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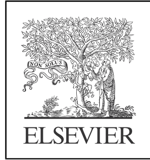
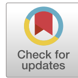

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A critical gap: Advanced practice nurses focused on the public's health

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ABSTRACT

Background: The COVID-19 pandemic has highlighted the need for nurse leaders who "embrace the interconnection" between medicine and public health. The inequitable impact of COVID-19 on people of color demonstrates the importance of applying expertise from nursing practice and public health systems to work with communities and other professions on complex health issues. Yet, despite a clear need for improved population health, educational programs designed to produce Advanced Public Health Nurses, with skills to address complex system changes, have become increasingly scarce.

Purpose: We put forward the perspective that the nation needs more advanced practice nurses prepared for leadership roles focused on the health of whole populations, marginalized communities, and the systems and policies that promote their health.

Discussion: We argue that opportunities should be expanded for nurses to attain education for these roles through increased investments in the Doctor of Nursing Practice model to prepare nurses for advanced public health specialty practice.

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Introduction

The COVID-19 pandemic has exposed the "fault lines" of our nation's public health systems (Brownson et al., 2020, p. e3). The lack of adequate coordination across and between public health agencies and our health care systems, as well as the lack of adequate infrastructure for the important public health functions of surveillance, contact tracing, and policy development, have exacerbated the impact of a long-expected pandemic (Brownson et al., 2020). It is increasingly obvious

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that we lack an adequately prepared and sufficiently sized workforce to lead and manage this kind of public health crisis, as well as to prevent and address the underlying causes of the disproportionate, tragic impact of COVID-19 that we see among marginalized populations (Brownson et al., 2020). This pandemic has highlighted the need for nurse leaders and others who "embrace the interconnection" between medicine and public health (Brownson et al., 2020, p. e3). Furthermore, the inequitable impact of this pandemic on people of color and indigenous groups (Webb Hooper et al., 2020), resulting from longstanding racist structures in the US, demonstrates the importance of applying expertise from nursing practice and public health systems to work in and with communities and other professional disciplines on these complex issues (Brownson et al., 2020; Nardi et al., 2020). Evidence from the literature suggests that nurse leaders are particularly skilled in collaboration, partnership development, communication, system transformation, engaging across sectors, and other competencies needed for effective systems change to address health equity (Lúanaigh & Hughes, 2016; Martsolf et al., 2018; Reyes, Bekemeier, & Issel, 2014).

More than a decade before COVID-19, Berwick and colleagues conceptualized the "Triple Aim" that linked improving individual health, improving population health, and decreasing costs and called for this linkage to be built into health system transformation (Berwick et al., 2008). This widely supported concept spawned a recognition of the need to further our nation's focus on health promotion and illness prevention (Bekemeier et al., 2016; Berwick et al., 2008). These concepts became foundational to the precepts of value-based and accountable care that became law through the Affordable Care Act in 2010 (Berwick et al., 2008). Improving health for all requires an expanded emphasis on addressing social, economic, and environmental determinants of health and on changing long-standing racist structures and systems that perpetuate inequities (Storfjell et al., 2017).

The nursing profession has amplified and articulated its role in educating nurses to understand and promote population health. This is exemplified in national essentials documents that call for undergraduate- and graduate-prepared nurses to have knowledge and skills in population health that will support their assessing, addressing, and advocating for the health of the populations they serve across the care continuum (American Association of Colleges of Nursing, 2006; Hermer et al., 2020; Robert Wood Johnson Foundation, 2019; Storfjell et al., 2017). What the nursing profession has neglected, however, is the adequate development and support of academic programs that go beyond the fundamentals of population health important for all nurses. Such programs are critical for supporting the development of the advanced practice competencies required to address social, economic, and environmental determinants of health, to improve structures and systems in communities, and to address public health crises such as the COVID-19 pandemic. In this paper, we support the perspective that the nation needs many more advanced practice nurses prepared for leadership roles focused on the health of whole populations, marginalized communities, and the systems and policies that promote their health and safety. Also, we further reiterate that the nursing profession should expand opportunities for nurses to attain education for these roles through increased investments in the Doctor of Nursing Practice (DNP) model to prepare nurses for advanced public health specialty practice (Shaw et al., 2017).

