DNP Capstone Projects
Exemplars of Excellence in Practice

Barbara A. Anderson   Joyce M. Knestrick   Rebeca Barroso
EDITORS
DNP Capstone Projects
Barbara A. Anderson, DrPH, CNM, FACNM, FAAN, is full professor and director of the postmaster’s doctor of nursing practice (DNP) program at Frontier Nursing University in Hyden, Kentucky. She has mentored many capstones and dissertations, and is lead editor of Best Practices in Midwifery: Using the Evidence to Implement Change, which was awarded an AJN Book of the Year (2013). She is coeditor of three editions of Caring for the Vulnerable: Perspectives in Nursing Theory, Research, and Practice. The third edition won an AJN Book of the Year award in 2012. Dr. Anderson was awarded the 2005 American College of Nurse–Midwives Book of the Year for Reproductive Health: Women and Men’s Shared Responsibility. Dr. Anderson has served on the editorial board of the Journal of Midwifery and Women’s Health and currently serves as a journal referee for Social Science and Medicine.

Joyce M. Knestrick, PhD, CRNP, FAANP, is associate professor and the online program director at Georgetown University, Washington, DC. She was the associate dean of academic affairs and DNP program director at Frontier Nursing University, Hyden, Kentucky. She has been a nurse practitioner since 1992 and currently practices as a family nurse practitioner at Wheeling Health Right, Wheeling, West Virginia, serving the underinsured vulnerable population in West Virginia. Dr. Knestrick was a pioneer in distance education for nurse practitioners. Her research agenda focuses on the care of low-income and vulnerable populations, particularly in rural Appalachia. She has published and presented locally and nationally on a wide variety of topics related to primary health care, caring for rural and Appalachian populations, and distance nursing education. Dr. Knestrick has received multiple honors and awards, and has served as a reviewer for a number of publishers including Springer Publishing Company, Prentice-Hall, and PRIME. She is treasurer of the American Association of Nurse Practitioners and has been actively involved with the National Organization of Nurse Practitioner Faculties, where she served as the chair of the Distance Education Special Interest Group and coeditor of the Guidelines for Distance Education and Enhanced Technologies in Nurse Practitioner Education (2nd edition; 2011). She has chaired multiple DNP capstone projects and served on capstone committees for DNP students from several universities.

Rebeca Barroso, DNP, CNM, is assistant professor at Frontier Nursing University in Hyden, Kentucky. She won the 2011 W. Newton Award from the American College of Nurse–Midwives Foundation to support her replication study on nurse–midwifery burnout. She coauthored a chapter in Best Practices in Midwifery: Using the Evidence to Implement Change and served as a copywriter for the book. Dr. Barroso has mentored DNP students at the University of Minnesota and Frontier Nursing University. She is active in the American College of Nurse–Midwives and the Minnesota Advanced Practice Nurses Coalition.
To the DNP-prepared practitioner who is translating the evidence into practice and creating the future of nursing.
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Contributors

Barbara A. Anderson, DrPH, CNM, FACNM, FAAN  Professor and Director of Postmaster’s DNP Program, Frontier Nursing University, Hyden, Kentucky

Tia P. Andrighetti, DNP, CNM  Associate Professor, Frontier Nursing University, Hyden, Kentucky

Edie Devers Barbero, PhD, RN, PMHNP-BC  Assistant Professor, University of Virginia School of Nursing, Charlottesville, Virginia

Rebeca Barroso, DNP, CNM  Nurse–Midwife, HealthEast Care, Saint Paul, Minnesota, and Assistant Professor, Frontier Nursing University, Hyden, Kentucky

Bobbie Berkowitz, PhD, RN, NEA-BC, FAAN  Dean and Mary O’Neil Mundinger Professor, Columbia University School of Nursing, New York, New York

Linda Cole, DNP, CNM  Nurse–Midwife, Lisa Ross Birth and Women’s Center, Knoxville, Tennessee, and Past President, American Association of Birth Centers

Kathleen Flarity, DNP, PhD, CEN, CFRN, FAEN  Emergency Clinical Nurse Specialist/Nurse Scientist, Memorial Hospital, University of Colorado Health, Colorado Springs, Colorado

Lynn Gallagher Ford, PhD, RN, DPFNAP, NE-BC  Clinical Associate Professor, The Ohio State University, Columbus, Ohio

J. Eric Gentry, PhD, LMHC, CAC, CEO  Compassion Unlimited, Inc., Sarasota, Florida

Elizabeth Holcomb, PhD, APRN, FNP-C  Associate Professor, Frontier Nursing University, Hyden, Kentucky

Judy Honig, EdD, DNP  Professor and Associate Dean, Columbia University School of Nursing, New York, New York

Judith A. Kaufmann, DrPH, CRNP  Associate Professor and Director, DNP Program, Robert Morris University School of Nursing, Moon Township, Pennsylvania

Joyce M. Knestrick, PhD, CRNP, FAANP  Associate Professor, Georgetown University School of Nursing and Health Studies, Washington, DC

Pamela Lusk, DNP, RN, PMHNP-BC  Clinical Associate Professor, The Ohio State University College of Nursing, Columbus, Ohio
CONTRIBUTORS

