The NCSBN 2023 Environmental Scan:
Nursing at a Crossroads—An Opportunity for Action

National Council of State Boards of Nursing
**CONTENTS**

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**Mission**

The *Journal of Nursing Regulation* provides a worldwide forum for sharing research, evidence-based practice, and innovative strategies and solutions related to nursing regulation, with the ultimate goal of safeguarding the public. The journal maintains and promotes National Council of State Boards of Nursing’s (NCSBN’s) values of integrity, accountability, quality, vision, and collaboration in meeting readers’ knowledge needs.

**Manuscript Information**

The *Journal of Nursing Regulation* accepts timely articles that may advance the science of nursing regulation, promote the mission and vision of NCSBN, and enhance communication and collaboration among nurse regulators, educators, practitioners, and the scientific community. Manuscripts must be original and must not have been nor will be submitted elsewhere for publication. See www.journalofnursingregulation.com for author guidelines and manuscript submission information.

**Letters to the Editor**

Send to Maryann Alexander at malexander@ncsbn.org. Letters will be published at the editor-in-chief’s discretion.

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Nursing at a Crossroads: An Opportunity for Action

Nursing is at a crossroads. Emerging from the peak of one of the worst pandemics in history, the nursing profession is facing multiple challenges: hospitals and other facilities report a growing nurse shortage, new graduates express uncertainty about their readiness to practice, nursing education is both grappling with a faculty shortage and scrutinizing the best methods for educating students, and violence toward healthcare providers is of major concern along with stress and burnout. But with challenges come opportunities. To provide insight for regulators, nursing leaders, and policymakers on the extraordinary circumstances currently confronting nursing, the National Council of State Boards of Nursing (NCSBN) presents the embodiment of this information and data in its annual Environmental Scan.

The Environmental Scan describes the state of the workforce, nursing education, healthcare delivery, technological advancements, and policy and legislation. It also describes social and other issues affecting nursing and summarizes the actions of boards of nursing (BONs) around the country. This report is more important than ever as everyone prepares for a new future that has rapidly arrived and we have yet to completely understand.

The U.S. Nursing Workforce
NCSBN’s National Nursing Database tracks the number of U.S.-licensed nurses from 57 BONs daily (excluding Michigan). There were a total of 4,412,003 registered nurses (RNs) and 903,898 licensed practical nurses/licensed vocational nurses (LPN/LVNs) in the United States as of September 19, 2022 (NCSBN, 2022a). The most recent Occupational Employment Statistics data indicate that 3,047,530 RNs and 641,240 LPN/LVNs were employed in the United States as of May 2021 (U.S. Bureau of Labor Statistics [BLS], 2022f). Figure 1 illustrates a steady rise in RN employment while LPN/LVN employment substantially declined in 2020 and 2021.
The number of employed RNs per population in each state varies widely across the country, from more than 700 nurses per 100,000 capita in Utah to more than 1,700 nurses per 100,000 in the District of Columbia (Figure 2) (BLS, 2022f; United States Census Bureau, 2022a). Other states with fewer than 750 RNs per 100,000 people are Georgia and Texas. Conversely, states such as South Dakota (1,579 per 100,000) and North Dakota (1,524 per 100,000) have the highest ratios of employed RNs per population. The ratio of employed LPNs/LVNs is between 30 and 70 per 100,000 capita in Utah, Alaska, and Hawaii and nearly 400 per 100,000 in Louisiana (BLS, 2022f).
The maps in Figure 2 provide a quick state-level snapshot of the supply of employed nurses; however, there are regional differences within each state that may not reflect the overall state-level view. Such regional differences within states are often the main concern for researchers and stakeholders studying and monitoring the nursing workforce. For instance, California has one of the lowest employed nurse-to-population ratios; however, within the state, city centers like San Francisco may have very high nurse-to-population ratios, whereas rural areas of the state may very low nurse-to-population ratios. Within-state regional nurse employment numbers are available for download from the BLS (2022e).