Roles for advanced practice nurses in assuring the health of whole populations

We use the term Advanced Public Health Nurse (APHN) in this paper to mean nurses with graduate education who have been trained to work in partnership with communities, focus on improving the systems that undermine the health and well-being of whole populations, and effectively lead population health promotion, improvement, protection, and policy development (Storfjell et al., 2017). We use this term here to also include advanced population-based, population-focused, and population health nursing.

In the rapidly evolving and complex environment shaped by the COVID-19 pandemic, climate change, and health inequities, APHNs are providing expertise and leadership across organizations and health systems, even as they are redeployed to new roles or settings as a means of valuable surge capacity (American Association of Colleges of Nursing, 2020d, e; Edmonds et al., 2020). APHN leaders act as key bridges between sectors in diverse settings and roles such as local health department directors, non-profit foundation executives, school health program leaders, and leaders in the increasingly complex systems of care in communities and healthcare organizations (Butler & Diaz, 2017; Kub et al., 2017). APHNs bring to their practice nursing's relationship-focused and holistic view of health and medicine, as well as the specialty's competencies for analytic assessment, policy development and program planning, communication, cultural humility, community development, public health science, financial planning and management, and leadership and systems thinking in collaboration with communities and populations (Quad Council Coalition Competency Review Task Force, 2018). Unlike most other public health professionals, APHNs also have clinical knowledge and therefore serve as a critical link between healthcare providers and the public. As the largest single group of health professionals, nurses are often closest to the point of care and comprise the only health profession that the majority of the public trusts to reform health systems (Reinhart, 2020).

Given nursing's foundational roles and skills in healthcare, the profession has the unique opportunity—and, we argue, the responsibility—to proactively assure the

availability of APHN leadership broadly across the health sector. As called for in the seminal Future of Nursing 2010 report, nurses have the unique potential for policy impact, and nurses working in public/population health are further called to be “social change agents” (Institute of Medicine Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing, 2011, p. 235). By educating more nurses with the necessary knowledge and skills to lead in these areas, the nursing profession as a whole cancan leverage APHN practice to help shift the focus of health improvement from the costly, high-tech, acute care of ill individuals in specialized settings to prevention and health protection that addresses the social, economic, environmental, and unjust precursors of disease and disability affecting communities.

Preparing nurse leaders to lead population health improvement

Despite our clear and collective need for improved population health, educational programs designed to produce APHNs with those advanced leadership skills are scarce (Drevdahl & Canales, 2018). Over more than a decade, scholars sounded the alarm regarding the limited number of programs and “overall decline” (Canales & Drevdahl, 2014, p. 452) of opportunities for preparing APHNs (Collier et al., 2010; Levin et al., 2008b; Swider et al., 2009). Yet, in the years since Canales and Drevdahl’s (2014) urgent call to action, the number of master’s level graduate programs for APHN has not grown and the number of programs for DNP preparation in the APHN specialty remains very limited.

In 2012, a review of DNP programs in the United States revealed less than 3% of them offered tracks in public health nursing or leadership (Udlis & Mancuso, 2012). Since that review, few DNP programs have been developed or evolved from prior master’s level programs that focus on advanced practice in public health at a system, community, or population level (Table 1). According to unpublished data obtained from and used with permission by the American Association of Colleges of Nursing (AACN), the total number of DNP programs in the APHN specialty in 2019 was 17 and the total number of graduates in 2019 was 49 (American Association of Colleges of Nursing, 2020c). With notable exceptions, most programs are small. While five of the 17 programs are delivered fully online, the remaining programs are found in just eight states, resulting in severe access limitations for nurses seeking DNP advanced education in this specialty (American Association of Colleges of Nursing, 2020c). Figure 1 displays enrollment and graduation data from the past five years. Overall, enrollment and graduation trends shows stable or only slight growth in both types of programs (American Association of Colleges of Nursing, 2020c).

Table 1 – Graduate Nursing Programs for Community, Public, and Population Health Nursing (2019)

	MSN in C/PHN and Population Health	DNP APHN*
Number of Programs	34	17
Total enrollment	1129	212
Mean (range) enrollment	33 (0–357)	12.8 (0–51)
Total graduates	364	49
Mean (range) graduates	10.7 (0-156)	2.9 (0-14)

Source: American Association of Colleges of Nursing (2020c), unpublished.

