



Original Research

Clinical Scholarship Competencies and Roles to Impact Population Health Outcomes

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A B S T R A C T

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Fostering the development of nurse practitioners (NPs) as clinical scholars requires intentional and innovative strategies to achieve health equity as presented in the *Future of Nursing 2020-2030* report. Emphasis and advancement of clinical scholarship among NPs, through application of the Actualized Doctor of Nursing Practice Model, may lead to improved patient population health outcomes. This report explores the competencies, innovative roles, outcomes, and impact through the lens of achieving population health. Experiential learning of NP students in partnership with community settings to implement clinical scholarship efforts leads to the achievement of the shared goal of health equity across community settings.

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Introduction

Preparing nurses for the role of nurse practitioner (NP) and fostering the development of clinical scholarship requires shared intentional and innovative strategies by educators, practice partners, and NP graduates. Recent national standards and guidelines call for academia and practice to expand practice scholarship competencies to achieve health equity and improve population health outcomes in a challenging 21st century. The aim of this report is to apply the Actualized Doctor of Nursing Practice (DNP) Model¹ to guide innovative strategies that foster clinical scholarship, address health inequities, improve outcomes of patient and population care, and impact the health of society.

Scholarship is described as the “generation, synthesis, translation, application, and dissemination of nursing knowledge to improve health and transform health care,”^{2(p37)} and population health is described as “a discrete group that the nurse and others care for across settings at local, regional, national, and global levels.”^{2(p39)} Using the Actualized DNP Model to frame a scholarship initiative will guide academia to prepare NP students to excel in their roles as primary and acute care providers across the life span and to improve patient and population health outcomes that positively impact the health of society.

Background

In 2021, the National Academies of Sciences Engineering and Medicine (NASEM), released *The Future of Nursing 2020-2030* report that emphasized health equity for all. Health inequities were

defined as “systematic differences in the opportunities that groups have to achieve optimal health, leading to unfair and avoidable differences in health outcomes.”^{3(p3)} Specifically, the report called for the revision of academic and continuing education of nurses to consistently incorporate a health equity lens.³ NASEM indicated that to build the capacity of the nursing workforce, students should be prepared to promote health equity, reduce health disparities, and improve the health and well-being of the population by revamping curriculum to include experiential learning.³ To integrate these concepts into the curriculum, NASEM suggested learning experiences that would build cultural humility and delivery of care in diverse communities and settings.

Competencies for entry into advanced nursing are outlined in the *Essentials: Core Competencies for Professional Nursing Education*.² The 10 American Association of Colleges of Nursing (AACN) Domains reflect NASEM and Quality and Safety Education for Nurses⁴ competencies that focus on population health. Whereas the *Essentials* integrate health equity in each of the 10 Domains, the NP role-focused competencies are further elaborated in the “NP Role Core Competencies” published by the National Organization of Nurse Practitioner Faculties (NONPF).⁵ The NONPF core role competencies are intended to be measured and evaluated at the clinical doctoral level. The NONPF competencies are scaffolded from the *Essentials: Core Competencies for Professional Nursing Education* and emphasize population health.

Domain 4: Practice Scholarship and Translational Science describes competency for the NP as “generates, appraises, synthesizes, translates, integrates, and disseminates knowledge to improve person-centered health and systems of care.”^{5(p11)} Practice scholarship indicates that the NP “translates knowledge from clinical practice to improve population health outcomes through diversity, equity, and inclusion.”^{5(p12)} Domain 5: Quality and Safety indicates

Abbreviations: NP, Nurse practitioner; DNP, Doctor of Nursing Practice.

that the NP “utilizes knowledge and principles of translational and improvement science methodologies to improve quality and safety for providers, patients, populations, and systems of care.”^{5(p13)}

NONPF has been a leader in quality NP education and asserts that the DNP degree reflects the rigorous education that NPs receive to lead and deliver quality health care.⁶ In May 2018, NONPF⁶ committed to shifting entry-level NP education to the DNP degree by 2025 and supports a seamless, integrated DNP curriculum without a master’s exit point as preparation for the NP role. Given the expanded competencies for NPs, innovative strategies are needed to foster clinical scholarship in the preparation of practicing NPs to address health inequities, improve patient and population health, and meet the *Future of Nursing, 2020-2030*³ goals.