While we have consistently used the data from the Occupational Employment Statistics (BLS, 2022f) survey to report on the state of the nursing workforce and to analyze trends (data run from May 2020 to May 2021), it is important to note that according to Auerbach et al. (2022) the 2021 Current Population Survey monthly data (which run from January through December 2021) show a decline in the RN population by more than 100,000 nurses. The investigators attributed this decline to a 4% decline in the number of RNs younger than 35 years—nurses who were leaving the profession or taking a break from practice (Auerbach et al., 2022). It will be important to continue to follow these numbers because a continued decline will not only put a strain on the healthcare system but will also have a significant impact on nurses who must work longer and harder to compensate for a lack of staff. NCSBN’s National Nursing Workforce Study, conducted from March through August 2022, will be released in Spring 2023 and will provide additional data and insight as to the true numbers and status of the U.S. nursing workforce.
Nurses Leaving Nursing

The possibility of nurses leaving the profession has been a concern for some time, even prior to the pandemic. The 2020 National Nursing Workforce Survey, which was conducted on the verge of the pandemic, reported that 22% of RN respondents were considering retiring or leaving nursing in the next 5 years (Smiley et al., 2021). Another survey conducted immediately prior to the pandemic focused on nurses in New York and Illinois (Lasater et al., 2021) and included 41,000 nurses and 350 hospitals. The results revealed 48% of nurses in U.S. hospitals experienced high burnout; 20% intended to leave their hospital employer; 57% reported not having enough staff to adequately care for patients; and 69% lacked confidence in their employers to resolve problems in care (Lasater et al., 2021).

The American Association of Critical-Care Nurses’ 2021 Critical Care Nurse Work Environment Survey (Ulrich et al., 2022) reported that 67% of respondents indicated that they planned to leave their current position in the next 3 years, up from 55% in 2018. About 38% of those in 2021 who indicated an intent to leave their current position in the next 3 years planned to retire, return to school, or leave the profession. The intent and readiness to leave were influenced by individual characteristics (e.g., satisfaction with being an RN and frequency of experiencing moral distress) and work environment characteristics (e.g., appropriate staffing, quality of care, whether the organization values RN health and safety, meaningful recognition) (Ulrich et al., 2022).

A McKinsey survey conducted in November 2021 found that 32% of RNs indicated a likelihood of “leaving their current position involving direct patient care,” up from 22% in February 2021. Of those indicating a likelihood to leave their current position in November 2021, about 39% planned to retire, return to school, or leave the profession. The main drivers of the intent to leave were identified as insufficient staffing levels, desire for higher pay, not feeling listened to or supported at work, and the emotional toll of the job (Berlin, Lapointe, & Murphy, 2022).

Throughout 2022, there have been ongoing reports of severe nursing shortages experienced by institutions across the country (Haines, 2022). In one survey of nurses conducted in August 2022 (n = 500), 99% of respondents stated there was a staffing shortage where they worked and 94% stated they were negatively impacted by the shortage (ShiftMed, 2022). Forty percent stated the shortage had negatively impacted their mental health and 65% indicated they are likely to leave the profession within the next 2 years (Medshift, 2022). In November 2022, U.S. News & World Report cited burnout, an aging workforce, and a lack of training as contributors to the shortage (Haines, 2022).

McKinsey research also found that the increased tendency toward leaving the workforce is not limited to the United States. Surveys conducted in France, Singapore, Japan, and the United Kingdom all found substantial proportions of nurses indicating they planned to leave direct care. The surveys found that COVID-19 was not the primary reason nurses were leaving; financial considerations and plans to retire or return to school played bigger roles. The surveys indicated that the primary reasons for RNs staying on the job were such factors as doing meaningful work and maintaining good health (Berlin, Essick, et al., 2022).

New Graduate Employment and Other Trends

As can be expected, shortages of nurses enhance the employment of new graduate nurses. The National Student Nurse Association (NSNA) sends out an annual survey to their membership who are near graduation to determine the state of new graduate nurse employment. The 2021 survey focused not only on employment trends but also on past educational experiences, mentorship, future plans, and their confidence in entering the workplace (Feeg et al., 2022).

As shown in Figure 3, the 2020 employment dip has bounced back to near-record levels of employment of new graduates. Overall employment of all new graduate nurses in 2021 was 92%, compared to 85% in 2020. Feeg et al. (2022) reported that of those new graduates who had jobs, 85% were hired within 3 months of graduation and 97% within 6 months.

Regionally, the lowest employment rate remains in the West and Northeast, but the difference compared with Central and Southern regions is slight (Table 1). The most gains from 2020 to 2021 were made in the Northeast, reflecting the recovery from areas most affected by COVID-19 surges in 2020 (Feeg et al., 2022).
While the percentage of employed baccalaureate graduates is slightly higher than that of graduates of associate degree or accelerated baccalaureate programs, that difference in 2021 was much smaller than in previous years (Feeg et al., 2022).