* Includes public health, community health, and population health nursing programs.

Stakeholder focus groups conducted in 2017 as part of a needs assessment related to developing a new track in APHN at one Midwestern U.S. university described a significant need for DNP-prepared APHNs (Zahner, Personal Communication, 2020). Stakeholders further highlighted the skills and expertise required of graduates to include working with communities, business and data analytics, systems thinking, social determinants of health, health equity, grant development, quality improvement, integrated models of care across settings, policy, environments and climate change, translational research, organizational structures and decision-making, change agency, advocacy, and behavioral economics. Content and practice opportunities in these areas are being built into that school’s new DNP APHN curriculum (Zahner, Personal Communication, 2020).

The Community/Public Health Nursing (C/PHN) Competencies, established by the Quad Council Coalition of Public Health Nursing Organizations in 2018 (now the Council of Public Health Nursing Organizations) through a national consensus process, provide a standard for APHN education (Campbell et al., 2020). The C/PHN competencies are organized by eight domains that are foundational to specialty practice and include three tiers or levels of mastery—with Tier 2 and Tier 3 representing DNP-level “management or supervisory” and “senior management or leadership” levels, respectively (Quad Council Coalition Competency Review Task Force, 2018, p. 3). These domains and the individual skills associated with each (Table 2) are based on public health domains developed by the Council on Linkages and adapted for nursing practice. They include many of the same needs described by the Midwestern stakeholder focus groups mentioned previously. APHN programs are, thus, expected to produce graduates with interdisciplinary collaboration skills, leadership, clinical and public health expertise and experience, community engagement skills, and the ability to find, appraise, and apply evidence to practice. Many of these are systems-level skills and competencies that are necessary for addressing complex public health problems, advancing health equity, and working across sectors. The C/PHN competencies also include skills and competencies - such as leadership,

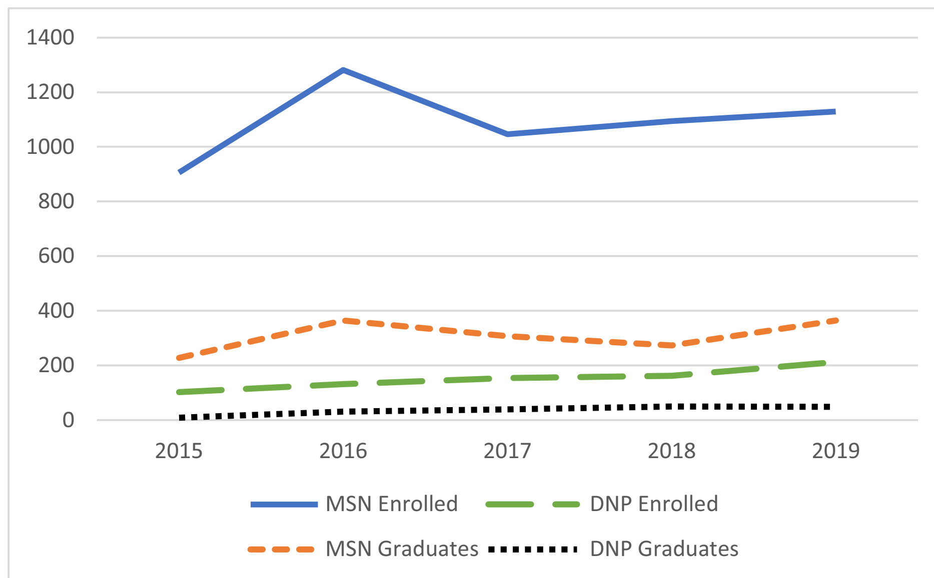

Figure 1 – MSN and DNP in Public Health, Community Health, and Population Health Program Enrollment and Graduation (2015-2019). Source: American Association of Colleges of Nursing (2020c), unpublished.

trust, bridging primary care and public health, communication skills, and partnership development – that Brownson and colleagues identify as necessary for the improved public health systems that must develop from out of the "COVID-19 tunnel" (Brownson et al., 2020, p. e3).

