

North Carolina Trends in Nursing Education and the Nursing Workforce

Disclosure Statement — The following disclosure applies to the NCBON continuing nursing education article entitled, “North Carolina Trends in Nursing Education and the Nursing Workforce.” Participants must read the CE article, online reference documents (if applicable), and reflect on the reflection questions to earn CE contact hours. Verification of participation will be noted by online registration. Neither the author nor members of the planning committee have any conflicts of interest related to the content of this activity.

Provider Statement — The North Carolina Board of Nursing will offer **1.0** contact hour for this continuing nursing education activity.

The North Carolina Board of Nursing is approved as a provider of nursing continuing professional development by the North Carolina Nurses Association, an accredited approver by the American Nurses Credentialing Center’s Commission on Accreditation.

Learning Outcome: Nurses will gain an increase in knowledge of state regulations governing pre-licensure nursing education programs and the relationship between nursing education and the nursing workforce.

EARN CE CREDIT

INSTRUCTIONS

Read the article, online reference documents (if applicable), and reflect on the questions listed under “Reflection Questions” sections of this article.

EARN CONTACT HOUR CERTIFICATE

Go to www.ncbon.com and scroll over “Education”; under “Continuing Education,” select “Board Sponsored Bulletin Offerings,” scroll down to link, “North Carolina Trends in Nursing Education and the Nursing Workforce.” Register. Be sure to write down your confirmation number, complete and submit the evaluation, and print your certificate immediately.

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Registration deadline is 07-01-2024

Licensed nurses account for the largest profession in the healthcare workforce globally (Drennan and Ross, 2019) and as such provide much of the care rendered to people in various states of wellness. Despite nursing being the dominant profession providing healthcare services to North Carolinians, the Tarheel State is not immune to the increasing healthcare needs of its citizens. According to NC Nursecast, a web-based, interactive workforce model that forecasts the future supply and demand for RNs and LPNs, North Carolina (NC) is poised to face a shortage of 12,500 nurses by 2033. The nursing workforce is essential to not only

maintaining but improving the health and well-being of citizens of the state of NC. According to G.S. 90-171.20 (4), nursing is defined as,

“... a dynamic discipline which includes the assessing, caring, counseling, teaching, referring, and implementing of prescribed treatment in the maintenance of health, prevention and management of illness, injury, disability or the achievement of a dignified death. It is ministering to; assisting; and sustained, vigilant, and continuous care of those acutely or chronically ill; supervising patients during convalescence and

rehabilitation; the supportive and restorative care given to maintain the optimum health level of individuals, groups, and communities; the supervision, teaching, and evaluation of those who perform or are preparing to perform these functions; and the administration of nursing programs and nursing services”.

Such a dynamic profession is essential to uplifting the wellness of individuals, groups, and communities. However, the health of our state and country are contingent on there being enough competent nurses to sustain health promoting initiatives. The National Academies of Medicine’s Future of Nursing 2020 – 2030 report highlights the importance of nursing in the health of the nation stating, “...strengthening the nursing workforce is one of the key areas that will enhance nursing’s role in addressing SDOH [social determinants of health] and improving health and health care equity” (p. 60). The NC nursing workforce is so intricately tied to the North Carolina Board of Nursing (NCBON) mission of public protection, the NCBON sponsored the research supporting the NC Nursecast modeling tool. The Cecil G. Sheps Center’s Program on Health Workforce Research and Policy team, developed NC Nursecast in collaboration with the NCBON. Additionally, the NCBON routinely collects information from pre-licensure nursing education programs to better understand the potential new nursing supply to the nursing workforce. Data from the Annual Education Trends Reports will be explored further in this article.

The Connection between Nursing Regulation and the Nursing Workforce

The NCBON is committed to ensuring the citizens and visitors to NC are afforded protections from those individuals providing nursing care within its geographical boundaries. Paramount to supporting the mission of the NCBON are the nursing education programs that matriculate the nurses of tomorrow. The NCBON has jurisdiction over all pre-licensure nursing education programs operating in the state of NC. Those include nursing education programs leading to initial licensure as a practical nurse or a registered nurse. There are

over 135 pre-licensure nursing education programs across the state of NC. Each has its own unique identity, yet all have a common goal of graduating individuals that can demonstrate minimal competency to practice as a licensed nurse.

