Developing a Workforce for Health in North Carolina:
Planning for the Future

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Among the many trends influencing health and health care delivery over the next decade, three are particularly important: the transition to value-based care and increased focus on population health; the shift of care from acute to community-based settings; and addressing the vulnerability of rural health care systems in North Carolina.

Value-based Care and Population Health Management

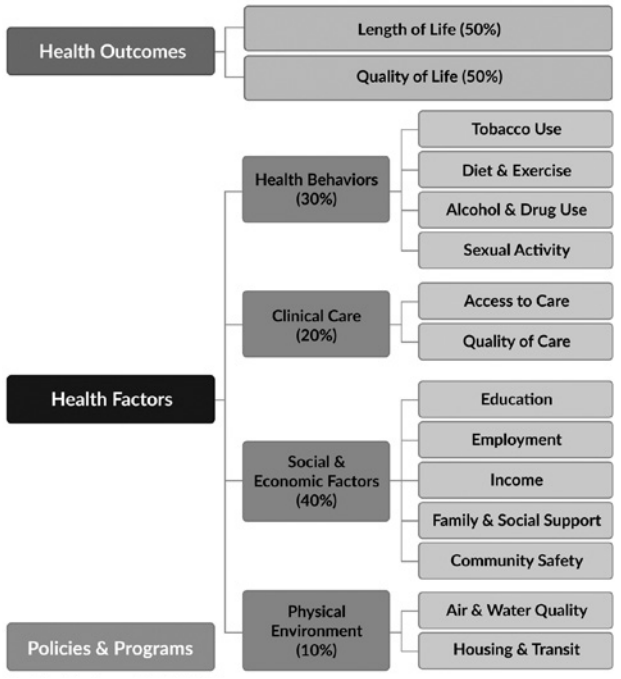
Fee for service (FFS) has long been the predominant health care payment model in North Carolina and the nation. In this model, the focus is on addressing the needs of individual patients and on the treatment of illness and disease. Payers, health systems, and state and federal governments have increasingly recognized that the FFS model is unsustainable as health care costs continue to increase and health disparities between rural and urban communities grow [1]. Payment is increasingly being tied to value and it is estimated that in the next five years, 70% of all health care payments in the state will shift to alternative payment models [2]. Concurrently, North Carolina's Medicaid program is poised to move to a managed care model that is focused on "buying health" through coordinated, whole-person care that addresses the medical and non-medical factors that influence health [2]. Under these models, providers focus on managing the health of specific populations and are held accountable for the quality and cost of care.

Value-based payment models should place greater emphasis on addressing the broader needs of the population beyond clinical care (Figure 1), including health behaviors (exercise, diet, smoking, alcohol and substance abuse), social and economic factors (food insecurity, transportation, housing, domestic violence), and factors related to the physical environment that negatively impact health and well-being. Moving from a visit-based to a population-based approach to health requires broadening our definition of who is in the health workforce. To develop a "workforce for health," the roles of patient navigators, community health workers, home health workers, community paramedics, dieticians, social workers, and other community-based workers need to be embraced [3]. A recent report from the National Academies reiterated the importance of integrating social care into health care delivery to provide better outcomes, and noted that appropriate staffing and training of an interdisciplinary workforce is essential to accomplishing this goal, along with implementing health technology innovations and new models of financing [4].

Community-based Care and Education

The transition to value-based payment combined with incentives that encourage hospitals to reduce readmissions,

FIGURE 1.
Determinants of Health



Source. County Health Rankings Model, 2014, UWPHI

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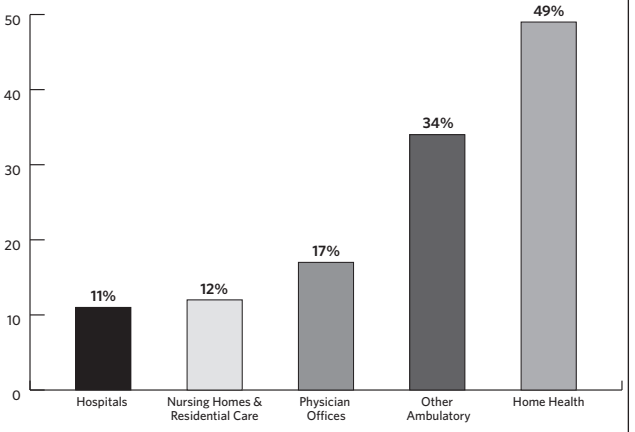
improve quality, and lower costs is steadily shifting the location of care to ambulatory, community, and home-based settings. Shifting care closer to home and emphasizing patient-centered approaches that prioritize patients' health needs have already affected, and will continue to affect, the composition and distribution of the health workforce. For example, home health jobs have grown significantly [5]. From 2007 to 2017, home health accounted for nearly half (49%) of health care job growth, compared with approximately 11% for hospitals, 17% for physician offices, and 34% for other ambulatory settings (Figure 2).