Bernadette Mazurek Melnyk, PhD, RN, CPNP/PMHNP, FAANP, FNAP, FAAN
Associate Vice President for Health Promotion, University Chief Wellness Officer, Dean and Professor, College of Nursing, Professor of Pediatrics and Psychiatry, College of Medicine, The Ohio State University, Columbus, Ohio

David G. O’Dell, DNP, ARNP, FNP-BC  President, Doctors of Nursing Practice, Inc., Balsam, North Carolina

Kathryn Osborne, PhD, CNM  Professor, Frontier Nursing University, Hyden, Kentucky

Carol Patton, DrPH, RN, FNP-BC, CRNP, CNE  Associate Clinical Professor, College of Nursing and Health Professions, Drexel University, Philadelphia, Pennsylvania

Heather Shlosser, DNP, FNP-BC, PMHNP  Assistant Professor, Frontier Nursing University, Hyden, Kentucky

Gwendolyn Short, DNP, MPH, FNP  Nurse Practitioner, Primary Care Center, University of Minnesota and Associate Professor, Frontier Nursing University, Hyden, Kentucky

Janice Smolowitz, EdD, DNP  Professor and Senior Associate Dean, Columbia University School of Nursing, New York, New York

Gigi Whaley-Pryor, DNP, FNP, APRN  Utah Pain and Rehab, Ogden, Utah

Elizabeth Whitworth, DNP, CNM, FNP  Nurse–Midwife, Carl R. Darnall Army Medical Center, Fort Hood, Texas

Xiao Xu, PhD  Assistant Professor, Department of Obstetrics, Gynecology, and Reproductive Sciences, Yale University, New Haven, Connecticut
Foreword

The American Association of Colleges of Nursing (AACN) was very clear in defining the role of individuals with the doctor of nursing practice (DNP) degree when it endorsed the DNP as the single entry degree for advanced practice nurses in 2004 (AACN, 2004). The association contended that the DNP is a practice-focused doctorate that should prepare clinicians for leadership in evidence-based practice (EBP; AACN, 2006). Despite clarity by the AACN on the preparation and role of the DNP versus the PhD, there remains much confusion and variance in the preparation of individuals in DNP programs as well as the roles that DNP graduates should assume in academia and health care. DNP-prepared clinicians should be the best translators of research evidence into clinical practice and health policy to improve the quality and safety of care as well as reduce health care costs through expertise in EBP change projects, outcomes management, and quality improvement projects. On the other hand, PhD-prepared individuals should be the best generators of rigorous research evidence to guide clinical practice (Melnyk, 2013). However, DNPancers and PhDs need to work together with other interprofessional colleagues to rapidly and effectively translate evidence-based interventions supported by research into clinical settings for the ultimate purpose of improving health care quality and patient outcomes.

The United States invests billions of dollars a year in research, yet so little of it is translated to real-world health care settings. Many practices within health care continue to be based on tradition instead of on best EBPs. Although the U.S. Preventive Services Task Force has long published evidence-based prevention recommendations on screening and behavioral counseling that are viewed as “gold standard,” these evidence-based guidelines and other evidence-based clinical preventive services by providers are underutilized, which results in wasteful health care spending and, more importantly, loss of life years for Americans (Melnyk, Fineout-Overholt, Gallagher-Ford, & Kaplan, 2012). Research findings that do eventually make it into real-world practice settings often take years or decades. Thus, there is an urgent need for DNP-prepared individuals to speed the translation of research findings into practice to ultimately improve health care and health outcomes. For this to happen more quickly, DNP students must receive an education that prepares them to be the best translators of research evidence into clinical
care, education, and health policy. That preparation should include in-depth knowledge and skills building in (a) the EBP paradigm and the steps of EBP; (b) EBP leadership and mentorship of others in evidence-based care; (c) working with clinicians on behavior change to EBP; (d) creating and changing cultures, environments, and systems to support and sustain EBP; (e) how to best influence policy with the best evidence; (f) informatics; and (g) how to successfully conduct EBP change projects, outcomes management, and quality improvement projects that include a rigorous outcomes evaluation.

There are several DNP programs throughout the United States that are requiring students to conduct capstone projects that are original research, which contributes to the ongoing confusion regarding the preparation and role of individuals with the practice doctorate. The capstone project in DNP education should be focused on an EBP change project or quality improvement/outcomes management initiative that aims to enhance health care quality, safety, patient outcomes, or health policy. Stephen R. Covey said “to know but not to do is not to know.” When we know the best evidence, it must be quickly implemented in practice and policy. This terrific book fills a needed gap in resources that will greatly assist both faculty and DNP students in planning and conducting appropriate capstone projects. It is filled with outstanding examples of how research-based knowledge can be transferred into real-world settings to improve health care quality and patient outcomes. Various approaches to capstone projects are highlighted with outcomes that were achieved. It is a “must read” for educators and DNP students.

