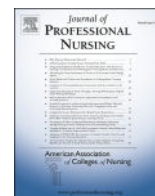


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Alignment of DNP degree competencies with employer perspectives: The value of academic practice partnerships

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Introduction

Efforts to improve health care quality have been underway since 2001, with an aim to decrease patient care deficits in six dimensions identified by the Institute of Medicine (IOM, now the [National Academy of Sciences, Engineering, and Medicine, \[NASEM\], 2021](#)): safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity (IOM, 2001). The Institute for Healthcare Improvement (IHI) suggests that improvement efforts within the United States health care system must focus on pursuing the Triple Aim: improving the experience of care, improving the health of populations, and reducing per capita costs of health care (IHI, 2007). To achieve these aims, leaders and practitioners are needed who understand how systems influence the health of the population and the delivery of care; and more importantly, leaders and practitioners prepared to take action to improve outcomes. Highly skilled Doctor of Nursing Practice (DNP)-prepared nurses can generate evidence-based practice (EBP), and have the potential to improve clinical outcomes, leadership, organizational change, and population health through the lens of the social determinants of health ([American](#)

[Association of Colleges of Nursing \[AACN\], 2021; AACN, 2022a; Hammersla et al., 2021; Minnick et al., 2019; Skochelak et al., 2021](#)). Further, as health care services shift from the high-cost inpatient venues to primary care and community settings, the DNP-prepared nurse will be well-equipped to provide coordinated care across care settings and establish scholarly metrics to evaluate care delivery. Their education incorporates systems-based practice, which provides the essential context to ensure equitable health care is available for all communities and desired outcomes are achieved (AACN, 2021; Skochelak et al., 2021).

Educators believe that DNP-prepared graduates have attained the required competencies to improve health care quality, but the employers' perception of DNP competencies in practice and their reasons to hire a DNP-prepared nurse are less clear. This article fills a gap in the literature by gaining the employer's perspective on the application of DNP-prepared nurses' competencies in practice and subsequently builds upon the science of nursing education. The employer's perspective is an essential component of academic practice partnerships. The following research questions guided this study: 1) What are employers'

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perceptions of competencies held by DNP-prepared nurses? and 2) What are the reasons employers choose to hire a DNP-prepared nurse?

Background

The national recommendations for doctoral level education as entry to advanced nursing practice resulted in an accelerated number of nurses pursuing a DNP degree to advance their career trajectory (AACN, 2021; AACN, 2022a; AACN, 2022b). In 2004, AACN published a position statement on the DNP degree with a focus on educating advanced nurses with expanded competencies to facilitate the translation of EBP and quality management within practice settings (AACN, 2004). Since 2004, there has been a rapid proliferation of DNP degree programs. According to a national survey of enrollment and graduation data in 2022, there were 395 DNP programs in the United States, more than 32,000 nurses held DNP degrees, and 40,817 students were enrolled in DNP programs (AACN, 2022b). From 2020 to 2021, the number of students enrolled in DNP programs increased from 39,530 to 40,834. During that same period, the number of DNP graduates increased from 9158 to 10,086 (AACN, 2022b). The accelerated growth in the number of DNP-prepared nurses with expanded competencies created a tipping point and opportunity for these advanced nurses to meet the health care needs of high-risk patients and populations and improve the quality and safety of health care delivery.

In 2021, the AACN published the *Essentials: Core Competencies for Professional Nursing Education*, which lays the foundation for a new framework for nursing education using a competency-based approach. The *Essentials* outline the expected competencies of advanced nurses, such as DNP-prepared nurses, and the key curricular content to include in advanced nursing programs (AACN, 2021). While many current DNP programs focus on building competencies for advanced nursing practice, specifically health promotion, illness prevention, and community engagement, there is a pressing need to design competency-based education and learning experiences with employers through intentional academic practice partnerships.

With academic practice partnerships, a commitment is shared by partners to work together to leverage competencies from practice to education and vice versa (AACN, 2012). A competency-based approach will produce graduates who are confident in advocating for unique roles where their contributions can be benchmarked with predefined metrics to ensure the needs of health care organizations are met. In addition to advancing the application of scholarship, such as translational science and innovative inquiry that lead to improved health care delivery and patient outcomes, implementation and evaluation of scholarship projects provides tangible evidence of the impact that DNP-prepared nurses have within the practice setting.