Enhanced use of technology is another area of opportunity, whether through telehealth or by leveraging artificial intelligence and data science to improve health outcomes. Telehealth has shown great promise in North Carolina. The spread of emergent telestroke services, a state-supported emergency department telepsychiatry network, and tele-intensive care are some of the more far-reaching examples of specialized care being made available in smaller hospitals and rural settings. A number of large health systems offer online 24/7 urgent care on demand, scheduled video visits, and e-consults that have reduced the need for in-person specialty care. Medicaid transformation is expected to reinforce these shifts in how care is deliverd [6].

FIGURE 2.
Health Care Job Growth by Setting, December 2007 – January 2017



Source. Turner A, Roehrig C, Hempstead K. What's Behind 2.5 Million New Health Jobs? Health Affairs Blog. March 17, 2017. http://healthaffairs.org/blog/2017/03/17/whats-behind-2-5-million-new-health-jobs

Vulnerability of Rural Health Care

North Carolina's rural population is larger than that of all states in the United States except Texas [7], and rural communities are threatened by the collapse of health care organizations. Nationally, at least 163 rural hospitals have closed since 2005 [8]. Eleven have closed in North Carolina since 2006 [8]. Rural access to health care is further threatened by the insufficient number of providers. In North Carolina, Durham County had 379 primary care physicians in 2018, while Hyde County had only one physician [9].

Shaping the Future of North Carolina's Workforce

These trends—the shift from fee-for-service toward value-based payment, the recognition that the social determinants that influence health require much greater attention, the need to locate care closer to where people live and work, and the vulnerability of rural hospitals—imply that the state's health workforce will need to change if physicians, nurses, social workers, and the many other professions and non-professionals involved in health systems are to provide the types of care that are needed by all North Carolina citizens.

Evaluate Training Investments to Improve Resource Allocation

To meet these challenges, North Carolina will need to change the way it prepares its health workforce. Leaders will need to evaluate whether investments in training programs are yielding the workforce needed to improve access to care and population health. Studies show that past investments have not had material impact on supporting a sustained pipeline of health care workers in communities that need them. For example, despite significant investments in medical school programs aimed at building a pipeline of rural primary care providers, five years after graduation, only about 2% of trainees end up in practice in primary care in rural North Carolina [10]. The gap in physician supply between rural and urban counties in North Carolina has more than doubled from six physicians per 10,000 population in 1979 to 13 physicians per 10,000 population in 2018 [11].

These data have spurred action to develop programs to address rural/urban disparities in the health workforce supply. One such promising example is the University of North Carolina at Chapel Hill School of Medicine's Fully Integrated Readiness for Service Training (FIRST). FIRST scholars are recruited from rural and underserved communities in North Carolina. They complete an accelerated three-year medical school curriculum, a three-year family medicine residency, and three years of service in rural North Carolina.

Expand Scope of Practice to Meet Patient Care Needs

State regulations that restrict the scope of practice of professionals can decrease access to health care by limiting what health care services a professional can deliver, even though they have been educated and licensed to provide that care. Given the challenges facing the state [12], it is imperative that the current and future health care workforce in North Carolina be used wisely. Most health professionals are cognizant of the boundaries that define the scope of their work and tend to stay within them. Unnecessary restrictions on nonphysician providers must be lifted, recognizing that, just as in the past, the physician workforce alone cannot meet the health and social care needs of all North Carolinians in the future.

Nurse practitioners are an immediate source for expansion of clinical providers, particularly in underserved com-