Bernadette Mazurek Melnyk, PhD, RN, CPNP/PMHNP, FAANP, FNAP, FAAN
Associate Vice President for Health Promotion
University Chief Wellness Officer
Dean and Professor, College of Nursing
Professor of Pediatrics and Psychiatry, College of Medicine
The Ohio State University
Columbus, Ohio
Editor, *Worldviews on Evidence-Based Nursing*

**REFERENCES**


Preface

While experiencing unprecedented wealth and high expenditures on health care, Americans are sicker and die sooner than citizens of many high-resource nations. This paradox has been the subject of multiple studies. In comparison to 16 other high-resource nations, the United States ranks highest in adverse birth outcomes, injuries, homicide, adolescent pregnancy, sexually transmitted infections, HIV/AIDS, death from drugs and alcohol, obesity, diabetes, heart disease, chronic lung disease, and disability among the elderly. These findings affect all socioeconomic levels, ethnic backgrounds, and ages (National Research Council and the Institute of Medicine, 2013).

The American health care system is expensive and there are poor health outcomes among our citizens. Further, we are facing a looming crisis of inadequate spaces for preparing nurses in our universities, in spite of high interest in the profession among our people. In response, the nation has imported high numbers of nurses from poorer nations. These nations, having prepared these nurses, now struggle with an inadequate workforce as a result of aggressive recruitment to staff America’s health care system (Anderson, 2012). Yet, in the practice arena, our nurses—native-born or immigrant—are restricted in their ability to practice to the full scope of their academic preparation.

Many leaders across the nation, including those in the profession of nursing, are deeply concerned about the underutilization of nursing skills and the barriers to practice. In 2010, the Institute of Medicine released The Future of Nursing: Leading Change, Advancing Health (Institute of Medicine [IOM], 2010). This document calls for enabling the nursing profession to practice to the full extent of knowledge and skills consistent with academic preparation (IOM, 2010).

In 2004, the American Association of Colleges of Nursing (AACN) released the position statement advocating for the doctor of nursing practice (DNP) degree, a new terminal degree focusing on the translation of knowledge into clinical practice (AACN, 2004). One way in which this translation of knowledge has been occurring is through the capstone projects of DNP students. The DNP capstone project is a scholarly method to directly impact quality of care and health care outcomes. Translating knowledge into practice and disseminating outcomes for care and policy are consistent with the call for action in the IOM report.

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The DNP capstone project has generated much dialogue. Foundational books have been written about the integration of the DNP Essentials (AACN, 2006) into the curriculum, the process of developing a capstone project, using evidence-based practice, and disseminating capstone findings. As DNP educators, we have been greatly enriched by this evolving discussion. This book seeks to add to the dialogue by presenting exemplary capstone projects that have provided leadership for change in clinical practice, enhanced interdisciplinary collaboration, promoted advocacy and policy changes, or contributed to quality improvement in health care systems. Each exemplar presented is linked to one or more of the DNP Essentials.

It is our hope that this book will, in some small measure, demonstrate the impact of DNP capstones on changing clinical nursing practice, health care, and better outcomes for the people of our nation. To that end, we dedicate this work to the DNP-prepared practitioner who is translating the evidence into practice and creating the future of nursing in our nation.

Barbara A. Anderson
Joyce M. Knestrick
Rebeca Barroso

REFERENCES


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There are many persons and organizations who have contributed to the rapid dissemination of the DNP degree and to the difference this degree is making in the translation of knowledge into clinical practice. We acknowledge the American Association of Colleges of Nursing for the groundbreaking development of this degree and for the clarity of the DNP Essentials. We thank the Institute of Medicine for the brilliant and supportive document, *The Future of Nursing: Leading Change, Advancing Health* (2010). We recall the day it was released in October 2010 as the dawning of a new era in nursing leadership. We acknowledge the Doctors of Nursing Practice, Inc., and its president, Dr. David O’Dell, for leadership in promoting the DNP as key to improving clinical practice. Drs. Anderson and Barroso wish to credit Dr. Knestrick for the idea for this book. Special thanks to Dr. Bernadette Melnyk and Dr. Bobbie Berkowitz for support of this project and contributing to this work. We are especially grateful to the best nursing editor any of us have ever worked with, Margaret Zuccarini, who lives and breathes confidence in the ability of nurse writers. Lastly, we want to acknowledge and thank America’s nursing educators, who deliver the program and guide DNP students into leadership roles that change health care outcomes for our nation.
SECTION I

The DNP Degree and Clinical Scholarship

We can’t solve problems by using the same kind of thinking we used when we created them.

—Albert Einstein
The Emergence and Impact of the DNP Degree on Clinical Practice

Bobbie Berkowitz

EVOLUTION OF PRACTICE

Every profession, at some time in its evolution, confronts its weaknesses, successes, and potential. Rarely do these insights occur simultaneously or evolve in a logical progression: that is, a weakness discovered prompts the development and application of a “better idea.” Instead, professions evolve through a combination of individual and collective insight, discovery, competition, collaboration, practice, success, failure, need, and ambition. The evolution of nursing as a practice-based profession guided by critical thinking, scientific evidence, a focus on human response, and social determinants has created a discipline that strives to master multiple domains within the dimension of health. We are clinicians, we are scientists, we are educators, we are policy makers, and we are leaders. As such, our ambition, intellect, and social acuity have driven us toward independence in thought and action. It is no wonder that our clinicians and educators have advocated for and developed the role of expert clinician/practitioner accompanied by a new degree, the doctor of nursing practice (DNP).

