

The Health Care Education-to-Workforce Pipeline: Challenges and Changes After the Pandemic

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The pipeline from health care education to workforce through the community colleges in North Carolina has typically meant moving from the physical classroom to the in-person workplace. The pandemic created shortages of personal protective equipment and made it harder to complete clinical requirements, especially with a move to distance education. This workforce depends on continued training and pipeline development to meet growing health care needs.

Introduction

As North Carolina hopes for a return to some form of normalcy, we must make plans to address the challenges that occur in the pipeline of clinical health care workers at this stage in the pandemic. Health care systems have provided service consistently during this crisis, but have done so with a workforce burdened by long hours, mandatory overtime, and high patient-to-staff ratios. A shortage of nursing assistants, as well as a deficit in the number of nurses and other health care workers, placed a strain on health care systems as clinical beds began to fill up. Nationwide, more than 4.5 million caregivers currently provide hands-on care each day in long-term-care settings, with the National Network of Career Nursing Assistants predicting a need to fill an additional 700,000 new positions over the next 25 years [1]. Nursing assistants and nurses are needed in other health care facilities as well. With the existing shortage, plus the loss of health care workers to burnout and higher-paying jobs, this need will not be met unless development of this workforce is flexible, engaging, and consistent with current evidence in practice related to the needs of the community.

Health care is not the glamorous career often portrayed onscreen. The work can be exciting, but it is hard, stressful, and often dirty. Many entry-level nursing assistant and nursing profession positions lack the respect of other health care professionals. Certified nursing assistants (CNAs) are 91% female, frequently single moms with young children who often work two or more jobs to support their families [2]. More than 37% of CNAs receive public assistance and 15% live below the federal poverty level, as compared to only 7% of all US workers, according to PHI [2]. Nursing assistants in

the United States are 58.7% nonwhite, with about a quarter being immigrants [3]. They are at even greater risk of illness during this pandemic, which is disproportionately affecting people of color [4].

The mean national wage for a nursing assistant is \$14.83 per hour [5]. In North Carolina, the average nursing assistant wage is \$10.94 per hour [5]. Shifts are often long with varied work hours including holidays and weekends. There are also health and safety risks associated with direct patient care. Many nursing assistants chose to leave low-paying jobs during the height of the pandemic out of fear of infection, child care issues, or simply the stress of working in the pandemic. During this same time, the health education pipeline slowed to a crawl. Nursing assistant programs were put on hold because of a lack of clinical sites at which to train workers. Many certification testing sites were closed, leaving the remaining sites booked solid for months. Most recently, certification testing was moved to computer-based testing, further limiting the number of available testing sites across the state. While necessary, the timing of this change further slowed the certification process. The education of nursing assistant graduates continued, but at a much slower pace. This disconnect in the pipeline left many health care facilities critically understaffed.

Looking at just this segment of the health care workforce shows us how critical it is that we maintain the pipeline. Health care involves business, technology, cybersecurity, legal, and ethical issues as well as health-related topics. Workforce training must be comprehensive and prepare the worker for an ever-more challenging and volatile workplace.

Early Recruitment

Best practices in development of the health care workforce are constantly evolving. The first critical practice is identifying potential health care workers. Recruitment efforts into the health care workforce start early. Teachers

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begin as early as preschool to teach children about everyday, essential helpers. Education on the importance of health care continues as children go through elementary, middle, and high school. In the community college system, we have worked with the North Carolina Department of Public Instruction to offer pathways to health careers, engaging students while still in high school.

To maintain a strong health care workforce, efforts must be taken to ensure that the pipeline of students to professional practice is always open. When anything slows or stops the process, shortages occur. For example, while public school education was predominantly online, the schedule for high school allied health students who feed into the entry-level health care worker pipeline slowed or stalled completely.

The most prominent direct care workforce shortage exists today in the CNA population. Encouraging people to pursue this much-needed field is difficult. This career provides a wage and a good job outlook, but the salary is very low, and the work is very hard. Many people who successfully complete the CNA track and pass the exam do not enter the workforce. In addition, many new nursing assistants find that the job is not what they expected, and they leave the field entirely.

The community college system in North Carolina partners with our local high schools to provide college and career readiness classes that attract people to the health care field, including specialties such as CNA, EMT, and pharmacy technician. Available courses depend on the local course offerings and community workforce needs. Many transfer pathways are also available. But when the COVID pandemic reached the point of restrictions and shutdowns, community college education in critical direct health care tracks quickly switched to online. In addition to the challenge of a nursing faculty shortage (the national vacancy rate is 7.2% and tens of thousands of qualified applicants are turned away [6]), nearly 70% of nursing educators had never taught online [7]. Students struggled to adapt to the distance-learning format, and program outcomes slowed due to the demand for online learning platforms. Reporting suggests that many college students were completely overwhelmed by the abrupt switch to online learning [8]. Perhaps the hardest part of the transition remained clinical education. Much of basic care education and classroom activity for nursing assistants occurs in long-term-care settings. All nursing homes were restricted, with no students allowed, while acute care facilities decreased the number of student placements, with some suspending clinical education completely. Educators express concern that lack of clinical experience hours will slow the pipeline of health care professionals just when we need them most [9]. During online learning, clinical education objectives were met in small group simulation labs that were staggered to ensure student and faculty safety. Students learned through case studies, virtual laboratory exercises, and virtual simulation [10].