The NSNA survey also queried the participants ($n = 2,691$) about their perceptions of employment trends during their job search (Feeg et al., 2022), and their responses included the following:

- Hospitals are hiring travel and agency nurses (91%)
- Nurses are leaving the profession (88%)
- RNs are working harder (80%)
- Most acute care facilities are hiring new graduates (79%)
- RNs are resigning (79%)
- Jobs for new graduates are plentiful (69%)
- RNs are retiring (63%)
- Hospitals are creating residency programs (59%)
- Full-time RNs are also working in other part-time positions (56%).

These perceptions of new graduates are eye-opening and worrisome for the nursing profession in maintaining a stable workforce.

Other findings from this survey also yield valuable insight for regulators, educators, and practice partners. Among new graduates in 2021, 56% reported that they are adequately prepared for their first nursing position (Feeg et al., 2022). This is a stark decrease from 67% in 2020 and 68% in 2019. While 2020 nursing graduates were impacted by COVID-19 in their final semester, the 2021 graduates were impacted for a larger portion of their education, likely affecting their attitudes toward being prepared. In a related question, the graduates reported their confidence on a 1-100 analogue scale. The mean score decreased from 63 in 2020 to 61 in 2021 (Feeg et al, 2022). The number of new graduates who reported being assigned a mentor has also continued to decrease from over the past 3 years (35% in 2019; 31% in 2020; and 29% in 2021) despite the literature supporting the value of mentorship for new graduates (Vance, 2022). Feeg et al. (2022) caution that stakeholders will not stem the tide of nurses leaving the workforce until the workplace culture is transformed.
The APRN Workforce

The advanced practice registered nurse (APRN) title consists of four roles: (a) certified nurse practitioners (CNPs), (b) certified nurse midwives (CNMs), (c) clinical nurse specialists (CNSs), and (d) certified registered nurse anesthetists (CRNAs). Due to the variation in state laws related to the recognition and licensure of APRNs, it is difficult to accurately estimate the size of the APRN workforce. However, the BLS does track employment data for three of the APRN roles (CNPs, CNMs, and CNSs), and the data have consistently shown growth.

According to the most recent data (through May 2021), APRNs have reached a significant milestone—the three roles tracked by the BLS now employ a combined total of 300,000 nurses, an increase of nearly 30,000 from the previous year (BLS, 2022a). The BLS expects growth in this profession to be much faster than average over the next decade, increasing 40% by 2031 and adding nearly 120,000 more personnel to the APRN workforce by that time (BLS, 2022a).

CNPs continue to be the most populous APRN role, with more than 230,000 CNPs now employed in the United States (BLS, 2022b) (Figure 4). Nearly three quarters of growth in the APRN workforce was in the CNP role.

The number of CNMs also increased slightly in 2021 to 7,750 individuals, which represents an increase of about 9% from 2020 (BLS, 2022c). After a slight dip in employment at the time of the 2020 BLS reporting (during the early months of the pandemic), CRNA employment is once again on the rise, with a total of 43,950 CRNAs employed by May 2021 (BLS, 2022d). The number of CNSs is not independently tracked by BLS at this time.

Wellness and the Nursing Workforce

Overall, studies are showing that the pandemic, the nursing shortage, and other factors are taking a toll on the nursing workforce. In a study conducted but the American Nurses Foundation (2021), among the 12,500 U.S. nurse respondents, 40% experienced feelings of depression. According to Lasater (2021), 48% of nurses in U.S. hospitals experienced burnout.

New data from Trinkoff et al. (2022) indicate that prescription-type drug misuse is higher in nurses, at 9.9%, compared with 5.9% in the general U.S. population. Overall, 18% of nurses screened positive for substance use disorder (SUD) (Trinkoff et al., 2022). Staff, charge nurses/coordinators/nurse managers, and other administrators had 9 to 12 times the odds of having a SUD compared with educators and researchers (Trinkoff et al., 2022).