A brief examination of professional clinical practice in nursing reveals multiple pathways: clinical practice based on nursing knowledge and medical orders; advanced clinical practice based on expanded diagnostic and treatment knowledge and medical protocol; independently derived clinical diagnosis and treatment for primarily well populations; and independent management of medically complex populations. Nursing, a profession with humble roots, has transformed itself many times into a multipurpose discipline. Our clinicians provide a global society with basic to complex management of health and disease across the lifespan in all settings, including home, community, ambulatory clinics, and highly intensive health care environments. Nurse scientists have generated new knowledge for clinical interventions, prevention strategies for
population health, including the transmission of infections acquired in hospitals; tools to support nursing decisions; and quality-improvement strategies drawn from discoveries in the domains of health services, comparative effectiveness, policy, and law.

We might assume that today’s graduates of schools of nursing face fewer impediments to continued evolution in nursing. History shows that we have faced significant challenges in gaining independence over our practice, education, and science. However, we must not forget how long it has taken to assume a place where our practice, education, and science are represented and respected at universities and health systems throughout the world, including research-intensive academic health centers, federal research institutions, and scientific academies such as the Institute of Medicine (IOM). At the same time, it should be noted that independence and respect are not enjoyed by all advanced practice registered nurses (nurse practitioners) equally across the United States. We know all too well that variation exists across the country in terms of regulatory oversight of practice. Nevertheless, progress for the development of the DNP role is moving quickly.

DEVELOPMENT OF THE DNP ROLE

Less than a decade ago, the American Association of Colleges of Nursing (AACN) proposed that the education of the advanced practice nurse occur at the doctoral level (AACN, 2004). The genesis of a practice-focused doctorate was in part prompted by a series of reports developed by the IOM: To Err Is Human: Building a Safer Health System, 1999; Crossing the Quality Chasm, 2001; and Health Professions Education: A Bridge to Quality, 2003. These reports drew attention to health care-related errors, fragmentation in the health care system, and the need for all health professionals to deliver patient-centered quality care.

The opportunity for nursing to step forward with solutions to the challenges outlined in these three reports was articulated in the AACN Position Statement on the Practice Doctorate in Nursing (2004). The AACN position statement examined how the profession could transform both practice and care delivery to achieve higher clinical quality and address serious population health issues such as chronic disease, health disparities, aging, and the application of evidence-based health promotion and prevention interventions. The report detailed 13 recommendations that set in motion the development of today’s practice doctorate emphasizing enhancements to master’s preparation for advanced practice.

The AACN position statement also outlined the essential areas of content now known as The Essentials of Doctoral Education for Advanced Nursing Practice. The Essentials include scientific underpinnings for practice; advanced nursing practice; organization and system leadership/management, quality improvement, and system thinking; analytic methodologies related to the evaluation of practice and the application of evidence for practice; utilization of technology and information for the improvement and transformation of health care; health policy development, implementation, and evaluation; and interdisciplinary

Within the last decade, the educational focus for the DNP has expanded to include competencies in addition to advanced comprehensive clinical care across the lifespan. These additional competencies include leadership, strategy, advocacy, interdisciplinary collaboration, scholarship for quality improvement, and the translation of evidence into practice. Educators and practitioners alike have spent considerable time assuring medical colleagues and members of the public that DNP education will lead to clinical outcomes for patients, communities, and systems that are a superior “product.”

In fact, we have argued that advanced clinical nursing care should be provided by practitioners who practice to the full extent of their education and scope of practice, without regulatory or system impediments. This was a focal point of the IOM report, *The Future of Nursing: Leading Change, Advancing Health* (2010). This key message was based on concerns that unnecessary and burdensome restrictions on practice would only exacerbate the critical shortage of primary care providers. In addition, the IOM Committee examined the literature on quality outcomes from advanced practice nurses and cited numerous examples of equal or superior clinical practice compared to their physician counterparts.

Newhouse and associates (2011) conducted a systematic review of care provided by advanced practice registered nurses (nurse practitioners [NPs]) in the United States to compare teams that included NPs to those without NPs. The review covered a period of published literature between 1990 and 2008. Following established inclusion criteria and a grading of the evidence, the review elicited 107 studies. The review considered care provided in community, inpatient, nursing home, and ambulatory surgery settings. Outcomes were analyzed by practice specialty and included NPs, certified nurse–midwives, and clinical nurse specialists. The overall results indicated that care provided by NPs in collaboration with physicians is “. . . similar to and in some ways better than care provided by physicians alone for the populations and in the settings included” (p. 18). The authors concluded that “. . . Nurse practitioners provide safe, effective, quality care to a number of specific populations in a variety of settings” (p. 19).

**VARIATIONS AND CHALLENGES**

We now have a cadre of DNP-prepared practitioners in a variety of settings across the United States. Over 217 U.S. universities now have DNP programs, and enrollment has increased from 170 students in 2004 to 11,575 students in 2012 (AACN, 2013). This is good news. However, we have challenges ahead. First, we have multiple variations on the definition of advanced practice. As universities developed DNP programs, role emphasis varied by how the content for each of the seven *Essentials* was interpreted. While a number of schools have developed DNP programs that focus on clinical NP education, many have chosen to develop nonclinical advanced roles in leadership, policy, public health, and education. All DNP programs adhere to *The Essentials of Doctoral Education*...
for Advanced Nursing Practice (AACN, 2006), but the educational mission around this role varies a great deal.