Knowledge and competencies

Educators are confident that DNP graduates are skilled at combining practice expertise with knowledge of clinical innovation to enhance patient and population health outcomes (Berkowitz, 2015). DNP degree graduates perceive they have gained the doctoral-level competencies needed to serve as full partners in health care redesign and improvement, which aligns with the recommendations put forth by the IOM in 2010 and NASEM in 2021 *Future of Nursing* reports. Overwhelmingly, DNP graduates agree they are using EBP and quality improvement (QI) skills to implement policies in their organizations, leading to organizational change that positively impact patient care and system outcomes (AACN, 2021; Kesten et al., 2021; Minnick et al., 2019). A recent study surveyed practicing DNP-prepared nurses ($N = 306$) to examine the knowledge and competencies they acquired from their DNP education (Kesten et al., 2021). More than 95 % of respondents agreed or strongly agreed that they gained knowledge and competencies in designing, implementing, and translating research evidence into practice, synthesizing the literature to identify a solution for a practice issue, identifying,

measuring, and/or evaluating outcomes, and designing and implementing QI projects.

Core competencies of DNP-prepared nurse leaders working to advance EBP include communication and relationship-building, evidence-informed practice, knowledge of the practice environment and culture, as well as knowledge and experience in leading change initiatives (Waxman et al., 2017). DNP-prepared nurses use systems-thinking, which is a more holistic and cohesive approach to addressing challenges, to ensure all the seen and unseen drivers, connections, and consequences are considered within any given situation (Skochelak et al., 2021). Competencies acquired throughout a program of study often culminate in the implementation and evaluation of a scholarly project identified in collaboration with clinical practice partners, providing experiential learning in the clinical setting (Hinch et al., 2020). Given the opportunity, DNP graduates equipped with the knowledge and skills to enhance health care, practice and/or policy, have demonstrated considerable impact on health care outcomes. During the Covid-19 pandemic, DNP-prepared nurses led systems-level projects using interprofessional collaboration, demonstrating leadership in nursing care delivery models, retention, staffing, and clinical ladder projects that involved collaborating with business, finance, human resources, and health professionals across micro and macro levels (McCauley et al., 2020).

A better understanding of the employers' perspective is crucial in strengthening the academic practice partnership, especially regarding the competencies and potential roles of the DNP-prepared nurse. In 2019, Beeber and colleagues published a mixed methods study surveying 130 DNP program directors and 23 DNP employers. Employers identified that DNP-prepared nurses are unique because of their ability to translate evidence into practice and their understanding of health policy and population health. Boswell et al. (2021) found that DNP-prepared nurses demonstrated proficiencies in leadership, communication, and offer alternative viewpoints to impact health outcomes, improve quality of care and lead innovation, as reported by DNP-prepared administrators. Hammersla et al. (2021) found that when practice leaders were asked about the importance of QI competencies such as methods, instruments, metrics, knowledge, skills, and expectations of DNP graduates at the time of hire, practice leaders indicated that skills and strategies of designing QI project aims and safety in health care were rated as important by 100 % of respondents. DNP competencies such as translation of evidence into practice, systems thinking, leadership, collaboration, quality improvement, innovation, and implementation science are outlined in the *Essentials: Core Competencies for Professional Nursing Education* and align with outcomes observed by educators, administrators, and advanced practice nurses in health care settings (AACN, 2021; Beeber et al., 2019; Boswell et al., 2021; Embree et al., 2018; Hammersla et al., 2021; Hooshmand et al., 2019; Kesten et al., 2021; McCauley et al., 2020; Minnick et al., 2019; Skochelak et al., 2021; Tussing et al., 2018; Waxman et al., 2017).

DNP graduates may be prepared academically to apply these competencies in practice, but the acquired competencies may not always align with expectations in the workplace (Beeber et al., 2019; Hammersla et al., 2021; Minnick et al., 2019). Several studies examined the value and roles of DNP graduates and found that employers acknowledge improvements to patient care outcomes and access to care by DNP-prepared nurses, but organizational leaders are unable to articulate the overall impact due to a lack of measurable data (Beeber et al., 2019; McNett et al., 2021; Rosenfeld et al., 2022).

Leveraging of DNP-prepared nurses' competencies that align with practice partner needs should be emphasized in DNP education programs (Hammersla et al., 2021; Minnick et al., 2019). Due to the dearth of evidence regarding outcome metrics that reflect positive changes in health care outcomes contributed by DNP-prepared graduates and the expectations of employers, further exploration of the employers' perceptions of the competencies and the reasons to hire a DNP-prepared nurse are needed.