Even more alarming are data that indicate nurses are at a higher risk for suicide than any other profession. According to a recent study (n = 5,198), the 3 subscales of burnout (emotional exhaustion, depersonalization, and a low sense of personal accomplishment) may be contributing factors to suicidal ideation among nurses (Kelsey et al., 2022). In a study that investigated 203 nurse suicide deaths, job-related problems “focused on substance use, mental health problems, chronic pain, or job loss due to investigations for substance use or diversion of medication” (Davidson et al., 2021, p. 28). Stigma may play a role in accessing help, and the authors of the study propose that “barriers to accessing mental health assistance include a fear of impacting one’s career, doubt about confidentiality, difficulties in obtaining time off work for treatment, and difficulties scheduling appointment.” Some licensure applications require nurses to answer questions about mental health history, contributing to the fear of seeking help (Kelsey et al., 2022).

States and their BONs have already recognized the grave implications of stress and burnout and have acted. The Oregon Wellness Project, hosted by the Oregon BON, allows nurses of all levels access to a licensed mental health professional for eight 1-hour sessions at no cost (Oregon Wellness Program, 2022). The Maine Medical Professionals Health Program offers a behavioral health component.

FIGURE 4
Number of Certified Nurse Practitioners in the United States, 2012–2021

The number of CNMs also increased slightly in 2021 to 7,750 individuals, which represents an increase of about 9% from 2020 (BLS, 2022c). After a slight dip in employment at the time of the 2020 BLS reporting (during the early months of the pandemic), CRNA employment is once again on the rise, with a total of 43,950 CRNAs employed by May 2021 (BLS, 2022d). The number of CNSs is not independently tracked by BLS at this time.
that addresses burnout. The program is open to health professionals, including students (Medical Professionals Health Program, 2022). The Delaware BON, in collaboration with the Delaware Nurses Association, and Delaware Nurses Coalition, has built a statewide connected community for peer support called the HealthyNurse/HealthyDelaware Program (Delaware Nurses Association and Delaware Action Coalition, 2022). They share resources and address stigma in the profession to help nurses with SUDs and mental health, including stress and burnout.

**Looking Ahead**

According to the BLS, nurse employment is projected to grow 6% between 2021 and 2031, with approximately 203,200 job openings for RNs projected each year over the decade (BLS, 2022e). According to the 2020 National Nursing Workforce Survey, the RN median age is 52 years, which presents the country with the stark reality that it is not possible to fully replace retiring RNs with new graduate nurses due to the increase in job openings (Smiley et al., 2021 Buerhaus, 2021).

Similarly, Berlin, Lapointe, Murphy, & Wexler (2022) estimated that by 2025, the United States may have a gap of 200,000 to 450,000 nurses. They attributed this possible gap to three challenges to effectively meet patient needs: (a) a decreased supply of the absolute RN workforce, (b) an increased in-patient demand from or related to COVID-19, and (c) continued work setting shifts and increased demand due to a growing and aging population (Berlin, Lapointe, Murphy, & Wexler, 2022).

The current and predicted nursing shortages have garnered attention at the state and federal level. Nursing programs in Minnesota have built a coalition that is focused on recruitment of nursing students and bringing more diversity to the workforce. The University of Hawaii hopes to double the number of students they can accept into their nursing program by using $1.75 million from state funding to support hiring 36 new faculty positions. Additionally, the White House has designated $80 million through the Department of Labor’s Nursing Expansion Grant Program to assist with addressing the “bottlenecks in training the U.S. nursing workforce” (Haines, 2022).

Furthermore, related to the health and wellness of nurses, future research needs to focus on the outcomes of BON wellness programs so they can be replicated in other states.

**Implications for Regulation**

The first and foremost implication of these data is the need for accurate statistics concerning the nursing workforce. Differing data from differing periods presents a quandary as to the actual numbers of nurses. As previously mentioned, NCSBN is due to release its most recent National Nursing Workforce Survey in Spring 2023. These data provide a consistent measure of the workforce and will be invaluable to regulators, nursing leaders, and policymakers as they move forward and determine how best to address workforce demands. Regulators and other nursing leaders can also encourage enrollment in E-Notify, NCSBN’s ongoing data collection tool, which will provide an even more accurate measure of the workforce when all nurses participate.

The departure of experienced nurses has led to the employment of new graduate nurses, many of whom were educated during the pandemic, had varying clinical experiences, and stated they felt unprepared to enter practice. Regulators can encourage nursing leaders to provide comprehensive transition to practice programs, mentorship, and support to these new graduates, who are the future of the profession.

Burnout and stress, in addition to being of concern for the overall well-being of nurses, also pose a threat to public protection. In a study by Montgomery et al., (2020) all types of burnout (personal, work-related, and client-related) were significant predictors of self-reported medication administration errors. Programs that were developed at the state level and led by BONs are integral to a healthy and safe workforce. Other BONs are encouraged to adopt these and other types of programs that prevent or address stress and burnout in nursing.