Is variation of the role problematic? That remains to be seen. As the graduates of DNP programs enter the workforce, their ability to articulate their “advanced practice” role to employers and colleagues and to translate their impact on the outcomes expected from practice will be critical. These experiences will provide insight into the public’s acceptance and understanding of what value DNP preparation as a leader, educator, policy and data analyst, or advanced practice clinician brings to the health system, organization, or clinical environment.

Dunbar-Jacob, Nativio, and Khalil (2013), in their review of DNP education, provided clear examples of DNP education for roles focused on health systems, primary care, and academia, as well as how these roles are utilized in Pennsylvania. The majority of the DNP graduates from the eight Pennsylvania programs that provide DNP education were prepared for the administration role. The second-largest group was the NP focus.

Dunbar-Jacob and colleagues (2013) encountered a slow adoption of the bachelor’s of science in nursing (BSN) to DNP program, and these authors predict that the greatest impact of the DNP role will be in acute care settings in administrative roles. The authors concluded that in the long run the quality of DNP programs will depend on the availability of qualified faculty and providing added value from the master’s graduate. The public is just beginning to understand the NP role even though it has been practiced for decades; will they understand an advanced role for nurses focused on the health system?

It should be noted that the recommendation from the AACN to migrate education for all NPs in the future to the DNP level rather than master’s level by 2015 has received significant debate. Commentary on the topic was featured in Nursing Outlook in the May/June 2011 issue. Commentators were invited to respond to an article by Cronenwett et al. (2011) that expressed concern about the migration of all NP programs to the DNP level. The authors argued such a move would be detrimental to the public.

We will not know the number of schools of nursing that comply with the AACN recommendation for several more years. Some predict that the majority of schools will migrate to the educational requirement of a DNP for the NP, but this remains to be seen. The concern, of course, is that this ongoing debate within the profession poses additional complexity as we educate the public, health providers, and health system executives that NPs are an important solution to expanding the provision of primary care.

A second challenge relates to our capacity to teach the growing number of individuals who pursue the DNP degree. For example, as preparation of NP transitions from the master’s degree to the DNP degree, the intensity of time and talent required for a highly complex curriculum including capstone or portfolio requirements and a pre- or postdoctoral residency will stress the capacity of a limited pool of qualified faculty. Should our DNP nurse practitioner programs require DNP-prepared nurse practitioner faculty? Should our DNP nurse practitioner faculty be required to practice so they remain current in evidence-based practice? The way we think about these questions could lead to new standards
for educators of DNP programs and could create a shortage of DNP program faculty.

The third and perhaps most critical challenge is the development of the metrics that will help us measure the contribution DNP-educated nurses make to clinical outcomes. The idea that the public should expect a standard of quality from their health care providers should not be a far reach. Yet the literature shows that there have been serious gaps between what we consider “ideal care” and the actual care individuals receive. This revelation, outlined in Crossing the Quality Chasm (Institute of Medicine [IOM], 2003), was shocking in the prevalence of care that was not evidence-based and did not follow standard treatment guidelines.

ACHIEVING CLINICAL VALUE

In response to the growing concern about the quality of health care, one of the major purchasers in the health care system, Centers for Medicare and Medicaid Services (CMS), has launched a number of programs. These programs are designed to assist health care providers, including advanced practice nurses, in understanding quality and measuring quality processes and outcomes.

The Patient Protection and Affordable Care Act of 2010 (United States Department of Health and Human Services, 2010) prompted additional quality initiatives mandating, for example, that quality be a factor in physician fee schedules for Medicare payments by 2015 (Medicare FFS Physician Feedback Program/Value-Based Payment Modifier). This measure could effectively link cost and quality in payment policies in order to prompt quality in the system through incentives to provide value to the public.

This Medicare program collects data on provider performance on a range of clinical measures and provides feedback on performance comparisons across health care systems and providers. One of the outcomes of this program will be a payment system that reimburses providers based on “value” instead of “volume.” This Medicare initiative known as “value-based purchasing” is detailed in the report, Roadmap for Implementing Value Driven Healthcare in the Traditional Medicare Fee-for-Service Program (Centers for Medicare & Medicaid Services [CMS], 2009). The CMS Roadmap outlines the goals for a value-based purchasing system for health care. The goals include: financial viability, payment incentives, joint accountability across the system, effectiveness of care provided, assuring access to care, safety and transparency, transitions across systems, and the meaningful use of electronic health records (EHRs). The complexity of the requirements of these programs to manage and report data, including systems to collect, assess, and utilize measurement data, can be overwhelming for providers and health care systems.

Medicare is not the only purchaser who has developed payment systems based on quality and value. Private insurance markets are equally concerned that they avoid paying for poor quality. As a result, most insurers are implementing quality initiatives in order to reward efficiency and effectiveness (National Committee for Quality Assurance, n.d.).

An important aspect of value-based payment systems that reward quality and create disincentives for poor performance are measurement sets that can be
applied to a broad range of practice and provider types and clinical processes and outcomes. Most of the measures utilized in value-based payment systems are endorsed by the National Quality Forum (NQF) through a consensus process (NQF, 2013). The process assures that each measure meets certain standards before it is utilized for quality reporting. The measures undergo rigorous scientific and evidence-based reviews with input from consumers, health care industry leaders, and providers. As of July 2013, the NFQ is host to more than 600 standardized measures that meet criteria set out in the report, Measurement Evaluation Criteria (2013). The criteria for endorsed standards include: the standards are publically available, the measure is regularly updated to account for clinical innovation, the measure is intended for performance improvement and accountability, the measure has been tested for reliability and validity, and each measure has been harmonized with related measures.