Reasons to hire

In an article discussing role-emergence from the master’s to the DNP-prepared leader, [Shelby and Wermers \(2020\)](#) propose that the DNP-prepared nurse possesses advanced-level knowledge in health care policy, organizational systems thinking, informatics, ethical reasoning, and the ability to foster change through interprofessional collaboration, coordination of QI and enactment of implementation science. DNP-prepared nurses have the unique acumen to explore complex, multifaceted health care systems, challenge vertical bureaucratic leadership and disrupt the status quo of traditional health care structures ([Shelby & Wermers, 2020](#)). They are educated to focus on the system, to identify challenges through a broader lens, and finally, to optimize interventions to impact outcomes ([Skochelak et al., 2021](#)). As a result, the DNP-prepared graduate can serve as a clinical change expert, translating research into EBP and lead implementation across health care settings ([AACN, 2022a](#)).

The alignment of stakeholder needs with DNP-prepared nurse competencies is vital in ensuring that the needs of health care organizations are met; however, employers’ needs must first be known. [Embree et al. \(2018\)](#) highlighted key findings of employer needs coupled with the desire to hire DNP-prepared nurses in leading system change. Chief nurse executives (CNE) voiced their priorities for DNP-prepared nurse attributes such as proficiency in population health and effectively leading accountable care organizations through the lens of culture enhancement. The CNEs indicated that these competencies were observed with DNP-prepared nurses and agreed that the most significant challenges, such as strategy, health care reimbursement, and meeting the IOM’s goals of increasing the education level of nurses, were priorities in the health care sector ([Embree et al., 2018](#); [IOM, 2010](#)). CNEs also suggested strengthening the curriculum for DNP students in the areas of business and information technology management ([Embree et al., 2018](#)).

The DNP-prepared nurse may hold a variety of positions, including innovative roles within a health care system, and often serve as a formal or informal leader when enacting practice and/or organizational change, QI, or operational decisions. Their positions include nurse executive, administrator, quality officer, informaticist, clinical expert, and expert in health policy ([Beeber et al., 2019](#); [Graves et al., 2021](#)). It is critical to prepare DNP graduates with the competencies necessary to demonstrate meaningful outcomes and to develop metrics to capture measurable outcomes of care. The ability to implement new processes and optimize health system performance that meets the complex health care needs of organizations is paramount.

As educators prepare DNP-prepared nurses for practice, they recognize that employers may hire DNP-prepared nurses into roles or positions that do not require doctoral education ([Beeber et al., 2019](#)). Designated roles or positions for DNP-prepared nurses in organizations are sparse, which makes it challenging for employers to compare the role of the DNP-prepared nurse to that of the master’s-prepared nurse ([AACN, 2022a](#)). For example, nurse practitioner roles are filled with both master’s and DNP-prepared nurses, making comparisons of the two academic preparations variable among employers. However, employers reported that DNP-prepared nurses had stronger assessment skills, were better able to collaborate, and demonstrated leadership with system-level issues including quality of care ([AACN, 2022a](#); [Beeber et al., 2019](#)). Advanced practice roles for DNP-prepared nurses remain ambiguous, and care outcomes are not differentiated based on degree preparation ([AACN, 2022a](#); [Beeber et al., 2019](#); [Rosenfeld et al., 2022](#)).

As DNP degree program enrollment increases, implementation of advanced science knowledge and skills in collaboration with practice partners is needed to optimize safety, quality of care, and delivery of care at a reduced cost ([AACN, 2022b](#)). [McNett et al. \(2021\)](#) explored the role of the doctoral-prepared nurse on advancing implementation science in practice settings by reviewing the academic preparation and the DNP-prepared nurse’s area of expertise. Findings identified that DNP-

prepared nurses serve as clinical change experts and are in the unique position to have knowledge in not only advanced practice nursing, but additionally as leaders in EBP implementation due to the breadth and depth of their academic preparation ([McNett et al., 2021](#)). Another recent study conducted by [Howard et al. \(2021\)](#) identified the sustained impact of the DNP-prepared nurse by evaluating outcomes of advanced practice nurses (N = 95) in a large health care system. Findings showed the DNP-prepared advanced practice nurse (compared to the master’s-prepared advanced practice nurse), better expanded population-specific patient programs within their health care system and improved patient’s access to care within their specialties. [McNett et al. \(2021\)](#) reported that few health care leaders are cognizant of the application of best practice into the clinical setting that includes leadership and organizational change skills. Hiring a DNP-prepared nurse and providing them with protected time and support to integrate science into practice can make a significant positive impact on an organization’s goals ([Edwards et al., 2018](#); [Hinch et al., 2020](#)). However, it is critical to involve stakeholders in facilitating opportunities for DNP-prepared nurses who will work directly with them to address the needs of health care organizations.