Competencies, Roles, and Impact

Competencies for the NP role are acquired through didactic education and clinical practice experience. Recently, AACN commissioned the American Institutes for Research to conduct a study on “The State of Doctor of Nursing Practice Education in 2022” and found that DNP graduates gain unique skill sets through their DNP education, including advanced preparation in quality improvement, evidence-based practice, and leadership.⁷ Another recent study, based on the AACN 2006 DNP Essentials,⁸ assessed knowledge and competencies acquired from DNP programs as perceived by DNP-prepared nurses in practice.⁹ More than 95% (n = 306) of DNP-prepared nurses in practice strongly agreed that they gained competence in translating and synthesizing research evidence into practice, designing and implementing quality improvement, and identifying, measuring, and evaluating outcomes.⁹

The AACN study⁷ evaluated the relationship between scholarship and roles of DNP-prepared nurses and found that administrators, nurse executives, nurse faculty, and other positions are more likely to be prepared compared with NPs to perform quality improvement and leadership activities while being less prepared to provide improved direct care. Nurse faculty and DNP-prepared nurses in other positions are also much more likely than NPs to be prepared for scholarship activities.⁷ Beeber et al¹⁰ examined the role and value of 155 DNP graduates across 23 employers who articulated that DNP-prepared nurses do impact outcomes, but organizations do not have measurable data to articulate the overall impact. Unclear role definitions hinder the ability of DNP-prepared nurses to use what they have learned to quantify impact.¹⁰ It is imperative to integrate practice scholarship activities into innovative roles and responsibilities.¹¹

DNP graduates add unique value in areas such as evidence-based practice, organizational change, quality improvement, and leadership.⁷ Kesten et al¹² assessed DNP-prepared graduates and found that 95% of survey respondents reported their practice scholarship as somewhat impactful, very impactful, or profoundly impactful on quality of care, the profession of nursing (95%), and individual patients or populations (94%). Most respondents reported the perception of impact highest at the patient care level, on patient families, the system, interprofessional teams, and the community.¹²

This study was conducted in 2020, before the release of the AACN 2021 Essentials, the *Future of Nursing 2020-2030* report, and the NONPF “NP Role Core Competencies.”^{2,3,5} All 3 of the recent national guidelines have illuminated the need for NP clinical scholars to embody competence in addressing health inequities and patient and population health and embracing innovative roles for nurses and advanced nurses to practice to the full extent of their education.

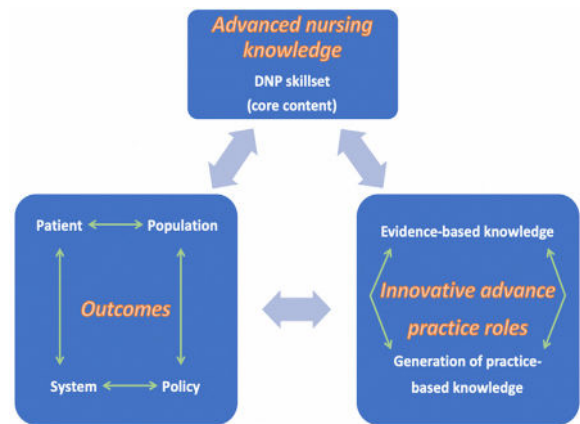


Figure. The Actualized Doctor of Nursing Practice (DNP) Model. Burson R, Moran K, Conrad D. Why hire a doctor of nursing practice-prepared nurse? The value-added impact of the practice doctorate. *J Dr Nurs Pract.* 2016; 9:152-157. <https://doi.org/10.1891/2380-9418.9.1.152>. Reprinted with permission.

The Actualized DNP Model

In 2016, Burson et al¹ proposed a conceptual model to explain the phenomenon of how advanced practice nurses, prepared with the practice doctorate, could address, and achieve the goals of improved patient, population, policy, and system outcomes needed by society (Figure).

The Actualized DNP Model¹ consists of 3 distinct areas to explain the potential impact of the DNP-prepared nurse: *advanced practice knowledge/competencies* demonstrated in *innovative roles* to achieve intentional *outcomes*, with a systems and policy lens to improve the health of patients and populations. The model illustrates the complexities of attaining patient and population health goals by advanced nurses, with *advanced nursing knowledge* as a solid foundation. It assumes a dynamic feedback loop in the *outcomes* area as improved outcomes produce sustainable impact. The generation of new *practice-based knowledge*, using evidence-based knowledge, drives competency development, demonstrated in *innovative advanced practice roles*. Competencies must not only be attained during graduate education but must also be practiced after graduation, as clinical nurse scholars in advanced, innovative roles continue to generate important *practice-based knowledge*. The Actualized DNP Model¹ is proposed to guide academia, students, and clinical scholars in practice to consider the multifaceted aspects of advanced nursing practice needed to achieve better patient and population health outcomes.