What does this all mean to current and future DNP-prepared advanced practice nurses? First, health systems, including provider practices, are consolidating in order to create the necessary infrastructure and develop the capacity to manage the complexity needed to meet the growing expectations from the public, purchasers including private and government-funded organizations, and the intent of the Patient Protection and Affordable Care Act of 2010. Second, the need to engage in the process of continuous innovation around clinical care requires access to large and complex data sets populated with patient data in EHRs and linked to other practices and systems through Health Information Networks (HINs). Third, the future of quality health care will depend on a patient-centered, team-based system that provides comprehensive primary and specialty care across the patient’s life.

It is unreasonable to expect the future DNP-prepared practitioner will manage care without ready access and knowledge of the systems and requirements for practice. The future practitioner will be faced with complex health systems, complex payment systems, high demand for quality and innovation, and accountability for practice outcomes. The DNP of the future will need to focus on those imperatives necessary to create an environment that embraces this rather daunting new system of care.

**IMPERATIVES FOR THE FUTURE**

We must be diligent in precisely defining the roles a DNP graduate is prepared to assume and why. How will the nurse with a DNP emphasis in education provide superior education; why should a hospital system hire the DNP-prepared nurse executive; how will a public health department benefit from the DNP-prepared nurse with specialty in population health; and what enhancements in clinical practice can we expect from the DNP-prepared NP?

We are shifting from master’s preparation for these advanced roles to doctoral preparation, and it is not enough to assume clinical care, leadership, education, and public health practice will benefit. We must be able to articulate evidence that supports the premise that the DNP is what we need for advanced practice. In other words, what is the value proposition for a student to spend
the time and money on a doctoral degree for roles that have been performed by master’s-prepared nurses with evidence of good outcomes?

The capstone project component of the DNP education is, of course, one of the methods we use to understand the evidence and outcomes from DNP education. The capstone is one of the exemplars of the value added and should serve as evidence that the role and outcomes are different from master’s preparation for advanced practice. This book contains examples of excellence in various DNP practice roles. Chief among how we might learn from these examples is their fit with the chosen new practice role.

Equally important is the fit of the new practice role with the needs of the populations we serve as nurses. What does society require for quality health care in terms of practice, scholarship, and value, and what will society require in the future? It is hard to argue that a leading contender for DNP practice should include primary care.

**Practice Focus**

A recent report issued by the National Governors Association (NGA; 2012) proposed that the passage of the Patient Protection and Affordable Care Act would be an important influence on the demand for primary care and the shortage of primary care providers. As a potential solution to the shortage of primary care providers, the NGA reviewed the literature on the quality and safety of NP practice and variation in regulations governing scope of practice across states. The authors concluded that “nurse practitioners are well qualified to deliver certain elements of primary care” and that “. . . states might consider changing scope of practice restrictions and assuring adequate reimbursement of their services” (p. 10). While this represents a qualified statement of support for NP practice; more important is the authors’ opinion that NP expansion into primary care would increase access to health care.

A less timid approach to the shortage of primary care providers was taken by a multidisciplinary group convened by the Josiah Macy, Jr. Foundation in 2010. The conclusions and recommendations from the conference report represent many complexities in approaching the delivery of primary care, including the education and utilization of providers. The report, *Who Will Provide Primary Care and How Will They Be Trained?* (Culliton & Russell, 2010), recommended:

> Coupled with efforts to increase the number of physicians, nurse practitioners and physician assistants in primary care, state and national legal, regulatory, and reimbursement policies should be changed to remove barriers that make it difficult for nurse practitioners and physician assistants to serve as primary care providers and leaders of patient-centered medical homes or other models of primary care delivery. All primary care providers should be held accountable for the quality and efficiency of care as measured by patient outcomes. (p. 18)

Expansion of NPs into primary care, however, is not without its detractors. A recent study published in the *The New England Journal of Medicine* (Donelan,
DesRoches, Dittus, & Buerhaus, 2013) surveyed physicians and NPs in primary care to investigate attitudes about NP scope of practice, expansion of NPs into primary care, quality of NP practice, and equality of payment for similar services provided. Attitudes were mixed, but it is evident that physicians and NPs did not agree on roles in the delivery of primary care. Equal pay was the area of greatest disagreement among the two groups.

The bulk of the literature related to NP scope of practice and access to care supports the expansion of the NP role in primary care. Although the role and expertise of the DNP-prepared nurse remains somewhat broadly defined, there is no doubt that NPs are a significant feature in the future of primary care. An example of one particular practice focus for NPs, the comprehensive care specialty DNP developed by Columbia University School of Nursing, is useful for framing a discussion of the NP specialty in primary care.