APHNs can obtain education for this specialty practice through programs such as Master of Public Health (MPH), Doctor of Public Health (DrPH), Master of Community Health Nursing, dual degree programs (DNP/MPH or MS/MPH), Doctor of Nursing Practice (DNP) in public/community health/population health, or through continuing professional development. APHNs with graduate education from schools of public health, will generally meet the Quad Council competencies, as these are based on a synthesis of nursing and public health at a specialty level (Campbell et al., 2020), however, MPH programs have far fewer practicum hours than do DNP programs (Oglesby et al., 2013). Additionally, for nurses who want to consider faculty roles in schools/programs of nursing, the National Council of State Boards of Nursing (NCSBN) recommends that faculty have a BSN and a graduate degree in nursing, and states frequently make a nursing graduate degree a requirement for faculty positions (Illinois Joint Committee Administrative Rules, 2021; National Council of State Boards of Nursing, 2008; Washington State Department of Health, 2016). Some states allow a "non-nursing master's degree exception" waiver from the state's Board of Nursing in special cases, such as allowing an MPH to substitute for a MS or other graduate degree in nursing (Wisconsin Board of Nursing, 2018).

Since the early 2000s, the AACN and the NCSBN have called for advanced practice nurses to be prepared at the doctoral level in their specialty (American Association of Colleges of Nursing, 2020a; Spector, 2009). Based on national standards for such specialty education in nursing, the DNP was designed to function as a terminal degree for nurses who seek to work as specialists in practice and policy, using the best available evidence to improve health outcomes. DNP curricula build on traditional master's programs by providing education in evidence-based practice, quality improvement, and systems leadership, as well as content and skills required for advanced practice and licensure or certification in specific clinical specialties (American Association of Colleges of Nursing, 2020a). As with all DNP programs, the APHN DNP curriculum includes knowledge and skills required for advanced specialty practice along with extensive practicum requirements (1,000 hours or more) and an evidence-based practice or quality improvement project. DNP students in APHN specialty tracks often engage with course work and practicum experiences in critical social theories, epidemiology, community/population level health assessment, program planning and evaluation, public policy, systems, environmental approaches to addressing population health improvement, development and implementation of quality improvement (QI) initiatives in community settings, and achieving collective impact through community action and coalition building. The intensive practicum requirements of DNP programs ensure that APHNs have had opportunities to apply core content and skills in public, community, and population health settings and can function at a specialty level in public/population health.

Ensuring all new nurses are grounded in broad population health principles

In addition to producing insufficient numbers of APHNs to work in community, governmental, or health system settings to promote health with an

Table 2 – Description of Domains of Community/Public Health Nursing (C/PHN) Competencies (Quad Council Coalition Competency Review Task Force, 2018)

Domain
Domain 1: Assessment and Analytic Skills focus on • identifying and understanding data • turning data into information for action • assessing needs and assets to address community health needs • developing community health assessments, and using evidence for decision making
Domain 2: Policy Development/Program Planning Skills focus on • determining needed policies and programs • advocating for policies and programs • planning, implementing, and evaluating policies and programs • developing and implementing strategies for continuous quality improvement • developing and implementing community health improvement plans and strategic plans
Domain 3: Communication Skills focus on • assessing and addressing population literacy • soliciting and using community input • communicating data and information • facilitating communications • communicating the roles of government, health care, and others
Domain 4: Cultural Competency Skills focus on • understanding and responding to diverse needs • assessing organizational cultural diversity and competence • assessing effects of policies and programs on different populations • taking action to support a diverse public health workforce
Domain 5: Community Dimensions of Practice Skills focus on • evaluating and developing linkages and relationships within the community • maintaining and advancing partnerships and community involvement • negotiating for the use of community assets • defending public health policies and programs • evaluating & improving the effectiveness of community engagement
Domain 6: Public Health Sciences Skills focus on • understanding the foundation and prominent events of public health • applying public health sciences to practice • critiquing and developing research • using evidence when developing policies and programs • establishing academic partnerships
Domain 7: Financial Planning, Evaluation, and Management Skills focus on • engaging other government agencies that can address community health needs • leveraging public health and health care funding mechanisms • developing and defending budgets • motivating personnel • evaluating and improving program and organization performance • establishing and using performance management systems to improve organization performance
Domain 8: Leadership and Systems Thinking Skills focus on • incorporating ethical standards into the organization • creating opportunities for collaboration among public health, healthcare, and other organizations • mentoring personnel • adjusting practice to address changing needs and environments • ensuring continuous quality improvement • managing organizational change • advocating for the role of governmental public health

upstream approach, the small number of graduate programs in public/community or population health (*n* = 51 total, Table 1) results in an extremely limited pool of graduate-prepared nurses who can teach undergraduate public/population health content in nursing schools from the perspective of “promoting and protecting the health of populations” (Bekemeier, Walker Linderman, Kneipp, & Zahner, 2015, p. 5). APHNs are needed to educate all student nurses about their roles in population health improvement and addressing the social determinants of health.