This pandemic experience has taught us many things about educating health care workers. Simulation coupled with effective debriefing is an excellent learning opportunity. While limitations on clinical experiences can be handled with on-campus clinical, virtual study, and simulation activities, in-person patient experience is critical to the transition of health care professionals to the workplace. Incorporating students into pandemic response served to educate them while alleviating some workflow issues. Our local community colleges participated in vaccine clinics across the state, helped with intake at COVID screening clinics and outside of long-term care facilities, and some even helped to screen hospital staff at temperature-check stations. Community college and local university partners collaborated to provide support at a large vaccine clinic held in Fayetteville. The Carolina COVID-19 Student Services Corps participated in multiple vaccination events serving the campus and community in Chapel Hill [11].

Health programs in the community college system have overall maintained consistent enrollment, with some areas seeing much more interest in their programs. People from all walks of life, including those placed out of work during the pandemic, have migrated toward health-care-related professions. The American Colleges of Nursing (AACN) report a 5.6% increase in baccalaureate nursing admissions, 4.1% increase in masters-level admissions, and 8.9% increase in doctoral admissions nationwide [12]. As restrictions continue to lift, maintaining the support services to allow these potential and current students to remain in school is critical. Child care, housing, and food supplementation services should continue for those seeking health services education to maintain the pipeline of professionals.

Lack of support services is not the only barrier to the success of health programs. Nursing professions, including both unlicensed nursing assistants and licensed nurses, have seen a shortage of educators in recent years. This shortage must be addressed to continue to provide opportunity to interested students. Diversity in educators and students is also critical to maintaining an effective pipeline. Nursing leaders are aware that there is a strong connection between a culturally diverse workforce and culturally competent patient care. The lack of minority educators may signal to potential students that nursing does not value diversity [13]. Students need role models who represent them.

Workforce Challenges

While most people are returning to somewhat normal routines as pandemic restrictions begin to lift, many health care workers are tired, burned out, and disillusioned. The lack of people willing to become a part of the health care workforce only exacerbates this problem. Emergency responders and direct care workers such as EMTs and CNAs are continuing to enroll in training programs, but at the same time there has been a decrease in emergency services volunteerism. This results in a decrease in young people entering the emer-

gency services workforce. While CNAs continue to be in great demand, many who train for that career do not enter the workforce. The CNA workforce is in an especially dire situation, as many CNAs left the clinical environment during the pandemic due to concerns of becoming infected, spreading infection to their family, child care concerns, and/or low pay and difficult working conditions. As a result, nurses, CNAs, and other clinical staff, especially in small, rural hospitals and clinical facilities, have been asked to work with greater flexibility. Many have been cross-trained to function in secondary clinical units. Most nurses and CNAs work in understaffed conditions that seem less than safe to prospective new hires. Earlier in the pandemic, as many health care workers left the workforce, some health sciences students withdrew from our community college programs due to the stress of the pandemic, economic and social needs, as well as the struggle of educating school-aged children at home.

As pandemic restrictions lift and children return to school or other care arrangements, health sciences students are returning to health programs. Workers who left other professions, self-employment, or service employment are seeking higher levels of education. The pipeline of health care workers will continue to include the traditional college student, though the education itself will look different. Students will need education that prepares them for a changing health care environment requiring greater emphasis on infection control and emergency preparation. Students will need to learn telemedicine techniques, flexibility in work role within their scope of practice, and a greater emphasis on interdisciplinary practice, including foundational public health education.

There will also be another kind of student, though: a student from a less traditional background—the restaurant worker who always wanted to be a nurse, the actor who always wanted to be a paramedic, moms who want the flexibility of shift work to allow for more home time with children. People from all walks of life will pursue those dreams that, before the pandemic, seemed far away. To accommodate the nontraditional student, colleges will need to provide remedial coursework and tutoring as well as social and psychological support services to promote success.

Finally, many nurses and CNAs are seeking higher education as well. Nursing programs nationwide are providing various nursing progression opportunities online and to working adults, in an effort to ease the care provider shortage. This uplift, unfortunately, deepens the shortage of nurses available for clinical practice.