This common goal binds nursing regulation, in particular nursing regulation of education programs, with nursing workforce data. Understanding the supply and demand of nursing professionals is necessary for effective strategic planning for nurse regulators, clinical agencies, policy makers and educators. A thorough understanding of trends in nursing education is a key component of the workforce conversation. The NCBON has recognized the importance of disseminating data on trends in nursing education since the early 2000s. At that time, the North Carolina Center for Nursing served a vital role in gathering data about workforce trends to inform decision makers.

In 1991, NC became the first state in the nation to fund an agency whose mission of overseeing and ensuring adequate nursing resources to meet the health care needs of the citizens of NC was explored. The work of the NC Center for Nursing was a key predecessor to the work the Cecil G. Sheps Center has performed in recent years. Unfortunately, the shortages forecasted by the NC Center for Nursing decades ago are now being realized and are projected to extend through 2033 according to NC Nursecast.

Reflection Questions

Do you perceive nursing workforce challenges in your workplace? If so, how are these challenges manifested in your daily work?

In your view, how does the nursing workforce influence the health of NC citizens and visitors?

The Laws and Rules Impacting Nursing Education

Nursing workforce data is essential to ensuring the public health of our state. According to Dr. Erin Fraher, Director of the Carolina Health Workforce Research Center, “One way to protect the public is to ensure they have access to licensed providers. One way to help in this goal is to have an understanding of the current workforce (numbers) and project what the workforce may look like in the future (NC Nursecast study)” (Personal Communication, November 17, 2021). The NCBON recognizes its essential role in supporting the sustained pipeline of nurses for the state of NC. “The General Assembly of North Carolina finds that mandatory licensure of all who engage in the practice of nursing is necessary to ensure minimum standards of competency and to provide the public safe nursing care” (G.S. 90-171.19). According to Fukada (2018), competence is “an ability acquired through experience and learning” and a holistic view of competency suggests that [minimum] competency is ascertained through the acquisition of nursing knowledge, skills, abilities, and attitudes as delivered through a structured curriculum (p.1). The NCBON is authorized through enactment of the Nursing Practice Act to promulgate and enforce necessary regulations to support the competence of those seeking to enter the profession of nursing. Specifically, G.S. 90-171.23(b)(8), (9), and (10), state the NCBON has the duty to:

- Establish standards to be met by the students, and to pertain to faculty, curricula, facilities, resources, and administration for any nursing program as provided in G.S. 90-171.38;
- Review all nursing programs at least every eight years or more often as considered necessary by the Board or program director; and
- Grant, deny, or withdraw approval for nursing programs as provided in G.S. 90-171.39.

The Nursing Practice Act provides the foundation for every function and duty carried out by the NCBON and “licensing a professional sends

a clear message to the public that the individual holding a license has satisfied necessary academic requirements and has met minimum entry-level standards of competency before being approved to practice in that profession” (Privette, 2018). The Nursing Practice Act is further clarified through NC Administrative Code (Rules) which are developed by the Board and provide the details necessary to support implementation of and adherence to the laws. Title 21, Chapter 36, Section 300 of the NC Administrative Code contains many of the rules that govern pre-licensure nursing education programs in the state.

The Role of the Board of Nursing in Nursing Education Regulation

The NCBON approves and monitors pre-licensure nursing education programs in North Carolina. According to Spector et al. (2018), “the purpose of BON program approval is to ensure the program comprehensively covers the knowledge and skills that students will need to be licensed..., and to practice safely and competently as new graduate nurses” (p. 22). The road to obtaining a nursing license in the US has two main requirements: 1) to complete a Board of Nursing approved nursing education program, and 2) to pass the NCLEX™ (PN or RN) depending on educational preparation (Spector et al., 2018).

The NCBON engages in a rigorous review process for institutions of higher learning seeking approval to establish a new pre-licensure program in NC. Requirements as outlined in the previously referenced North Carolina Nursing Practice Act (NPA) and 21 NCAC 36. 0302 and 21 NCAC 36. 0303 of the North Carolina Administrative Code specify the minimum requirements for the initial and ongoing Board approval of nursing education programs. The minimum standards as outlined in law and rule are grounded in research and sound educational principles. The following list (NCSBN, 2012 as adapted from Spector et al., 2018) highlights key evaluative criteria assessed by nursing regulators in the initial and ongoing approval of nursing education programs.