Conceptual framework

The Actualized DNP Model (see [Fig. 1](#)) was chosen to guide this study as it illustrates the varied components required of the DNP-prepared nurse in practice that contributes to patient, system, population, and policy outcomes that ultimately impact society and the profession of nursing ([Burson et al., 2016](#)). Components of the model begin with the DNP-prepared nurse’s unique education, where the nurse attains the advanced level knowledge and competencies outlined in the *AACN Essentials: Core Competencies* ([AACN, 2021](#)). The knowledge and skills acquired include abilities to apply scientific evidence to address practice gaps, systems leadership skills, policy competencies, and business and advocacy acumen to lead interprofessional teams. These competencies are built on the foundation of an advanced nursing curriculum and lifelong continuing education. The second component of the model is the ability to enact the unique skill set and competencies in innovative roles in practice to realize improved health care outcomes and impact, the final component of the model. The model’s components guided the study constructs to explore, from the perspective of the employer, how the DNP-prepared nurse demonstrates the application of that unique education and the reasons for hire.

Methods

A quantitative, cross-sectional study design was used to query

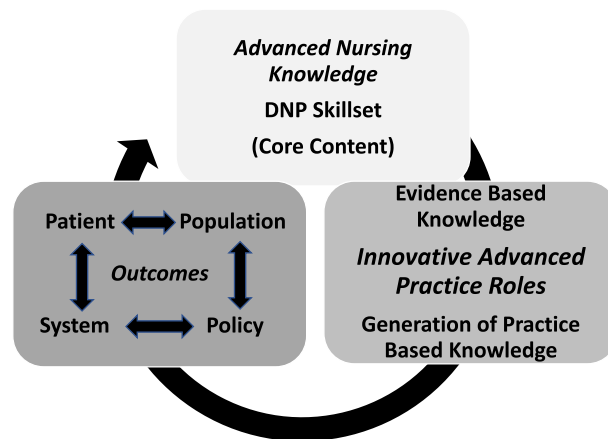


Fig. 1. Actualized DNP Model from Burson, R., Moran, K., Conrad, D. (2016). Why hire a DNP? The value added impact of the practice doctorate. *Journal of Doctoral Nursing Practice*, 9(1), 152–157. Reprinted with permission.

practice partners and organizational leaders who employ, or interact with, DNP-prepared nurses in practice. Their perceptions of the knowledge and competencies held by DNP-prepared nurses and the reasons to hire were captured through an electronic survey. The researchers gathered quantitative data including open-ended responses, regarding the employers' 1) demographics, 2) ways in which they interact with DNP-prepared nurses, 3) roles that DNP-prepared nurses fill in the organization, 4) reasons for hiring a DNP-prepared nurse, and 5) perceived knowledge and competencies held by those DNP. The research team consisted of DNP and PhD-prepared nurse researchers from the United States and Ireland. The George Washington University Institutional Review Board (IRB) approval was obtained prior to study launch and data collection.

Setting and sample

The target population of those who interact with or employ DNP-prepared practicing nurses. Inclusion criteria were those who interact with or hire DNP-prepared nurses. Participants were recruited from two national nursing leadership organizations: 1) American Organization for Nursing Leadership (AONL), a national membership organization of 10,000 nurse leaders, practice partners and organization leaders, some of whom employ nurses with a DNP degree, and 2) the National Doctor of Nursing Practice Organization, a national membership organization of 3000 members who hold a DNP degree, with a subset of members from the DNP of Color Organization. Participants were recruited using electronic communications such as community board and newsletter postings, and social media distributed by the organization to its members. Diversity of sample demographics was addressed through national recruitment, representing wide geographical areas of the country and recruitment from the national DNP of Color organization.