BONs should review their licensure applications for stigmatizing language related to a nurse’s health, well-being, or SUDs and replace such language with wording that is compliant with the Americans with Disabilities Act (ADA). NCSBN is embarking upon a project to assist BONs with this issue in 2023. It is also recommended that BONs take advantage of educational opportunities to teach staff about the prevalence of behavioral health disorders, how to identify nurses at risk, and how to speak with non-biased, non-judgmental, and non-stigmatizing terms. Finally, medication-assisted treatment for SUDs is as important for nurses as it is for others. The efficacy and safety of this treatment indicates that nurses who are monitored by a healthcare provider should be able to safely work (Ghanem et al., 2022).

**Education**

This has been a banner year for nursing education as educators learned many valuable lessons from the pandemic. Educators are continuing to study what happened during the pandemic to shine a light on what did not work. For example, educators learned that clinical experiences, whether simulation or in-person, are critical for students; when such experiences
are limited, as they were during the pandemic, students’ practice readiness plummets. The value of practice-academic partnerships stood out during the pandemic, and we are now seeing their growth in all areas, such as primary care pediatric clinics and justice systems.

Yet, it has been a challenging year, too. The faculty shortage continues to worsen. For the first time, we have faculty vacancy data from associate degree nursing (ADN) schools, and their vacancy rates are higher than those in baccalaureate programs. Some state legislature initiatives to improve both the faculty and the nursing shortage have been innovative, and states might learn from each other about what works and what does not work.

Trend data are so important for making decisions about the future. Besides faculty vacancy data from the American Association of Colleges of Nursing (AACN) on baccalaureate programs and from the Organization for Associate Degree Nursing (OADN) on associate degree programs, we have NCSBN data on the numbers of nursing programs and NCLEX takers. Additionally, the NSNA provides student employment and other data, while NCSBN provides national nursing education data on quality indicators of nursing programs from their Annual Report Program.

**Nursing Education Trends**

With many parts of the United States reporting a nursing shortage, it is critical for the nursing community to monitor nursing education trends so that the profession can be proactive in making changes. Trends are reported on the numbers of BON-approved nursing programs in the United States, the number of new graduates taking the NCLEX, faculty vacancies, and employment of new graduates.

**Numbers of Nursing Education Programs**

NCSBN has been analyzing trends of new U.S. RN and LPN/LVN education programs since 2003 and using these data as a proxy for predicting future workforce numbers, which is particularly important now with nursing shortages. As Figure 5 illustrates, there has been a continual increase in the number of nursing education programs since 2003, though the trend in the numbers of LPN programs has been flatter. The percentage of growth since 2003 for RN programs is 75.9% and for LPN programs is 25.3% (Figure 5 and Table 2).

![FIGURE 5](image)

**Number of Approved Nursing Programs in the United States, 2003–2022**

While there was a slight dip in the number of LPN programs in 2021, the number increased by 62 programs in 2022. RN programs increased by 117 programs in 2022.

In addition to collecting annual approved nursing program data, NCSBN evaluates trends for the numbers of first-time NCLEX takers to predict the future nursing workforce. Upon examining the trend of first-time NCLEX takers in the United States from 2011-2021, the number of RN first-time NCLEX takers plateaued between 2014 and 2017. However, since 2018, there has been a growing increase in RN first-time NCLEX takers (NCSBN, 2022b).
There was a gradual decline of first-time NCLEX-PN takers from 2012 through 2017. In 2020, the number of NCLEX-PN takers decreased to its lowest in 10 years, though there was a slight rebound in 2021 (Figure 6). The trend of LPN programs and graduates bears watching because of its variability.

![FIGURE 6](image_url)

**Trend of U.S. RN and LPN/LVN First-time NCLEX Takers, 2011-2021**

Table 3 lists the number of NCLEX-RN takers by program type from 2011 to 2021. ADN graduates accounted for the largest number of nursing program graduates until 2020 when the number of graduates in bachelor of science in nursing (BSN) programs surpassed the number of ADN graduates (NCSBN, 2022a). The growth of BSN graduates from 2011 to 2021 was 62.2%, whereas the growth of ADN graduates over the same time was 6.7% (Table 3). This considerable increase in BSN graduates is in line with the 2010 Future of Nursing (Shalala et al., 2011) recommendation to increase the percentage of BSN-educated nurses in the workforce.