- The governing entity: Nursing specialty

accreditation, regional accreditation, the requisite state approvals, and the institution's support of the education program.

- Program leadership: The qualifications and stability of the program directors and their authority to make changes in the program.
- Faculty: Qualifications and responsibilities; policies; organization of faculty, such as bylaws, committee structure, and how they conduct business.
- Curriculum: Teaching strategies and the basic elements of the nursing education program.
- Clinical learning experiences: Sufficient numbers of supervised clinical experiences with actual patients; labs and simulation experiences; faculty evaluation of students' clinical experiences.
- Physical and fiscal resources: Sufficient facilities and budget for size of student body.
- Evaluation plan: An ongoing plan for quality improvement.

Program faculty are especially important in the evaluation of program approval as faculty qualifications such as experience, FTE status (Odom-Maryon et al., 2018), and tenure of employment (Spector et al., 2018) have all been found to influence overall program performance. In the context of the nursing workforce, having well qualified faculty sufficient to meet the educational and developmental needs of students is essential to securing the nursing workforce pipeline.

Reflection Questions

Think about the referenced law (Nursing Practice Act), North Carolina Administrative Code – Rules (21 NCAC 36. 0302 and 21 NCAC 36. 0303), and role of the NCBON. Reflect on how these combined resources support minimum nursing competency, safe nursing care, and the nursing workforce.

Reflect on opportunities for which education consultation may be beneficial.

Requirements for Nursing Faculty in North Carolina

The importance of educators in our society cannot be overstated. They inspire, encourage, and mentor students to expand their capacity and desire for knowledge. They facilitate professional and personal growth which ultimately enhance one's society. Nurse educators seek to foster the intellectual and analytical capacity of students while cultivating a caring, compassionate spirit culminating in graduates who are competent nursing clinicians. The NCBON has established reasonable, evidence based standards for nurse educators teaching pre-licensure nursing students in NC. 21 NCAC 36. 0318 details the academic and work experience required of nursing education faculty in pre-licensure nursing education programs. The list below paraphrases those requirements.

- Active, unencumbered license to practice as a registered nurse in NC;
- Hold a baccalaureate in nursing or a graduate degree in nursing if employed in a part-time capacity;
- Two years of full-time experience as a registered nurse;
- If employed in a full-time faculty position, hold a graduate degree upon hire or earn one within the first 5 years of employment;
- Within the first three years of employment have education in teaching and learning principles;
- Maintain competence in the areas of assigned responsibility; and
- Have knowledge of current nursing practice.

These requirements highlight the minimum standards required of educators who are charged to teach the next generation of licensed nurses. According to Aldebron and Allan (2010), there is widespread support amongst lead organizations within the nursing community to include national nursing accrediting bodies, academicians, and professional organizations on the need for graduate-prepared faculty in nursing education programs. The National Council of State Boards of Nursing (NCSBN) Model Rules call for RN program faculty to be experientially and academically

qualified with a minimum of a graduate degree (NCSBN, 2012; NCSBN, 2021). The National League for Nursing (NLN) has consistently advocated to position nurse educator preparation at the doctoral level (NLN, 2013) recognizing that the practice of teaching is learned through graduate preparation (NLN, 2017) and according to the National Advisory Council on Nurse Education and Practice (2020), “PhD-prepared nurses and nurse scientists are the predominant human capital necessary to educate new nursing students” (p. 11). There is wide consensus that, “the quality of the faculty is at the core of a successful nursing program,” (Spector et al., 2020, p. 40), however, the lack of qualified faculty is the primary reason that 80,000 qualified applicants to pre-licensure nursing education programs in the US were denied admission, according to the American Association of Colleges of Nursing’s (AACN) report on 2019-2020 Enrollment and Graduations in Baccalaureate and Graduate Programs in Nursing (AACN, 2020). It is with this understanding that the NCBON seeks to better understand the ongoing needs of NC pre-licensure programs to matriculate and graduate students to strengthen NC’s nursing workforce.