Instrument

A review of the literature did not identify a validated tool to meet the aims of this study. Therefore, a researcher-designed 26-item survey was developed using constructs from the literature, national nursing organization position statements, and standards of doctoral nursing education, to define attributes and expected competencies. The *Actualized DNP Model* components guided the study constructs to explore (from the perspective of the employer), the competencies held by the DNP-prepared nurse and reasons to hire. The survey was based on a tool used to query practicing DNP-prepared nurses on their perceived knowledge and competencies gained in DNP education (Kesten et al., 2021). Items on the survey included participant demographics, and reasons for hiring a DNP-prepared nurse using a 5-point Likert scale of *not at all important* to *very important*. To examine employer perceptions of knowledge and competencies held by DNP-prepared nurses a 5-point Likert scale using *strongly agreed* to *strongly disagreed*, was employed. In addition to close-ended questions, free text items were included to capture narrative responses. Content experts reviewed the survey, and it was piloted with eight employers of DNP-prepared nurses in the northeastern and central regions of the United States to establish content and face validity, and usability of the items. A revised questionnaire was used to collect study data and participants who were involved in the pilot study were excluded from this study.

Data collection and analysis

The data were collected using the REDCap (n.d.) electronic survey tool. Every effort was made to protect the privacy of participant information. Data were extracted from the survey software and analyzed using SPSS version 28 (IBM, 2021) in consultation with a biostatistician. Data were verified and double-checked to ensure accuracy by the primary investigator and the research team. Descriptive statistics for continuous variables, including mean, standard deviation, minimum,

maximum, frequencies, and percentages, were calculated for all questionnaire items as appropriate. For categorical variables, frequency and percentage were calculated. Free text responses were reviewed and summarized by the research team.

Results

There were 101 surveys completed; 87 participants met the inclusion criteria, while 14 surveys were eliminated because the participants were not appropriate. Table 1 describes the demographics of the sample. Participants were asked how they interact with DNP-prepared nurses and the roles that these nurses fill in their department or organization, with multiple responses accepted (see Table 2). Some of the "other" ways in which participants reported they interact with DNPs included academic practice partnerships, collaborative projects, and mentoring.

The respondents were asked whether they agreed or disagreed that DNP-prepared nurses held specific expected knowledge or competencies using a 5-point Likert scale, where 1 = strongly disagree and 5 = strongly agree. Table 3 describes these responses arranged in order of

Table 1
DNP employer demographics (N = 87).

Demographic	Frequency (n)	Percent (%)
Sex		
Male	7	8.0
Female	77	88.5
Prefer not to respond/missing	3	3.4
Race		
Asian	3	3.4
Black/African American	11	12.6
White	67	77
Prefer not to respond/missing	6	6.9
Ethnicity		
Hispanic/Latino/Spanish origin	4	4.6
Not Hispanic/Latino/Spanish origin	73	83.9
Prefer not to respond/missing	10	11.5
Highest degree earned		
Bachelor's	1	1.1
Master's	13	14.9
Doctor of Education (EdD)	1	1.1
Doctor of Nursing Practice (DNP)	65	74.7
Doctor of Philosophy (PhD)	5	5.7
Prefer not to respond/missing	2	2.3
Years of experience interacting with or employing a DNP		
5 years or less	39	44.8
6 years or more	46	52.9
Prefer not to respond/missing	2	2.3
Professional role		
Nurse Systems Leader	27	31.0
Administrator	9	10.3
Nurse Practitioner	17	19.5
Clinical Nurse Specialist (CNS)	3	3.4
Certified Registered Nurse Anesthetist (CRNA)	2	2.3
Nurse Educator	18	20.7
Nurse Scientist	2	2.3
RN	1	1.1
Multiple Roles	5	5.7
Other	1	1.1
Prefer not to respond/missing	2	2.3
Work setting		
Hospital/Health System	45	51.7
Primary/Outpatient/Community Care	8	9.2
Academia	24	27.6
Other setting	8	9.2
Prefer not to respond/missing	2	2.3
Location of work setting by region		
Northeast	18	20.7
Midwest	20	23.0
South	30	34.5
West	17	19.5
Prefer not to respond/missing	2	2.3

Table 2
Employer interaction with DNP-prepared nurses and DNP organizational roles (N = 87).