In 2009, the Association of Community Health Nurse Educators (ACHNE) noted that community/public health nursing content was “increasingly taught by faculty lacking graduate-level specialty preparation” in public/population health and deemed this “unacceptable” (Collier et al., 2010, p. 91). Their resulting position statement contends that nursing faculty teaching population health nursing content at either the graduate or undergraduate level need to have advanced specialty preparation in community/public health nursing (Association of Community Health Nursing Educators, 2009). In addition, the Commission on Collegiate Nursing Education requires graduate level programs in any specialty to have faculty teaching in them that are certified/educated in the specialty, as appropriate (Commission on Collegiate Nursing Education, 2018). Unfortunately, certification is also an issue for the APHN specialty since currently, APHN certification credentials at an advanced level are only available for renewal since new certification has been discontinued (American Nurses Credentialling Center, 2020). APHNs may, however, pursue certification in public health through the CPH credential offered by the National Board of Public Health Examiners (The National Board of Public Health Examiners (NBPHE), 2020).

Ironically, the decline in the development of faculty with the expertise to effectively teach population health nursing is happening as national academic nursing bodies are increasingly emphasizing population health as an essential competency for all nursing DNP and BSN programs (American Association of Colleges of

Nursing, 2020b; Gorski et al., 2019). A dearth of DNP-prepared nurses equipped in the APHN specialty undermines our profession's ability to adequately ground all new nurses in population health principles, even as the profession requires this. Thus, the pipeline of future nurses with an adequate understanding in population health is fragile and inadequate, even as the need for them increases and the attention to population health grows among related disciplines such as social work and medicine (Gourevitch et al., 2019; Reed et al., 2020).

Barriers to meeting the need for more APHNs

Drevdahl and colleagues identify the nursing profession itself as being at least partly responsible for the decline in APHN programs and graduates in the last decade, by not adequately recognizing the need for this specialty preparation (Drevdahl & Canales, 2018; Drevdahl & Kneipp, 2018). Similarly, Swider notes that the literature in early educational debates regarding the DNP contained "scant mention" of options for public/population-focused nursing specialty practice, focusing instead on the "practice interests of the majority in nursing, that is, those who provide direct care to individuals and families" (Swider et al., 2009). As a result, the public/population health DNP option has been dwarfed to the point of being invisible in the tremendous growth of DNP programs nationally (Doutrich & Dotson, 2012; Ervin, 2008; Levin et al., 2008a). Not surprisingly, nurses actively seeking APHN DNP programs report difficulty finding them, and assistance in being able to afford the cost of attendance is limited. Others report being unaware that such a DNP specialty exists, suggesting that marketing efforts are also inadequate (Drevdahl & Canales, 2018)

While the relatively few DNP programs in population health, community health, or public health nursing are small (Table 1); their size should not be suggestive of their degree of value to the profession and society. We expect APHN programs to draw fewer students compared to clinically focused DNP programs preparing advanced practice nurses for individual and family health care. APHN practice outcomes address health for large segments of the population via policy initiatives and population- and system-level interventions. APHNs, in partnership with communities and other professional disciplines engaged in promoting health, can potentially impact populations of thousands, millions, or more. In addition, APHNs are needed to ensure nursing input into public/population health and policy decision-making. If nurses are not available with this expertise, the nursing voice will be left out of health planning and decision-making at local, state, and national public health policy levels. We nonetheless have no recent or well-established "ratio" of APHNs per population size, aside from 2008 estimates indicating that general public health nurses are needed at a national standard of approximately one per 5,000 residents (Keller & Litt, 2008). For those with advanced practice DNP degrees, such a ratio would be expected to be even smaller (Storfjell et al., 2017). Research, thus, also needs to be conducted to determine how many APHNs are needed, and in turn to develop goals for meeting this need.