student population and the programs in which those students are enrolled in NC. The report provides some insight into the supply of new nurses that may contribute to the nursing workforce in NC. All the analyses in the Trends report are based on self-reported data collected by the NCBON during October of each year. The survey instrument used by the NCBON has been revised for the 2022 data collection period. The benefits of this change are that the quality and quantity of information about NC nursing education programs will be aligned with other Boards of Nursing enabling NC to contribute to the first-ever national nursing education database. With an understanding that the revisions will make trend analysis prior to 2022 less likely, this article serves to highlight some of the trend data over the last ten years. To view individual Education Annual Reports, please visit the NCBON website (www.ncbon.com).

The graphs and tables presented in this report detail the number of qualified applicants, qualified applicant admissions, and how those numbers have changed since 2011; current enrollment figures and trends in enrollment; trends in total graduates over time, and finally, a section describing aspects of our nursing education faculty and faculty vacancies trended over time. While these figures do not represent the entirety of the data collected over the years, these figures serve to provide additional context around North Carolina’s current and future positioning in the delivery of healthcare to NC citizens.

The education annual reports examine the number of individuals seeking entry into pre-licensure nursing education programs across NC. The demand for entry into nursing school greatly outpaces the capacity of nursing programs as interest remains high in all types of nursing programs. Year after year, there are more than 12,500 qualified applicants to pre-licensure nursing education programs in NC. However, when looking at these figures, there is likely some duplication in the counts of applicants since many nursing students apply to more than one program to increase their odds of acceptance. However, consistent with national data (AACN, 2018; AACN,

Reflection Questions

In addition to providing clinical experiences, how might your organization collaborate with pre-licensure nursing education programs to contribute to solutions for addressing nursing workforce needs?

What innovative opportunities exist to support nursing faculty in your current role?

What innovative opportunities exist to strengthen and grow the nursing workforce in NC?

North Carolina Trends in Nursing Education

Understanding trends in nursing education is a key component in strategic planning for the nursing workforce. The NCBON Education Trends report examines characteristics of the nursing