	Frequency (n)	Percent (%)
Employer interaction		
Hiring	40	46.0
Managing	38	43.7
Working on a team	73	83.9
A DNP-prepared nurse reports to me	37	42.5
I report to a DNP-prepared nurse	27	31.0
Other	10	11.5
Organizational roles filled by DNP-prepared nurses		
Nurse Practitioner (NP)	58	66.7
Clinical Nurse Specialist (CNS)	31	35.6
Certified Nurse Midwife (CNM)	8	9.2
Certified Registered Nurse Anesthetist (CRNA)	20	23.0
Health Systems Leader	32	36.8
Nurse Leader	52	59.8
Informatics	17	19.5
Health Policy/Advocacy	10	11.5
Population Health	10	11.5
Quality and Safety	23	26.4
Educator/Faculty	12	13.8
Nurse Scientist	4	4.6
Other	5	5.7

Note. Percentage totals are more than 100 % because participants could select more than one response.

Table 3
Employers' perceived knowledge and competencies held by a DNP-prepared nurse (N = 87).

Knowledge or competency	n	M (SD)	Strongly agree/agree % (n)	Strongly disagree/disagree % (n)	Unsure % (n)
Implementing evidence-based practice projects	85	4.6 (0.8)	93(79)	3.6(3)	1.1(1)
Synthesizing literature to identify a solution for a practice issue	85	4.6 (0.8)	91.8(78)	3.6(3)	2.3(2)
Translating research evidence into practice	86	4.6 (0.8)	91.9(79)	3.5(3)	1.1(1)
Collaboration and communication in teamwork	85	4.6 (0.8)	91.8(78)	3.6(3)	2.3(2)
Leading interprofessional teams	82	4.5 (0.9)	89(73)	3.6(3)	5.7(5)
Implementing process improvement project	85	4.5 (0.8)	93(79)	3.6(3)	1.1(1)
Disseminating outcomes of practice scholarship	83	4.4 (1.0)	86.7(72)	4.8(4)	4.6(4)
Conducting systematic review of the literature	82	4.3 (0.9)	89(73)	3.6(3)	5.7(5)
Sustaining practice change	81	4.3 (0.9)	86.4(70)	5(4)	6.9(6)
Analyzing and evaluating collected data	85	4.3 (0.8)	87.3(74)	3.6(3)	2.3(2)
Analyzing health care policy	82	4.1 (0.9)	82.9(68)	3.6(3)	5.7(5)
Using informatics to impact health and health care delivery	82	4.0 (0.9)	74.4(61)	6.1(5)	4.6(4)
Managing population health	80	4.0 (1.0)	73.8(59)	11.3(9)	6.9(6)
Managing large data sets	83	3.9 (1.0)	76.2(55)	6(5)	4.6(4)
Using business and finance skills	82	3.8 (1.0)	65.8(54)	8.5(7)	5.7(5)

Note. Mean (M) and standard deviation (SD) values based on provided n for each item using a 5-point Likert scale. Unsure/not applicable responses and missing responses were removed prior to calculation. Unsure/not applicable percentages are based on sample N = 87.

highest to lowest by mean score as well as the frequencies and percentages of compressed responses, and those that reported they were unsure whether the DNP-prepared nurse held a specific knowledge or competency, or they felt it was not applicable.

In addition to how employers interact with DNP-prepared nurses, respondents were specifically asked whether they have hired a DNP-prepared nurse or were part of the hiring process. Of the 87 respondents, 59.8 % (n = 52) reported participating in this process. These respondents were then asked to rate how important specific reasons were in the hiring process using a 5-point Likert scale where 1 = “not at all important” and 5 = “very important”. These results are further described in Table 4, arranged in order of highest to lowest level of importance by mean score. Some respondents (n = 9) provided “other” reasons for hiring including independence, leadership, critical thinking, level of knowledge and professional practice, and the ability to mentor and teach.

Discussion

The purpose of this cross-sectional study was to determine the employer’s perspective of the competencies held by and reasons to hire DNP-prepared nurses. The results have important implications for educators, who seek to educate DNP-prepared graduates to meet the needs of health care organizations.

First, participants reported numerous ways in which they interact with DNP-prepared nurses, with “working on a team” as the most common way (n = 73; 83.9 %). Academic practice partnerships and collaboration on projects were mentioned as other ways in which employers interact with DNP-prepared nurses. These collaborative interactions are consistent with The State of Doctor of Nursing Practice Education (AACN, 2022a) study, including establishing academic practice partnerships, and may also serve to attain advanced level competencies.