Funding for APHN programs and student support is limited. Reifsnider and Garcia (2015) contend that schools of nursing "must find ways to sustain programs" leading to advanced practice expertise in population health nursing, "despite the expectation of relatively low enrollments" (p.190). Yet, schools cannot afford to address this societal need alone. The Health Resources and Services Administration (HRSA) historically gave preference in their funding opportunity notices to grantees focused on advancing public health nursing or similar educational efforts. This has no longer appeared to be the case, as HRSA programs such as the Nurse Education, Practice, Quality, and Retention grant opportunities supporting graduate educational programs are almost entirely focused on supporting programs preparing nurse practitioners (Health Resources and Services Administration, 2020b). The same is true for HRSA's National Health Service Corps scholarship and loan repayment programs, which only fund clinical providers, such as nurse practitioners or certified nurse-midwives (Health Resources and Services Administration, 2020a). Thus, there is less external support for APHN education available to schools of nursing and their students. This decreasing support likely contributed to the decline in programs, their lack of visibility, and to the inadequate geographic distribution of programs across the United States.

In the absence of funding support from national programs, students seeking a DNP APHN education must often pay a significant portion of their tuition amounts 'out of pocket.' However, salaries for pre-graduate-level nurses working in population health specialties such as public health nursing and school nursing tend to be lower than those in hospital settings (Issel, 2016; Willgerodt et al., 2018). This wage inequity could make it particularly difficult for these nurses to have the disposable income to fund their DNP education independently. While DNP graduates from APHN programs may also work in other relatively high-paying settings, including hospitals (e.g., heading up a non-profit hospital's Community Benefit program), tuition funding support for APHNs would likely increase interest in and access to DNP APHN programs for those desiring critically important careers in under-resourced sectors.

Given the relatively few educational opportunities specific to APHN graduate nursing education, it is conceivable that nurses would increasingly seek furthering their academic preparation outside the field of nursing, e.g., with an MPH degree. We could find no such data source or literature, however, that suggests such an increase. While the Association of Schools and Programs of Public Health maintains some data regarding public health program applicants from across the United States and if they have nursing degrees, these

data are considered incomplete and inconsistent and, thereby, not reliable for examining trends (Plepys, Personal Communication, December 3, 2019). As such, we could find no apparent documented or anecdotal evidence to suggest that nurse leaders are ‘making up for’ the dearth of academic nursing programs in population health by seeking advanced specialty training in public health or other population-focused disciplines. This is particularly concerning as recent evidence suggests a beneficial relationship between the educational preparation of practicing public health nurses and county-level health outcomes (Gwon et al., 2020).

Recommendations

DNP specialty preparation in public/population health can advance the overall effectiveness of the nation’s most trusted profession (Reinhart, 2020), by educating nurses prepared to promote health among underserved populations, and work to effectively change the unjust systems that undermine health equity. We recommend the following actions to expand the pipeline of DNP-prepared APHN leaders.

Commitment to DNP APHN education

The assurance of such DNP APHN educational preparation will depend on the wide-spread availability of DNP educational programs in public/population health and the commitment of nursing schools, health systems, and national organizations to their visibility and sustainability. Without such a commitment, the growing population health movement will proceed without the valuable competencies, perspectives, experiences, and leadership that APHNs can bring to the table. A strong commitment by leading schools of nursing and national bodies, such as the AACN, HRSA, the U.S. Public Health Service, and the American Nurses Association (ANA) to helping expand such programs would serve to heighten their visibility, increase access to training, grow interest in and recognition of APHN specialty practice among emerging nurse leaders, and establish a sufficiently-sized pool and pipeline of DNP-prepared APHNs for practice and academia.

This approach would not be out of step with other health professions. Schools of medicine, for example, have responded to the need for greater attention to population health improvement by assuring that their schools are prepared to contribute to and lead population health improvement efforts and to improve health systems. New departments that address population health in U.S. schools of medicine have been rapidly emerging since 2012 (Gourevitch et al., 2019). While these departments are not uniform in their design, they address the need for academic and clinical graduate education, research, and both community and inter-sectoral partnerships to improve population health, which the academic medical community describes as bridging the gap between health care delivery systems, public health, related sectors such as housing, and the community (Gourevitch et al., 2019). Increasing DNP APHN education options could also be enhanced further where possible through interprofessional collaboration between schools of nursing and schools of public health in developing, for example, dual DNP/MPH programs (Shaw et al., 2017).