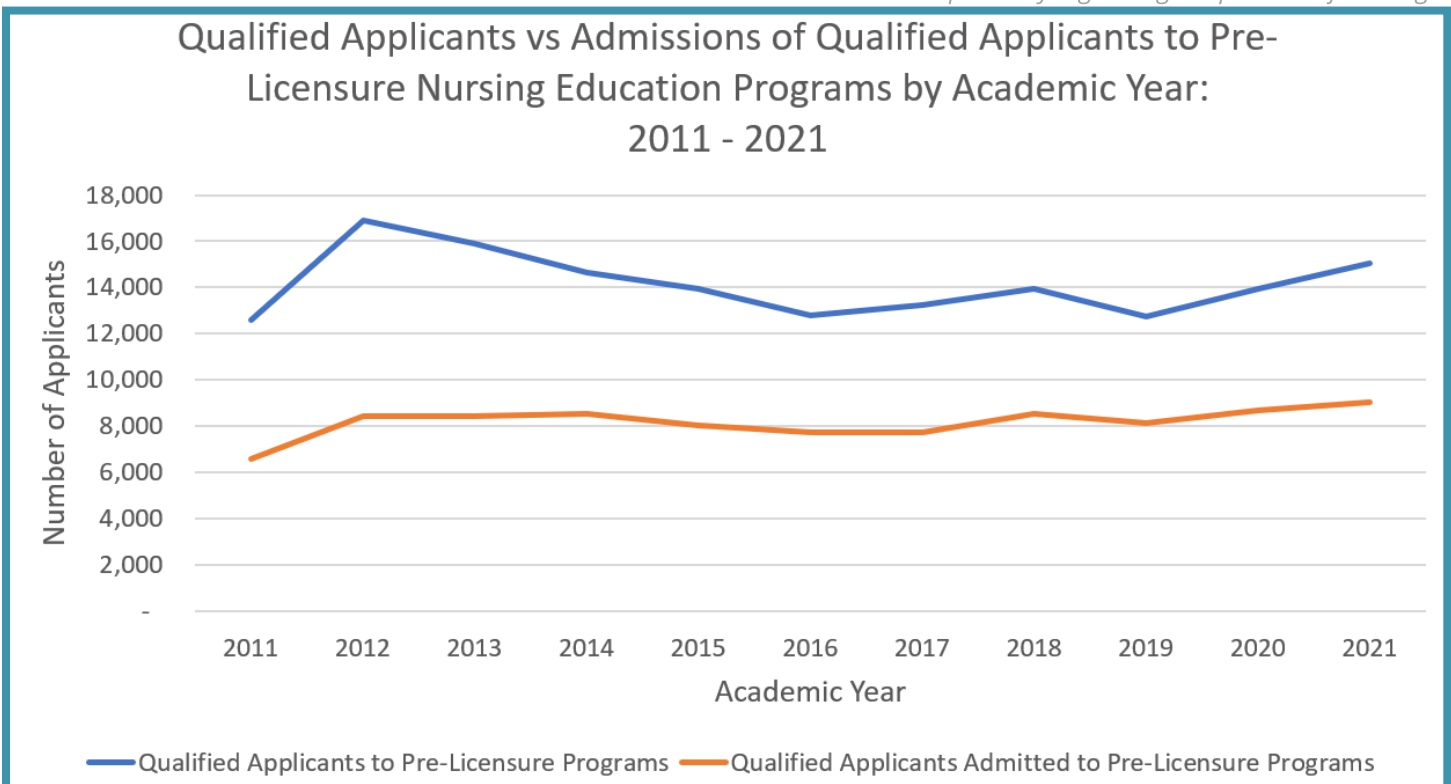


Chart 1 | *Qualified Applicants vs. Admissions of Qualified Applicants to Pre-Licensure Nursing Education Programs* | 2011-2021

2020), most pre-licensure nursing education programs have not been able to admit all qualified candidates. In NC, programs have only been able to admit an average of 58% of their qualified applicants over the last decade as shown in Chart 1 (above).

While approximately 1/3 of qualified applicants are denied admission to pre-licensure programs each year, only a fraction (approximately 85%) of those admitted, actually enroll in a nursing program. This further decrease in the applicant pool hampers NC's ability to cultivate a nursing workforce sufficient to meet our present and future healthcare needs. Despite these challenges, it is notable that the total overall enrollment of nursing students continues to trend upward as noted in Chart 2. Between 2011 and 2021 there was an 8% increase in student enrollment (Academic Year [AY] 2011, n=10,502 and AY 2021, n=11,335) which outpaces national figures which show pre-licensure programs experienced a 5% increase in student enrollment over the last 15 years (AACN, 2020a). The increase in student enrollment has translated into a 45% increase in the overall number of graduates from pre-licensure nursing education programs in NC over the same time as demonstrated in Chart 3 (AY 2011, n=3775 and AY

2021, n=5495). Notably, for academic years 2020 and 2021, NC programs graduated close to 5,500 students, the highest levels recorded. This is a testament to the commitment of nursing faculty, students, and institutional administrations to persevere during a world health crisis to ensure the vital pipeline of new nurses was sustained during the height of the COVID-19 pandemic.

Despite the growth in nursing student enrollment and graduates from pre-licensure nursing education programs, it remains important to assess the impact of nursing faculty on these figures. While formalized research is needed to ascertain the full impact of nursing faculty on student graduation rates, some tentative, yet unconfirmed associations are made based on the demographic data available. In North Carolina, total faculty vacancies may initially appear stable over the past decade (AY 2011, n= 300 and AY 2021, n = 304), however, Chart 4 reveals that there has been lability in faculty vacancy rates.