Methods

The Actualized DNP Model¹ is used to guide innovative strategies that foster clinical scholarship, to address health inequities, improve outcomes of patient and population care, and impact the health of society. This process can be approached from 3 vantage points: (1) knowledge and competencies, (2) innovative practice roles, and (3) outcomes and impact of NPs on the health of the individual, population, community, and society.

Knowledge and Competencies

Academic studies play an important role in preparing NPs to acquire and exercise scholarly knowledge and competencies in practice. The *Future of Nursing 2020-2030* report calls for nurses to

experience learning that develops an understanding of health equity, determinants of health, and population health.³ Methods to accomplish these goals include innovative learning experiences, such as conducting focus groups or individual interviews with community members to explore their perceptions of living with barriers to a healthy lifestyle. Examples of clinical scholarship to address health inequities typically involve improving access to care for the older aging population. Alternatively, conducting scholarly projects that require the NP student to apply an intervention during early childhood to address access to care, health disparities, and determinants of health is another innovative approach.

An inventive approach for a scholarly project is for students to choose one major determinant of health and well-being for communities and individuals, such as food insecurity or access to transportation, and design an intervention for a local health center in an underserved community that addresses the food or transportation needs for the community. Identification of barriers, facilitators, and resources regarding access to food, transportation, and health care are identified through focus groups or population interviews, and solutions are designed with well-defined outcome metrics for success.

These examples provide experiential learning growth and scholarship opportunity for NP students and graduates to develop cultural humility and acquire knowledge and competencies to address complex population health needs. Engaging in practice scholarship projects for NP students sets the stage for lifelong learning as the graduate NP evolves in practice and can serve as a launching pad for sustainable improvements in practice and ongoing development of a portfolio of clinical scholarship.¹³

Innovative Roles

The *Future of Nursing 2020-2030* report highlights the important and varied roles that nurses play in acute, community, and public health settings to address population health by intervening at the individual, structural, and policy levels.³ The role and scope of practice of advanced practice registered nurses was described in the report. Recommendations were made to lift barriers to scope of practice and increase full practice authority of NPs in numerous states in the United States to improve access to care.³ Attaining full practice authority would eliminate barriers for NPs to facilitate innovative and emerging roles that address health inequities to improve access to health care and thereby reach population health goals.

During clinical practice, for example, NPs can expand their roles to demonstrate technical competencies to improve population health care, such as the use of telehealth and digital health tools, conduct data analysis, and benchmark outcome data from large data sets to address quality metric goals. Nurses are well positioned to understand clinical workflows and liaise with technology developers and interdisciplinary teams toward positive care improvement initiatives that can be disseminated beyond the local level.¹⁴ Informatic competence (processing nursing, computer, and information science) in this age of digital health care is paramount. Time for using these expanded NP system and population health competencies must be considered by employers beyond the traditional NP roles that are typically limited to direct patient care.

Practice partners offer a wealth of resources to meet the *Future of Nursing 2020-2030*³ goals by offering opportunities to learn and design innovative roles for NPs through interprofessional experiences and multisector partnerships. These partnerships lead to positively impacting population health as outlined in the updated *Essentials: Core Competencies for Professional Nursing Education*² and the expanded 10 Domains that reflect the NASEM³ and Quality and Safety Education for Nurses⁴ competencies. The AACN² describes

population health in a variety of health care settings, including public health, acute care, ambulatory care, and long-term care. Innovative NP roles within these sectors can greatly influence positive outcomes in addressing population health challenges.

To further illustrate this concept, one Midwest health system located within a multicounty area in the United States supported NPs to acquire innovative roles to meet patient and community needs by improving access to care through a home-based primary care model. The purpose of a home-based primary care model is to deliver timely and consistent care for home-bound patients. The primary focus is on consistent care in alignment with patient goals through advance care planning. Leveraging a traditional house-call model, NPs partner with physicians, care managers, social workers, and other interprofessional team members to closely care for patients with chronic conditions in their homes that would otherwise lead to the use of emergency departments.