**Comprehensive Primary Care**

Columbia University School of Nursing has a long tradition of advanced practice nursing education at the master’s and DNP level. Following the guidance of the AACN, the curriculum is undergoing a transformation in order to educate all advanced practice nurses at the DNP level with a phase out of master’s preparation for the advanced practice role. The preparation for Columbia’s advanced practice nurse is the comprehensive care specialty. This can be best described as an advanced practice nurse with a comprehensive specialty focus who can “demonstrate expertise in the provision, coordination, and direction of comprehensive care to patients, including those who present in healthy states and over time” (Columbia University School of Nursing [CUSN], 2012a).

The planned DNP curriculum will be comprised of a 3-year course of study that begins with three semesters of comprehensive care content including chronic illness, informatics, and genetics; four semesters of specialty content; and two semesters in a clinical residency and completion of a portfolio project. The specialty content beginning in the third semester prepares the DNP graduate to qualify as a nurse midwife, nurse anesthetist, family practitioner, pediatric practitioner, adult/geriatric practitioner, psychiatric/mental health practitioner, or acute care practitioner (CUSN, 2012b).

The content of the comprehensive care DNP specialty incorporates the competencies for comprehensive care. These competencies were first developed in 2010 (Honig & Smolowitz, 2010) and revised in 2011. The competencies include four content domains and 19 competencies. Within Domain 1, Comprehensive Clinical Care, are six competencies, including evaluation of patient needs; evaluation of health risk; formulation of differential diagnoses; appraisal of acuity; evaluation, care, and discharge plan with acute care; and comprehensive care in a subacute setting. Domain 2, Interdisciplinary and Patient-Centered Combination, contains four competencies, including collaborative interdisciplinary network for referral and consultation; managing chronic illness, including care transitions; translation of health information and incorporating shared decision making with the patient; and the facilitation of palliative care and end-of-life care (CUSN, 2011).
Domain 3, Systems and Context of Care, contains four competencies, including culturally sensitive and individualized interventions; evaluation of gaps in care, including knowledge of the organization and financing of health care systems; principles of legal and ethical decision making; and integrating principles of business, finance, economics, and health policy in designing population-based initiatives. The final domain, Building and Using Evidence for Best Clinical Practices and Scholarship, contains five competencies, including synthesize and analyze evidence; evaluate quality of care; critically appraise and synthesize research findings; assess and critically appraise clinical scholarship; and utilize informatics tools to identify best practices (CUSN, 2011).

The vision expressed by the faculty at Columbia University School of Nursing is that advanced practice at the doctoral level ought to achieve significant outcomes in revolutionizing the provision of comprehensive primary care across the lifespan in all settings, particularly for populations living with chronic illness and populations vulnerable to poor health status because of compromising determinants of health. To achieve these aims, education must focus on prevention and health protection, systems of care, complex diagnosis and management of illness, and advocacy for health-promoting environments (CUSN, 2012b).

**Assuring the Quality of DNP Practice**

Most professionals, particularly those within the health field, utilize a standardized system of licensure, accreditation, certification, and education to assure quality. While we are acutely aware that assuring quality is a tricky business, the health professions have established fairly complex requirements at the provider, organization, and educational levels to achieve safe and effective outcomes. Long ago nursing adopted licensure as entry into the profession.

With the addition of advanced clinical roles and higher complexity in education and health care, nursing added the requirements of accreditation of education programs, certification to recognize the expertise and achievement of standards of practice, and formal and standardized educational programs that grant degrees or postgraduate certificates. This regulatory model for nursing (LACE: licensing, accreditation, certification, education) has become the norm for advanced practice registered nurses (Nurse Practitioner Joint Dialogue Group Report, 2008). The LACE document outlines the definition of the advanced practice nurse, titling for the recognized roles (clinical nurse specialist, certified registered nurse anesthetist, certified nurse–midwife, and certified NP), and broadly defined educational benchmarks. Although the LACE document went a long way in laying the groundwork for a system of recognition and assurance of quality and standards, the actual recognition of each component of LACE has many variations. Numerous specialty organizations credential nursing specialty practice and each state has jurisdiction over nursing licensure.

Specialty titles are still not recognized equally across the United States. Educational accreditation has numerous tiers and layers of accreditation, with separate accrediting bodies for programs and specialties. At the end of the day, the question remains: Does this all make a difference in achieving quality outcomes for the consumer?
This question is at the heart of a new IOM Standing Committee: *Standing Committee on Credentialing Research in Nursing*. The committee members represent many perspectives on credentialing and many different disciplines. The primary task of the standing committee is to engage in dialogue and seek information on emerging priorities for nursing credentialing research; research methodologies and measures relevant to nursing credentialing research; the impact of individual and organizational credentialing in nursing on improving health care performance, quality, and outcomes; and strategic planning for moving the field of credentialing research forward (IOM, 2013). It remains to be seen whether research will show that credentialing for nursing, without a doubt, leads to superior outcomes for those we serve. We take this for granted, but the research is not conclusive. This IOM Standing Committee will seek to understand this dilemma in more depth.

Meanwhile, another challenge presents itself: Do the licensing and credentialing requirements for master’s-prepared advanced practice registered nurses apply to those with a practice doctorate? Should there be additional or different certification requirements that attest to the competencies for DNP education? Schools of nursing are accredited for meeting the *Essentials* of DNP education, but what about the individual practitioner?