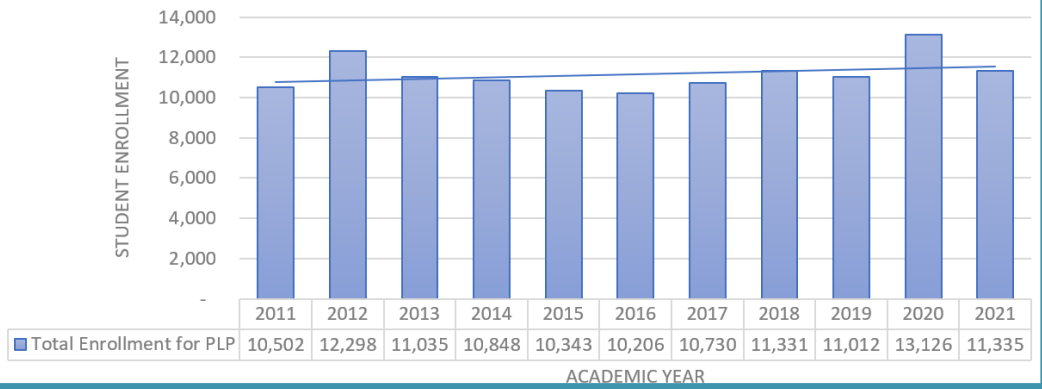
Faculty vacancy is defined as a vacant position for a faculty member that is being actively recruited as of the Fall Term Census Date which is October 1. (NC Trends in Nursing Education 2011 – 2021). Faculty vacancies have been cited as a