Funding support

Beyond the commitment of nursing schools, health systems, and national organizations to sustaining DNP programs in public/population health, additional funding is necessary to support students in these programs, as well as the academic centers providing them. While there are many funding opportunities for DNP students who will provide direct clinical care, there are few for public/population health nurses. We call for federal- and state-level support for scholarships, loan repayments, and loan forgiveness programs specifically targeted to DNP APHN students, such as the “Public Health Workforce Loan Repayment Act of 2020” that was introduced into the U.S. House of Representatives in April 2020 (Crow, 2020). Given the salaries for public/population health nurses often working in low-resourced sectors, it is critical that these DNP programs are financially accessible to students regardless of income and wealth levels. Support from HRSA to schools of nursing for the development and marketing of innovative and progressive DNP APHN programs would also help schools that are shouldering the financial burden of these small, but crucial graduate nursing programs.

Centralized marketing

We also call for “a more centralized and concerted marketing effort to recruit potential students into the current public/population health nursing graduate programs,” as recommended by Drevdahl & Canales (Drevdahl & Canales, 2018). Such an effort could mirror the HRSA-funded public health nurse “branding campaign” led by Baldwin and colleagues in the mid-2000’s (Baldwin et al., 2011). National marketing efforts will likely require coordination among nursing schools, health departments, public/population health nurse leaders, and national organizations such as the ANA, AACN, Council of Public Health Nursing Organizations, and the American Public Health Association (APHA) and its Public Health Nursing Section. While not all nurses and nursing students will eventually become DNP APHNs, they and the broader nursing profession should be aware of and advocating for this specialty, its value to nursing and the public, and the related educational opportunities.

Research support

Finally, increased support is needed for research regarding DNP-prepared APHNs and their practice settings and

outcomes. At present, little data exist on employment outcomes of these DNP graduates. Basic research regarding how and where they are employed would help with marketing and communication efforts. Increased research funding from foundations or federal agencies, such as the Agency for Healthcare Research and Quality and the National Institute of Nursing Research, would also support generation of the necessary evidence regarding how DNP-prepared APHNs are impacting organizations, systems, and health outcomes and to what extent the DNP-prepared APHN is value-added to an organization or team. Research into measures for the C/PHN competencies that could be universally used for guiding education programs would also serve to strengthen DNP APHN education. Similar research evidence generated regarding nurse practitioner specialties has helped drive support for clinically-focused DNP specialties and advance their specialty practice and education (American Association of Nurse Practitioners, 2020). Such evidence for DNP APHNs could encourage prospective students to pursue a DNP specialty in public/population health, expand APHN practice, and educate employers and organizations of the value of hiring APHN leaders with DNP preparation.

Conclusion

The nursing profession has been slow to support DNP preparation for APHN, despite the profession's origins in public, community, and population health (Bekemeier, 2008) and in contrast to its support for the DNP in other advanced nursing specialties. The nursing perspective, thus, risks being left out of critical intersectoral conversations regarding the directions of and strategies for public/population health. Improving population health and finding solutions at the systems level requires that all health-related disciplines, including and perhaps especially such a deeply trusted profession as nursing (Reinhart, 2020), bring their unique skills, areas of expertise, and views to problem solving and systems change. DNP-prepared APHN leaders are needed for these changes to be community-centered, trusted by the public, supported by the nursing profession, and well-integrated with traditional clinical health services. We call upon the nursing profession, policy-makers, and government agencies to strengthen APHN specialty preparation through a commitment to, funding for, marketing support for, and research investments in DNP APHN programs and students across the country.

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Author contributions

Betty Bekemeier provided primary responsibility for the conceptualization, design, development, writing, and completion of this paper. Paul Kuehnert provided substantively to the conceptualization, writing, literature review, and final preparation of this paper. Susan Zahner provided substantively to the conceptualization, writing, literature and data review, and final preparation of this paper. Katie Johnson provided substantively to the conceptualization, writing, and review of this paper. Jasmine Kaneshiro provided substantively to the writing, review, and preparation of this paper. Susan Swider provided substantively to the conceptualization, literature and data review, and final preparation of this paper.

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