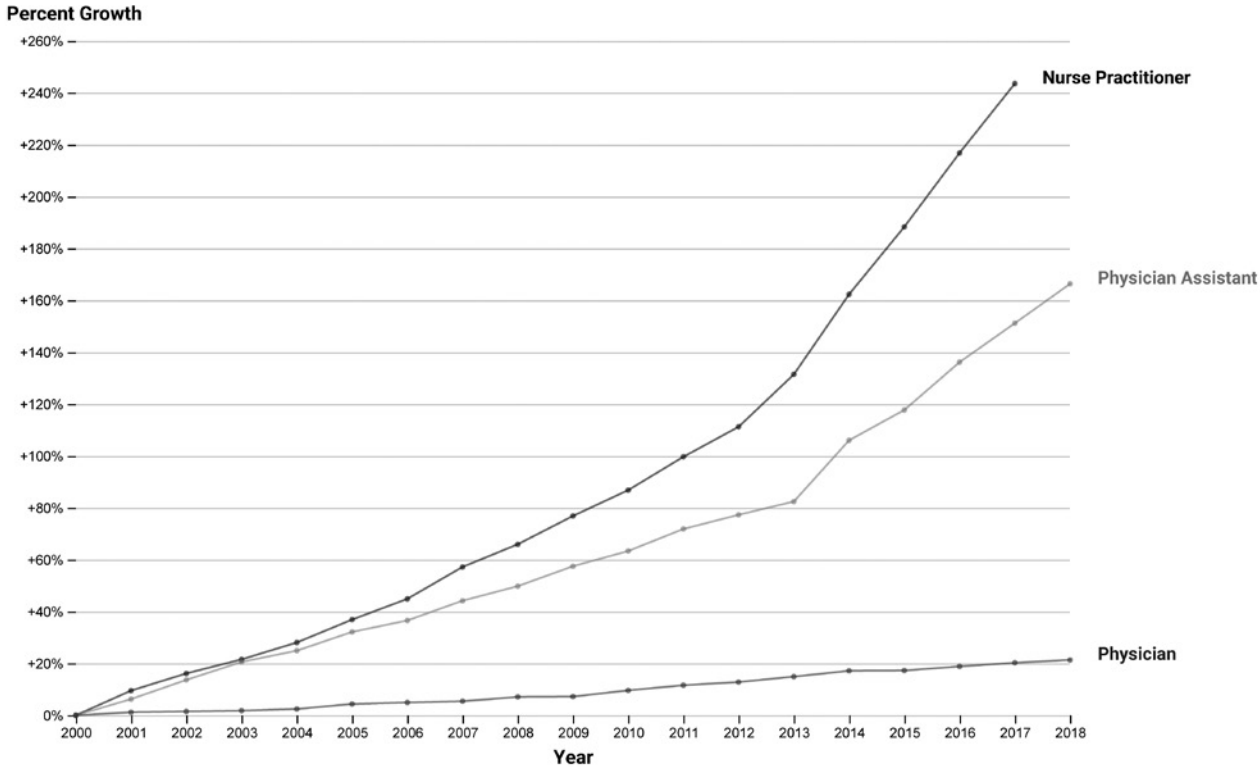
munities. While the physician workforce is still about four times the size of the nurse practitioner (NP) workforce in North Carolina, between 2000 and 2018 the number of NPs grew by 221%, compared to only 21% growth for physicians (Figure 3). During this same period, NPs expanded from 10% of clinicians in rural communities to 20% [13]. States that have lifted restrictions on NPs' scope of practice have found that primary care NPs are more likely than physicians to practice in rural areas and to take care of vulnerable populations, including those living in rural areas [14-18].

Place More Education and Training in the Community

Although the shift to value-based care is yielding more outpatient visits in community-based settings, much of clinical training today still occurs in urban and acute settings. In preparing health professionals to care for patients where they live and work, existing training programs need to be expanded and new ones created that are based in patients' homes and in ambulatory sites in the community. Expanding experiential, community-based education, like that provided by the North Carolina Area Health Education Centers (NC AHEC) program [19], will ensure that health professions students understand individual physical and mental needs in the socio-cultural context of the patient's home and broader environment. Support for creating specific rural health-related training programs is critical. Many such training programs need to begin and end in these communities, so that upon graduation, providers stay. Data show that people trained in rural settings are more likely to remain there compared with those who are not trained in these settings [8]. In addition to training programs based in rural areas, increased recruitment of students from rural backgrounds, loan repayment, and increased funding for rural medical education on the federal, state, and private level are required.

North Carolina is home to a diverse population yet our health care workforce does not reflect the cultural and linguistic diversity of the state [20]. As we focus increased attention on disparities in health outcomes and the nonmedical factors that affect health, the need to develop a workforce more reflective of the people it serves will become a priority. New and emerging roles like community health workers and community paramedics may be required to have standard training pathways and certification to be reimbursed in the future. Yet, the state will have to strike a delicate balance between standardizing and maintaining flexibility in these jobs. Community health workers and community paramedics often come from the communities they serve and their ability to tailor their functions to the needs of the local community has been critical to their success.

FIGURE 3.
Cumulative Percentage Growth per 10,000 Population Since 2000 for Nurse Practitioners, Physicians, and Physician Assistants in North Carolina



Source. The Cecil G. Shep's Center for Health Services Center, Sheps Health Workforce NC.

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Establish Novel and Flexible Interdisciplinary Approaches

If we are to thrive in the evolving value-based care system, our education system must be realigned to prepare the future workforce. Health professions students in the pipeline, the faculty who teach them, and those already in practice need to be supported in developing new skills and competencies, as well as acquiring expertise in behavioral health, geriatrics, social sciences, and environmental sciences. We will also need to design continuing education and care delivery models that allow the current workforce to gain new skills. To deliver whole-person, integrated care, primary care disciplines will increasingly need to successfully address behavioral, substance use, and oral health issues as well.

As new functions and roles emerge, interdisciplinary practice and education will become increasingly beneficial [21]. How providers communicate with each other and understand and value each other's roles will change, as will the skill mix of the teams on which they serve. For example, social workers have not typically been thought of as part of the health workforce but are now being integrated into care teams. Research shows social workers are serving in three critical roles for our patients—those of behavioral health provider, care manager, and referral specialist [22].

Conclusion

Given the strength of the state's education and health resources, we have the ability to make the changes needed to ensure a healthier North Carolina. Individually and col-

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lectively, health care systems, insurers, public and private payers, and educational and regulatory systems will need to change their thinking about health, about the factors that influence population health, and how resources are organized and located geographically to improve population health. Change can and will be resisted, but change can also lead to improvements in health as health professionals use their talents and knowledge differently to meaningfully improve the well-being of our state's most precious resource—its people. NCMJ

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