Chart 2

Total Student Enrollment in Pre-Licensure Programs by Academic Year

2011 – 2021

Total Student Enrollment in Pre-Licensure Programs by Academic Year: 2011 - 2021



Total Graduates from Pre-Licensure Programs by Academic Year

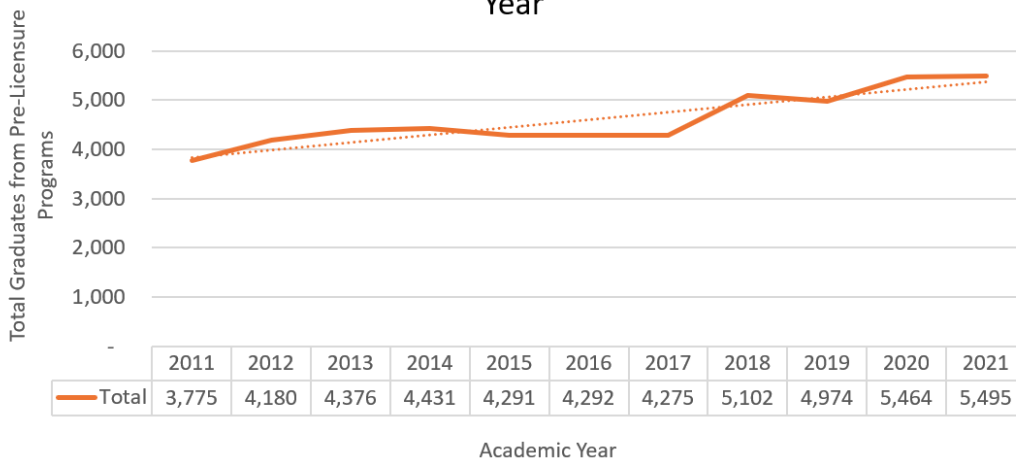


Chart 3

Total Graduates from Pre-Licensure Programs by Academic Year

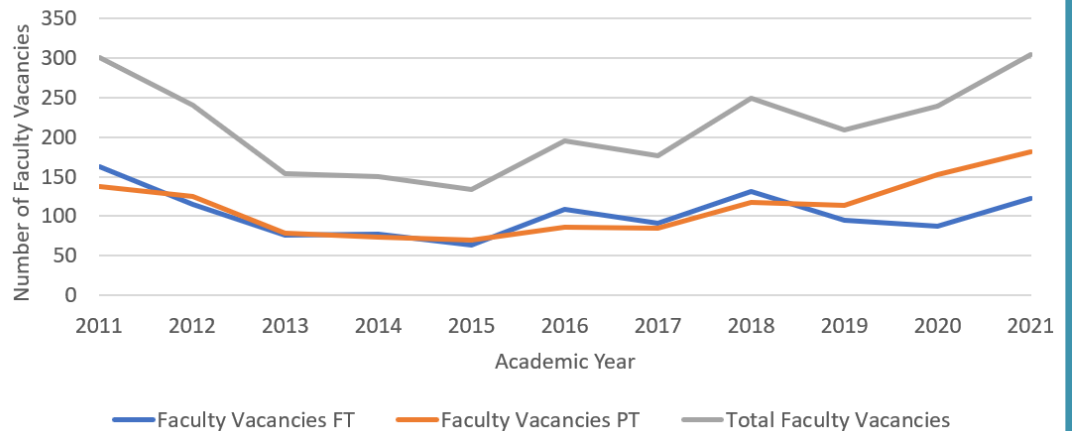
2011 - 2021

Chart 4

Faculty Vacancies by Academic Year

2011 – 2021

Faculty Vacancies by Academic Year



contributing factor to the inability to admit, matriculate, and graduate nurses (Berent & Alderko, 2011; Gazza, 2019). Faculty vacancy trends in NC over the last decade reveal a decrease in the number of vacancies from 2011 through 2015, with an overall increase in the number of vacancies from 2016 to 2021. Part-time vacancies outpaced full-time vacancies in more recent years. In comparison to student enrollment and graduation from pre-licensure programs, the decrease in the number of faculty vacancies may coincide with a slight increase in the number of student graduates from 2011 to 2014 showing an inverse relationship between these variables. As faculty vacancies began to increase in 2015, growth in student enrollment was less robust, and graduation rates plateaued. In 2017, part-time faculty vacancies began to increase steadily, however, full-time faculty vacancies increased slightly from 2017 to 2018 and then trended downward until 2021. Consistent with earlier years in this review, as full-time faculty vacancies trend downward, graduation rates increased, highlighting the importance of full-time faculty for the successful, sustained supply of new nurses contributing to the nursing workforce in NC.

Implications for Nursing Education

It is noted that faculty are not only important to the overall nursing workforce, but the quality of those programs is inextricably rooted in having sufficient, qualified faculty. According to a 2020 NCSBN mixed methods study of nursing education program performance, the presence of full-time faculty positively influences nursing program quality. Specifically, programs whose full-time faculty account for at least 35% of all employed nursing faculty are more likely to reach 80% pass rate on the NCLEX-RN and maintain Board approval (Spector et al., 2020). This same study also found that faculty with at least some fundamental training in pedagogy also contributed to higher quality programs (Spector et al., 2020). Recall, that NC requirements for faculty qualifications support full-time faculty and require formal education in adult teaching and learning principles. Therefore, we must support nurse educators in their continued development in the

art of educating NC's nurses of tomorrow while giving thought to enhancing their future availability.

Consistent and viable strategies to recruit and retain qualified nursing faculty continue to be at the center of ongoing efforts to support pre-licensure nursing education. However, ideas must address the contributing factors underlying the faculty deficit to be effective. The National Advisory Council on Nurse Education and Practice's 17th report (2020) highlighted some of the contributing factors to the faculty shortage including noting that faculty salaries were not competitive with the salaries of nurses in traditional practice settings, dissatisfaction with workloads and tenure track demands leading to burnout, poor understanding of the impact the role has on the development of competent nurses and the nursing workforce, and a lack of diversity among the nurse faculty workforce. To remedy some of these challenges, the NC legislature charged the UNC Board of Governors and State Board of Community Colleges to study and provide recommendations to the Joint Legislative Education Oversight Committee and Joint Legislative Oversight Committee on Health and Human Services on methods and a timeline for increasing the number of nursing graduates at constituent institutions by at least 50% (HB 103 Section 8.3). This charge provides NC with an opportunity to outline long-standing challenges regarding recruitment and retention of nursing faculty and to think strategically about a comprehensive plan to address the needs of nursing education programs and support sustainable growth in nursing graduates for the state.

Conclusion

This article describes how the NCBON regulates pre-licensure nursing education programs and details the intimate relationship between nursing education and the nursing workforce, with particular emphasis on the role of nursing faculty as an influencer on the nursing workforce. It is important to address the multifaceted underlying causes that have contributed to the nursing workforce challenges of

today and tomorrow. The NCBON, as the regulatory authority for pre-licensure nursing education, is poised to work with all applicable stakeholders to draft feasible recommendations and regulations that align with the evidentiary record while working with academic and industry leaders to explore creative strategies that protect the health and welfare of all North Carolinians and enhance the nursing workforce to meet the needs of NC healthcare consumers.

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Reflection Questions

What creative strategies can NC undertake to increase the number of nursing graduates without compromising program quality?

Reflect on your career as a nurse and how your nursing education has contributed to your career path.

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