For academia, this study adds further validation to the curricular content and the acquisition of competencies in DNP education programs that align with practice partner needs. The first component of the Actualized DNP Model that guided this study is the attainment of

Table 4
Reasons for hiring a DNP-prepared nurse (n = 52).

Reason	M (SD)	Very important/important % (n)	Not at all important/slightly important % (n)
For the ability to engage in process improvement projects	4.4 (0.9)	90.4(47)	2.8(2)
For the ability to work at a systems level	4.2 (0.9)	84.6(44)	2.8(2)
For leadership experience	4.2 (1.0)	82.7(43)	5.7(3)
For additional education	4.1 (0.9)	76.9(37)	11.7(6)
For the ability to develop, implement, or evaluate policies	4.0 (1.2)	73.1(38)	11.6(6)
For additional competencies	4.0 (1.1)	71.2(37)	11.5(6)
For the ability to achieve cost savings in care delivery	3.5 (1.4)	63.5(33)	25(13)
For additional clinical experience	3.7 (1.0)	62.8(32)	11.7(6)
Easier to retain	2.6 (1.3)	26(13)	42.3(22)
For hiring a DNP student after graduation	2.4 (1.3)	19.2(10)	50(26)
Easier to recruit	2.3 (1.3)	17.3(9)	53.9(28)

Note. M = Mean; SD = Standard Deviation. Responses are based on a 5-point Likert scale with 1 = “not at all important” and 5 = “very important.”

specialized knowledge and competencies unique to the DNP-prepared nurse. In alignment with *The Essentials: Core Competencies for Professional Nursing Education* (AACN, 2021), employers identified the following advanced level competencies highest by mean scores:

- Implementing EBP and process improvement projects (Domain 7 Systems-Based Practice)
- Synthesizing literature to identify a solution for a practice issue (Domain 1 Knowledge for Nursing Practice)
- Translating research evidence into practice (Domain 4 Scholarship for Nursing Discipline)
- Collaboration and communication in teamwork (Domain 6 Interprofessional Partnerships)
- Leading interprofessional teams (Domain 6 Interprofessional Partnerships).

These findings align with recent studies of perceived competencies acquired from DNP educational programs (AACN, 2022a). In a recent survey of practicing DNP-prepared nurses ($N = 306$), most respondents indicated they had gained knowledge and competencies in, a) translating research evidence into practice, b) synthesizing the literature to identify a solution for a practice issue, c) identifying, measuring, and/or evaluating outcomes, d) designing, and implementing EBP and research, and e) designing and implementing QI projects (Kesten et al., 2021).

Competencies identified by the respondents support the top reported reasons to hire a DNP-prepared nurse, including engagement in process improvement projects, working at the systems level, and leadership experience. Findings of this study indicated that employers want to hire graduates who understand how to translate science to practice, implement QI projects, and understand systems change on a larger scale. These advanced level competencies of the DNP-prepared graduate are consistent with the recommendations put forth in 2021 the *Future of Nursing* report that advanced nurses serve as full partners in health care redesign and improvement (NASEM, 2021). Identified reasons to hire are consistent with *The State of Doctor of Nursing Practice Education* study by the American Association of Colleges of Nursing (AACN, 2022a). Surveyed employers in that study emphasized the need to demonstrate advanced level competencies regarding the value of the DNP degree to clearly differentiate between the Master of Science (MSN)-prepared nurse and DNP skill sets (AACN, 2022a). DNP-prepared graduates must be prepared to articulate the differences between MSN and DNP degree preparation for their potential employers, and advocate for roles that allow time to engage in QI and other evidence-based initiatives that help improve the delivery of health care and health care outcomes. The ability of the DNP-prepared nurse to enact the advanced competencies in innovative roles is the second component of the Actualized DNP Model necessary for achievement of improved patient, population, system, and policy outcomes to positively impact society and the profession.