Figure 6 also provides an indication of the number of RNs and LPNs that recently entered the workforce. In 2021 the RN first-time pass rate was 82.48%, so the number of RNs entering the workforce that year was approximately 125,897. In the same year, the LPN first-time pass rate was 79.6%, resulting in approximately 36,899 LPNs entering the workforce in 2021 (NCSBN, 2022b). Note that these numbers of nurses entering the workforce are estimates because they do not account for second-time, third-time, etc., pass rates, and it is unknown how many of these nurses actually obtained jobs and entered practice.

| TABLE 3 |
| Number of U.S. RN First-time NCLEX Takers by Program Type, 2011–2021 |

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<tr>
<td>Baccalaureate Degree</td>
<td>58,146</td>
<td>62,535</td>
<td>65,406</td>
<td>68,175</td>
<td>70,857</td>
<td>72,637</td>
<td>75,944</td>
<td>79,235</td>
<td>84,298</td>
<td>88,643</td>
<td>94,305</td>
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<td>Associate Degree</td>
<td>82,764</td>
<td>84,517</td>
<td>86,772</td>
<td>86,377</td>
<td>81,653</td>
<td>81,511</td>
<td>82,000</td>
<td>84,794</td>
<td>86,520</td>
<td>88,302</td>
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<td>Diploma</td>
<td>3,476</td>
<td>3,173</td>
<td>2,840</td>
<td>2,787</td>
<td>2,607</td>
<td>2,745</td>
<td>2,222</td>
<td>1,968</td>
<td>2,247</td>
<td>2,180</td>
<td>2,297</td>
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<td>Unclassified or Special Program Codes</td>
<td>97</td>
<td>41</td>
<td>80</td>
<td>33</td>
<td>39</td>
<td>34</td>
<td>43</td>
<td>35</td>
<td>48</td>
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**Faculty Vacancy**

The faculty shortage continues to be a challenge in nursing education, particularly as programs are encouraged to increase their capacity to meet nursing workforce needs. We report faculty vacancy data from both the BSN and ADN program perspectives.
The AACN Special Survey on Vacant Faculty Positions for Academic Year 2022–2023 (Byrne et al., 2022) was sent to both member and nonmember BSN programs, with a final sample of 909 BSN programs and a response rate of 85.9%. Data regarding the issues and trends related to nursing faculty in BSN or higher nursing education programs are displayed in Table 4 and Figure 7. In response to nursing programs being asked to graduate more nurses for the workforce, schools have steadily increased the number of budgeted faculty positions over the past 10 years; however, according to Byrne et al. (2022), 2022 had the highest vacancy rates since 2013 (Table 4).

The number of schools with faculty vacancies is higher in 2021 and 2022 when compared to the previous 8 years. Related to budgets for hiring faculty, the number of schools that have no vacancies but need additional faculty has increased from 2021 but is lower than it has been in some past years (Table 4).

### TABLE 4

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<tbody>
<tr>
<td>Budgeted faculty positions</td>
<td>16,444</td>
<td>18,010</td>
<td>18,511</td>
<td>19,830</td>
<td>21,533</td>
<td>21,685</td>
<td>22,649</td>
<td>22,838</td>
<td>24,539</td>
<td>24,651</td>
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<tr>
<td>Number of faculty vacancies (vacancy rate)</td>
<td>1,358 (8.3%)</td>
<td>1,236 (6.9%)</td>
<td>1,328 (7.1%)</td>
<td>1,567 (7.9%)</td>
<td>1,565 (7.3%)</td>
<td>1,715 (7.9%)</td>
<td>1,637 (7.2%)</td>
<td>1,492 (6.5%)</td>
<td>1,965 (8.0%)</td>
<td>2,166 (8.8%)</td>
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<tr>
<td>Number of filled faculty position (filled rate)</td>
<td>15,086 (91.7%)</td>
<td>16,774 (93.1%)</td>
<td>17,183 (92.9%)</td>
<td>18,263 (92.1%)</td>
<td>19,968 (92.7%)</td>
<td>19,970 (92.8%)</td>
<td>21,012 (92.1%)</td>
<td>21,346 (93.5%)</td>
<td>22,574 (92.0%)</td>
<td>22,485 (91.2%)</td>
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<tr>
<td>Mean faculty vacancies per school</td>
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<td>1.9</td>
<td>1.9</td>
<td>2</td>
<td>1.84</td>
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<tr>
<td>Number of schools with faculty vacancies</td>
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<td>403</td>
<td>429</td>
<td>461</td>
<td>480</td>
<td>488</td>
<td>475</td>
<td>461</td>
<td>576</td>
<td>562</td>
</tr>
<tr>
<td>Number of schools with no faculty vacancies, but need additional faculty</td>
<td>98</td>
<td>124</td>
<td>130</td>
<td>133</td>
<td>128</td>
<td>138</td>
<td>134</td>
<td>136</td>
<td>118</td>
<td>128</td>
</tr>
<tr>
<td>Number of schools with no faculty vacancies, do not need additional faculty</td>
<td>168</td>
<td>187</td>
<td>182</td>
<td>220</td>
<td>224</td>
<td>245</td>
<td>284</td>
<td>287</td>
<td>241</td>
<td>219</td>
</tr>
</tbody>
</table>

