acute, chronic, comorbid conditions, and health promotion/disease prevention. These findings are similar to the results reported by Honig et al. (2011) for DNP/APRNs.

The analysis of the value, proficiency, and frequency of performance of the 19 domains indicates that these APRNs are engaged in highly complex care. They report that they are providing care in similar areas to those reported by Honig et al. (2011) with some exceptions. The current group reported that 40% provided inpatient acute care versus 61% in the Honig et al. study; 52% of the current group directed care in subacute settings versus 83% in the earlier study; and 45% of the current group facilitated palliative care versus 91% in the earlier study. Part of these differences might relate to the small number of DNP participants in the earlier study ($n = 12$) versus the larger number in this study ($n = 333$) and the higher proportion of this study who were in practice in rural locations.

Limitations

This study used a convenience sample which has the potential to pose a threat to generalizability. The data represent self-reported information and do not include any direct, independent analysis of the actual practice of the sample. The larger number of participants in this study ($n = 333$), compared to the earlier study ($n = 12$) by Honig et al. (2011), might provide some support for a broader representation of doctoral clinical nursing practice. In addition, participants in this study were in practice in 33 states across the United States and represent a more diverse group than the earlier study which used individuals from a single nursing educational program.

These participants do not represent DNP graduates from all programs across the nation. Only 13 programs that have graduates who have been successful in completing certification by the ABCC were invited to participate. Some DNP programs do not prepare APRNs for a higher level of clinical practice beyond the MSN, so no conclusions can be provided about these graduates.

The health care system of the United States is undergoing substantial changes in the manner that care is reimbursed and organized, including Medicare Access and CHIP Reauthorization ACT (MACRA) and Alternative Payment Models (APM) from the Centers for Medicare & Medicaid Services (CMS, 2016). Elements of these changes call for APRNs to practice in different ways from the past. We believe that the data presented here demonstrate that some DNP/APRNs are ready to step up to this challenge.

We believe that the information provided here lends support to the idea that DNP/APRNs prepared in comprehensive care as defined here will likely continue to play important roles in this evolving system of care. Future studies can provide evidence for evolving models, APRN reimbursement and parity, and improved patient outcomes.

References

- American Association of Colleges of Nursing. (2016). *Fact sheet: The doctor of nursing practice (DNP)*. Retrieved from <http://www.aacn.nche.edu/media-relations/fact-sheets/DNPFactSheet.pdf>
- Carter, M., & Moore, P. (2015). The necessity of the doctor of nursing practice in comprehensive care for future health care. *Clinical Scholars Review, 8*(1), 13–17. <http://dx.doi.org/10.1891/1939-2095.8.1.13>
- Centers for Medicare & Medicaid Services. (2016). *Medicare program; merit-based incentive payment system (MIPS) and alternative payment model (APM) incentive under the physician fee schedule, and criteria for physician-focused payment models*. Retrieved from <https://www.federalregister.gov/documents/2016/11/04/2016-25240/medicare-program-merit-based-incentive-payment-system-mips-and-alternative-payment-model-apm>
- Honig, J., Smolowitz, J., & Smaldone, A. (2011). APRN survey of roles, functions, and competencies. *Clinical Scholars Review, 4*(1), 15–19.
- Kaiser Family Foundation. (2016). *Health professional shortage areas—physicians, nurse practitioners*. Retrieved from <http://kff.org/state-category/providers-service-use/health-professional-shortage-areas/>
- Munding, M. (2013). Why are standards for DNPs who practice comprehensive care so crucial? And what are we doing about it? *Clinical Scholars Review, 6*(2), 82–84.
- Smolowitz, J., Honig, J., & Reinisch, C. (Eds.). (2010). *Writing DNP clinical case narratives: Demonstrating and evaluating competency in comprehensive care*. New York, NY: Springer Publishing.
- Correspondence regarding this article should be directed to Michael A. Carter, DNSc, DNP, DCC, University of Tennessee Health Science Center, 369 Belmont Acres Circle, Tumbling Shoals, AR 72581. E-mail: mcarter@uthsc.edu