Areas for improvement in DNP nursing education include competencies that were perceived by employers in this study as the lowest competencies of DNP graduates by mean scores, specifically business and finance skills, managing large data sets, and managing population health (see Table 3). Similarly, in *The State of Doctor of Nursing Practice Education* study (AACN, 2022a) graduates suggested improvements in the need to focus on large-scale systems changes in the curricula and adding business-related classes in areas of finance, project management, and process improvement. In a recent study that examined the current and desired state of DNP education, Langdon et al. (2022) made some valuable recommendations: a) develop a nurse residency program for students needing additional assistance, b) embellish critical thinking and learning with instructional methods such as problem-based learning and reflective writing, c) include faculty collaboration to evaluate critical thinking skills and testing for evidence of impact, and (d) consider future academic pathways of education and practice. Additionally, studies by both Embree et al. (2018) and Boswell et al. (2021) suggested that curriculum change should include increased emphasis on

leadership, implementation science, and translation of evidence into practice methods. Business, informatics, policy, and health care law content would also need to be re-balanced to facilitate DNP graduates' health care system level practice. The ability of DNP-prepared nurses to understand finance, reimbursement and translating financial metrics into operational decisions was mentioned as a concern yet viewed as an opportunity for educators to continue to refine coursework and curriculum content to align national standards with employer needs (Embree et al., 2018).

Limitations

Limitations in this study include convenience sampling, potentially impacting the size of this study. Participants completing the survey may have held multiple roles such as nurse leader, advanced practice registered nurse, and educator. A high percentage of respondents held the DNP-degree, which may have biased the responses. Another limitation is the potential biased nature of the self-reported responses by the participants. Finally, the researchers recognize that including "unsure" as a response option in this survey was also a limitation which may lead to ambiguity.

Implications for nursing education

The AACN 2021 *Essentials: Core Competencies for Nursing Education* were developed with the intent to bridge the gap between education and practice and move academic nursing toward a new model and framework for nursing education using a competency-based approach. Meaningful educational and practice experiences are crucial for the mastery of competencies required for practice (AACN, 2021). The authors recommend that educators and practice leaders engage in ongoing, thoughtful dialogue, ensuring that the needs of health care organizations are being met today, but also with an eye on the future. In addition, there is opportunity for educators and practice leaders to reconceptualize the educational process and ensure that students are exposed to clinical environments that offer intentional learning where they can put into practice what they learn in the classroom. This real-world experience is critical to competency attainment.

It is important for educators to recognize that employers are in a key position to use the skill set of the DNP-prepared nurse to benefit the organization and the population it serves. Educators may consider investing time helping students recognize the importance of the organizational mission and strategy, to prepare graduates for innovative roles and leading key system changes. For example, the need to better facilitate the attainment of business acumen and informatics competencies, in particular knowledge of big data sets, were organizational needs identified in this study. This means a curricular review of these topics is warranted. In designing curriculum enhancements, it would benefit students to ensure the inclusion of population health, key national and global health issues and challenges, with the goal of delivering educational experiences resulting in a highly impactful skill set desired by employers and key health care executives.

Academic practice partnerships and larger collaborative projects not only provide DNP-prepared nurses an opportunity within health systems and/or academic settings to practice these competencies, but also provide these systems and settings with the perspective of the DNP-prepared nurse and their unique set of knowledge, skills, and competencies (AACN, 2022a). Educators and practice leaders need to work together to identify metrics to measure the contributions of DNP-prepared nurses in practice, then share established metrics with students and graduates. Finally, educators and practice leaders need to prepare students to advocate for roles and positions that allow DNP-prepared nurses to use their advanced competencies to improve patient outcomes and health care delivery. We can't expect these outcomes to be actualized without dedicated time to carry out this important work. The importance of reciprocal relationships between academia and

practice cannot be overstated. This is the foundation of productive academic practice partnerships to ensure the preparation of DNP-prepared nurse scholars who are relevant and pertinent to the needs of practice, and who can achieve outcomes that positively impact health care.

Conclusion

Educators are preparing DNP nurse graduates with the competencies needed in the current health care environment. This study of employer perceptions contributes to the evidence for the move to competency-based education in DNP programs, to prepare and demonstrate the ability of graduates to meet the organizational needs when hiring practice doctorates. The perceived identified competencies of DNP-prepared graduates by employers are in direct alignment with *The Essentials: Core Competencies for Professional Nursing Education (AACN, 2021)*. The study also emphasizes that the acquisition of advanced nursing competencies is aligned with practice partner needs and should be achieved in DNP education programs. The researchers identified areas of needed emphasis for curriculum development, such as business and finance skills, working with large data sets, and managing population health. Active collaborative sharing, through academic practice partnerships and collaborative projects, is essential to prepare DNP-prepared nurses who are equipped to manage real world concerns and engage fully in roles where their expertise can be fully actualized. Sharing between academia and practice is needed to prepare real world, valid practice scholars. This can only be accomplished with active academic practice partnerships.

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Declaration of competing interest

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