**The American Board of Comprehensive Care Certification Exam**

This challenge prompted the 2007 founding of the American Board of Comprehensive Care (ABCC). This board is the certifying organization for doctoral-level advanced practice nurses in the comprehensive care specialty. The ABCC teamed with the National Board of Medical Examiners to develop and administer a certification exam that, upon passage, awards the Diplomat of Comprehensive Care (DCC) designation. The exam measures the same set of competencies administered to physicians as the final component of their licensure exam (Step 3 of the United States Medical Licensing Examination). While the exam is not required for DNP practice, the ABCC believes that successful passage of this exam recognizes the specialized role of the practice doctorate for clinicians and may enable the differentiation of practice across educational preparation and DNP roles. The exam is only offered to DNP graduates who hold national certification as an advanced practice registered nurse (CUSN, 2012a).

**The Scholarship of DNP Practice**

This introductory chapter outlining the emergence and impact of DNP education would not be complete without a comment on contributions to scholarship by those who hold the degree and practice in one of the DNP roles. The role of the DNP in scholarship stimulated significant discussion about how or whether to differentiate scholarship and research between the DNP and PhD. It seems to me that a clear case has been made through the *Essentials* of DNP education that the DNP is well suited for scholarship in the application of evidence to practice, the clinical innovation required to enhance quality outcomes within practice settings, and to examine variation in effectiveness across approaches to care and recommend those that achieve higher value to patients and populations.
According to The Essentials of Doctoral Education for Advanced Nursing Practice (2006), the DNP graduate takes a “practice application-oriented” (p. 3) approach to scholarship. However, many PhD-prepared scientists also explore applications of science to problems in practice. Language from the Essentials document states that the DNP graduate will “develop and evaluate new practice approaches based on nursing theories and theories from other disciplines” and will “develop and evaluate care delivery approaches that meet current and future needs of patient populations based on scientific findings in nursing and other clinical sciences, as well as organization, political, and economic sciences” (p. 10). These are certainly areas for scholarship but may not necessitate the development of new knowledge. A practical approach to gaining understanding of the field of DNP scholarship was to review publications in the Clinical Scholars Review: The Journal of Doctoral Nursing Practice.

Several themes emerged from a review of the published literature in this journal. First, a good portion of the literature is descriptive of the DNP degree, DNP certification, and challenges faced in practice and defining the role. For example, Starck and Woolbert (2010) argued that one method of distinguishing the clinical practice DNP role from the nondirect care role was through distinct certification such as the DNP Comprehensive Care Certification. Through a certification process, common competencies of DNP practice could be demonstrated. A second set of themes was related to DNP education. Wright, Scherb, and Forsyth (2011) reviewed the literature on education using online strategies, identified gaps in the literature, and developed a tool for evaluating online student-based discussion as part of their learning environment. Evidence for practice was the third major theme. Some of the articles are descriptive of how evidence-based practice knowledge is developed in DNP education, and several other examples were informative as examples of scholarship undertaken for practice-related questions. McCauley (2012) studied the effect of introducing an evidence-based approach to reducing central line infections in an intensive care unit. A specific theoretical model for adaptation of new guidelines was used. The results of this study showed a decrease in infections. The nurses’ attitudes about using guidelines and whether guidelines improve nursing knowledge were also examined. Another good example of DNP scholarship is a study by Amendolia (2011) that reports on an integrative review of the literature to understand feeding intolerance among preterm infants. The purpose of the study was to provide a review of the state of the science in this particular area of practice.

If DNP programs focus on scholarship that enhances the utilization of evidence-based practice and quality management within practice settings, we can be confident that our graduates will combine practice expertise with knowledge of clinical innovation for enhanced patient and population health outcomes. In a way, the capstone portion of DNP education was designed to test this assumption. Do DNP students gain methodological skills that enhance inquiry related to the application of evidence to practice? Are they able to interpret and critique the literature so they are prepared to apply innovation in the practice settings and measure the outcomes? Certainly from what we see in the literature so far, I am optimistic that this is so.
FROM EVOLUTION TO REVOLUTION

Considering the slow uptake of most innovation in health care, it is somewhat revolutionary that this relatively new degree and practice role have sustained a growth trend. Many of us in the field of education are engaged in transformation of one type or another to embrace the early vision of the pioneers who conceptualized this new role. We are collaborating with practice leaders to evaluate the impact of the role on patient outcomes and health systems. While we may disagree and debate about the future of the role, we agree that health care and society need nurses who are able to manage complexity, lead change, and create innovation. We believe this is an important approach to solving the shortage of primary care providers, to enhance the quality and value of health systems, and to meet the interest and passion of nurses who want to contribute to health care in an advanced role in an arena different than but in partnership with research colleagues.

To assure that DNP-prepared nurses continue to revolutionize the way care is provided and evaluated, we in academic institutions must foster ongoing assurance that the role maintains its prominence as a practice doctorate. We must resist the temptation to blur the distinctions between the practice and research doctorates. At the same time we must take care to establish pathways to recognition and promotion for DNP faculty and to incentivize collaboration among practice and research faculty in academia and through our DNP- and PhD-prepared health system partners. The evolution of nursing as a profession with a distinct practice and research frame has no doubt been slow—painfully so to many of us. The emergence of this new role is a clear signal to society that nursing is not finished evolving yet; not by a long shot!

REFERENCES


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