This model supports NPs as clinical scholars, addressing patient and population health that results in improved health outcomes. The health outcomes are aligned with the patient goals through prevention, proactive treatment of chronic diseases, or referrals to consider end-of-life options. NPs partner with interprofessional colleagues to provide comprehensive, specialized care while removing barriers to health care access. Supporting NPs as clinical scholars through this unique program promotes innovative solutions to address population health with the shared goal of improved health for all. Addressing population health through the lens of these innovative roles leads to benefits across multiple stakeholders, including patients, communities, health care systems, and insurance plans. As supported by AACN,² the purpose of innovative, collaborative health care interventions is to achieve health equity and improved health for all.

NP students seeking mentors in practice settings should consider placing the practice mentor on the DNP project team with a substantive role, where they can help guide the NP to develop innovative practice roles. Alignment of the NP practice scholarship with the mission, vision, and values of the organization is key, along with aligning the scholarship project aims with the strategic plan for the organization. The focus of practice scholarship on important timely concerns, such as the aging population, behavioral and mental health issues, rising maternal morbidity and mortality, and the prevalence of these issues in specific populations, can align well with mission-driven organizations. Delivering care in nontraditional care settings, such as workplaces, schools, community centers, faith-based organizations, and neighborhood clinics, can provide NPs with mentorship from experienced leaders and role models in the community and other professions.

Outcomes and Impact

Clinical scholars in NP roles can apply the quality and safety competencies they have acquired to demonstrate impact by quantifying outcome measures in practice.^{2,4} The development and presentation of trending data using run charts based on an early intervention, such as an evidence-based screening tool or prevention intervention of untoward events, can have a powerful impact on acute and primary care practice settings. Demonstrating agility in designing and analyzing quality metrics and using dashboard outcome metrics to establish benchmarks and trending of data are impactful contributions to the current NP scholarship role implementation.

Furthermore, DNP-prepared NPs attain advanced level nursing competencies, including quality and safety, informatics and health care technologies, and systems-based practice.⁷ Enacting organizational projects based on these competencies lead to quality and process improvements that impact quality of patient care,

electronic medical record efficiencies, and continual relationship building across disciplines in health care systems that lead to effective patient care and provider satisfaction. The appropriate use of these competencies can have a powerful impact on health care systems and population health. As a result, NPs can advocate for themselves by demonstrating and leveraging their competence during the interview and hiring process and negotiate for protected time to conduct these analyses in a new innovative NP role, to improve outcomes for an organization.

DNP-prepared NPs who work in primary care offices can, for example, demonstrate their unique skill set, especially in the areas of population health, quality improvement, and business acumen, by analyzing the current state of the practice's attainment of quality metric incentives. Many insurers produce reports of quality measures met according to the particular practice office and/or provider, with actual and potential incentive dollars attained or left on the table in a given fiscal year. In a rural physician-owned practice, a DNP-prepared NP, analyzing year-end data on quality metrics for chronic disease management of the practice's patient population, produced a return-on-investment report to the management that justified a registered nurse care coordinator's salary, based on capturing lost incentive dollars from one insurance payer. Articulating population health and business acumen competencies to assist primary care practices in improving quality metrics can show the impact of allowing time for practice scholarship activities, particularly with the movement to value-based reimbursement for health care.

Additionally, DNP-prepared primary care NPs employed within gerontology environments, including assisted living and long-term care environments, can offer, integrate, and measure quality, process, and digital improvements leading to patient, organization, and provider outcomes. Electronic medical records, for example, may be built without the awareness of workflows within organizational locations, teams, and priorities. This may cause concern particularly related to completing comprehensive patient care visits based on a schedule guided by state regulations. For example, a DNP-prepared NP recognized workflow inefficiencies and process improvement opportunities related to the design of the electronic medical records in a long-term care unit and promptly ignited change efforts within a large, multisite health system. By identifying workflow concerns paired with suggested solutions, NP providers, operations managers, and informatics experts collaborated to address these issues and design digital workflow solutions. As a result, patient, quality, and organizational outcomes were met to continue to fulfill regulatory comprehensive patient visits, workflow efficiencies were implemented, and provider satisfaction was achieved by designing significant improvements within the electronic medical record. Each of these outcomes, through interprofessional collaboration, led to a cumulative positive impact of population health pertaining to geriatric patients cared for in long-term care environments.

Sustainability and the spread of practice change demonstrate the greatest impact. The development of a sustainability plan within the community or organization lays the groundwork for improving population health outcomes long term. Dissemination of project outcomes to the organization and community leaders on completion of the project and partnering to design a plan to implement recommendations are essential to sustainability and long-term success.