Plans are in the works to address these health care workforce challenges. Federal tax credits and child care credits are aimed at easing some of the social stressors of all workers. Congress passed the Geriatrics Workforce Improvement Act in 2018, funding a program to train health care workers in the care of geriatric patients. This funding will bring \$45 million per year to this program through 2023 [14]. The Title VIII Nursing Workforce Reauthorization Act will fund nursing education for students in rural or under-

served areas. The Senate Health, Education, Labor and Pensions (HELP) subcommittee met in May to discuss the development of a bipartisan plan to address the health care workforce crisis. In North Carolina, Governor Roy Cooper has directed \$51.4 million in new funding to help students go back to school as the state recovers from the COVID-19 pandemic [15]. Approximately \$44 million of that will go toward college access, while \$5 million will support mental health initiatives [15]. As of this writing, there are two bills in the North Carolina General Assembly (HB 914 and SB 610) aimed at improving the pay of direct care workers. While there is no one solution that will address all of the challenges in our health care workforce pipeline immediately, there is growing support for aiding our health care students and professionals in the future. More data will need to be collected and evaluated to help lawmakers, educators, and employers formulate plans of action for the future. **NCMJ**

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References

1. National Network of Career Nursing Assistants. Career Nursing Assistants. CAN-Network.org. Accessed August 9, 2021. <https://cna-network.org/career-nursing-assistance/>
2. Israelsen-Hartley S. Did it take a pandemic for us to notice certified nursing assistants? Deseret News. Published July 15, 2020. Accessed August 9, 2021. <https://www.deseret.com/in-depth/2020/7/15/21318859/coronavirus-nursing-homes-certified-nurse-assistants-covid-19-inequality-medicine-coronavirus>
3. Data USA: Nursing Assistants. DataUSA.io. Accessed August 9, 2021. <https://datausa.io/profile/soc/nursing-assistants#demographicshttps://covid19.ncdhhs.gov/dashboard/cases-demographics>
4. Artiga S, Corallo B, Pham O. Racial Disparities in COVID-19: Key Findings from Available Data and Analysis. Kaiser Family Foundation. August 17, 2020. Accessed June 24, 2021. <https://www.kff.org/report-section/racial-disparities-in-covid-19-key-findings-from-available-data-and-analysis-issue-brief/>
5. US Bureau of Labor Statistics. Occupational Employment and Wages, May 2020. BLS.gov. Updated March 31, 2021. Accessed August 9, 2021. <https://www.bls.gov/oes/current/oes311131.htm>
6. Grainger L. Nursing faculty shortage in the U.S.: Has a pandemic compounded an existing problem? WoltersKluwer.com. Published February 25, 2021. Accessed August 9, 2021. <https://www.wolterskluwer.com/en/expert-insights/nursing-faculty-shortage-in-the-us>
7. Abbott E. Students and teachers struggle with remote education due to coronavirus. The Hill. Published April 20, 2020. Accessed August 9, 2021. <https://thehill.com/changing-america/enrichment/education/493698-students-and-teachers-struggle-with-remote-education>
8. Feder Ostrov B. In the Face of Coronavirus, Many Hospitals Cancel On-Site Training For Nursing And Med Students. Kaiser Health News. Published March 17, 2020. Accessed August 9, 2021. <https://khn.org/news/in-face-of-coronavirus-many-hospitals-cancel-on-site-training-for-nursing-and-med-students/>
9. Fogg N, Wilson C, Trinkka M, et al. Transitioning from direct care to virtual clinical experiences during the COVID-19 pandemic. *J Prof Nurs.* 2020;36(6):685–691. doi: 10.1016/j.profnurs.2020.09.012
10. Williams H. Physician Assistant Studies Students Mobilize COVID-19 Vaccine Efforts in Chapel Hill. UNC School of Medicine. Published February 9, 2021. Accessed August 9, 2021. <https://www.med.unc.edu/ahs/unc-pa/2021/02/physician-assistant-studies->

- students-mobilize-covid-19-vaccine-efforts-in-chapel-hill/
11. Student Enrollment Surged in U.S. Schools of Nursing in 2020 Despite Challenges Presented by the Pandemic [news release]. Washington, DC: American Association of Colleges of Nursing; April 1, 2021. <https://www.aacnnursing.org/News-Information/Press-Releases/View/ArticleId/24802/2020-survey-data-student-enrollment>
 12. American Association of Colleges of Nursing. Fact Sheet: Enhancing Diversity in the Workforce. AACNNursing.org. Updated April 1, 2019. Accessed August 9, 2021. <https://www.aacnnursing.org/News-Information/Fact-Sheets/Enhancing-Diversity>
 13. Daly R. Healthcare Workforce Shortage Worsening: Senators. Healthcare Financial Management Association. Hfma.org. Published May 22, 2018. Accessed August 9, 2021. <https://www.hfma.org/topics/news/2018/05/60811.html>
 14. Governor Cooper Announces \$51.4 Million in Education Grants, New Financial Aid Program [news release]. Raleigh, NC: Office of the Governor; May 24, 2021. <https://governor.nc.gov/news/governor-cooper-announces-514-million-education-grants-new-financial-aid-program>