Results

Experiential learning of NP students in a wide variety of settings in the community in innovative roles and settings has yielded exceptional learning to recognize and address population health.

Community partners have provided positive feedback, intent to sustain changes in practice, and verbalized impactful practice scholarship by DNP students. This is evidenced by the practice partners' requests for DNP students to conduct scholarly projects in their settings. In one study, DNP graduates expressed satisfaction with their outcomes and impact as evidenced by 81% who reported they felt very satisfied or moderately satisfied with the amount of time spent on practice scholarship or clinical inquiry.¹⁵ This study found results similar to Beeber et al.¹⁰ that DNP-prepared nurses impact health care outcomes; however, quantifying impact is difficult because organizations do not have measurable data in sufficient quantities.

Dissemination of practice scholarship outcomes can lead to sustainability and spread of practice change that can take on many forms. At a minimum, DNP-prepared NP scholars can provide a presentation and executive summary to the practice leaders, C-suite (corporation chief executive-level managers), and engaged stakeholders in an organization. Some organizations provide opportunities to disseminate projects at nursing grand rounds, nursing research council, or during an evidence-based practice poster day. Dissemination may extend to local, regional, national, or international podium presentations and/or scientific abstract presentations. DNP-prepared scholars can also be guided by faculty to disseminate their work in traditional manuscript format to widely read national or international journals that share quality and process improvement project results that address health inequities.

Many opportunities exist to disseminate innovative best practices through public open access repositories, either university based or nationally based organizations. For example, an open access repository for the DNP Collection was developed at the The George Washington University in 2016 and archives >120 DNP scholarly projects that have been downloaded >90,000 times and viewed by >4,000 institutions in >200 countries.¹⁶ One of the main objectives of an open access repository is to increase access equity to scholarship. Traditionally, access to academic scholarship has been largely confined to users with access to expensive subscription packages at academic, governmental, and private institutions.

The DNP project is the entry into the realm of clinical scholarship. However, NP and all advanced practice nurses must continually define, promote, and advocate for protected time in practice to demonstrate these enhanced competencies, particularly in day-to-day practice. This approach will lead to the attainment of the goals of improving and positively impacting patient and population health as outlined in the call to action by major health reports.

Implications for Practice

Innovative strategies to foster clinical scholarship to address health inequities, improve outcomes of patient and population care, and impact the health of society may contain several key implications for practice. These implications are crucial as they apply to NP clinical scholars, community organizations, and health care organizations.

Engagement with practice sites, community organizations, and health care systems are paramount as partners can foster the application of this scholarship in practice. As a result, NP clinical scholars should be provided with innovative role models in practice settings. Roles must be redefined, with job descriptions for NPs specifying expertise at using scholarship metrics, quality metrics, benchmarking data, and outcome measurement pertaining to patients and populations. Furthermore, health care organizations should offer NP role position descriptions with time allocation for clinical scholarship to achieve these goals and to optimize the contribution that a DNP-prepared NP clinical scholar can make for an organization. Performance evaluations for NPs should include

clinical scholarship outcomes such as demonstrating impact on patient, population, and community outcomes.

In addition, the DNP graduate as a clinical scholar should articulate newly acquired scholarship competencies upon hire. The DNP clinical scholar should be empowered to negotiate protected time for scholarship to maximize the job performance and contributions to the organization. Protected scholarship time for NP clinical scholars would provide opportunity to seek mentors in practice for participation in scholarship activities and to join scholarship teams. As a result, NP clinical scholars would be supported through time allocation, mentorship, scholarship teammates, and matching job descriptions and performance evaluations as they strive to positively impact health care needs within patients and populations.

Conclusion

Academia and practice partners have much work to accomplish in guiding NP scholars to achieve competencies to address health inequities and improve patient and population health. Preparing future NP clinical scholars with the knowledge and competencies needed during their academic journey can best be accomplished through academic-practice partnerships. Faculty need to provide focused experiential learning opportunities for students to acquire competencies for quality metrics and clinical inquiry. Furthermore, clinical mentors and scholarship teammates should embrace new NP clinical scholars as issues within population health are explored. By using the Actualized DNP Model¹ as a guide, advanced practice nurses can demonstrate that the complexities of achieving patient and population health outcomes and impact requires not only advanced nursing practice competency attainment but also opportunities to implement these competencies in innovative roles.

Declaration of Competing Interest

In compliance with the standard ethical guidelines, the authors report no relationships with business or industry that would pose a conflict of interest.

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