### FIGURE 7

**Full-time Faculty Vacancy Rates by Region, 2022–2023**

![Full-time Faculty Vacancy Rates by Region, 2022–2023](source)

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>West</td>
<td>10.0%</td>
</tr>
<tr>
<td>South</td>
<td>9.8%</td>
</tr>
<tr>
<td>North Atlantic</td>
<td>8.1%</td>
</tr>
<tr>
<td>Midwest</td>
<td>6.9%</td>
</tr>
</tbody>
</table>

Source: Byrne et al. (2022).

According to the AACN’s Faculty Vacancy Survey (Byrne et al., 2022), the largest barriers causing nursing education programs not to hire new faculty members are in line with data from previous years. Below are the largest barriers (percentages do not equal 100% because schools could select multiple options):

- Nursing programs have inadequate funds to hire additional faculty (63.3%)
- The administration is unwilling to commit to more full-time positions (47.7%)
- Competition for jobs in other marketplaces causes an inability to recruit qualified faculty (38.3%)
• Other (25.8%)
• Qualified applicants for faculty positions are unavailable in the geographic area needed (21.9%).

Nursing education programs reported the following most critical issues related to faculty recruitment, which are also in line with previous years’ issues (Byrne et al., 2022):
• Noncompetitive salaries (41.7%)
• Finding faculty with the right specialty mix (20.4%)
• A limited pool of doctorally prepared faculty (14.6%)
• Other (9.0%)
• Finding faculty willing and able to teach clinical courses (8.7%).
• Finding faculty willing and able to conduct research (3.3%)
• High faculty workload (2.3%).

Other critical issues concerning faculty recruitment that schools are reporting are similar to those from 2021, though the vaccination requirements are new this year (Byrne et al., 2022):
• Challenging location (rural areas or those areas with a high cost of living)
• Noncompetitive salaries compared to nursing practice
• Institutional budget cuts or restrictions
• Finding faculty who fit well with the school culture
• Recruitment from historically underrepresented populations
• Vaccination requirements.

The overall number of BSN schools experiencing faculty vacancies continues to increase across the United States. These data trends suggest these numbers will continue to rise. The barriers contributing to faculty vacancies remain consistent with the previous years’ as do the top critical issues related to faculty recruitment.

**ADN Programs**

For the first time in NCSBN’s annual Environmental Scan, faculty vacancy data for associate degree programs are available. The OADN Research Committee has begun to collect faculty vacancy data annually (Fritzges et al., 2022). As shown in Table 3, nearly half of RN graduates in the United States are from ADN programs.

In July 2022, the OADN surveyed ADN programs across the nation. The online survey captured data related to student populations, faculty salaries, benefits, workload, and vacancies in nursing programs. With 475 of 1,100 ADN programs providing responses, the response rate was 43%. Responses were received from all 50 states and the District of Columbia.

Preliminary data revealed that among the 475 schools that completing the survey, 72.8% reported faculty vacancies, with a total of 909 open full-time positions (Fritzges et al., 2022). This compares to 61.8% of the AACN schools reporting faculty vacancies in 2022 (Table 4). Regionally, open ADN positions were reported most often in the South (Figure 8), while BSN program faculty vacancies were most frequent in the West (Figure 7).

![FIGURE 8](image)

**Vacancies in Associate Degree in Nursing Programs**

Source: Fritzges et al. (2022).
Faculty retirements were reported by region, with a total of 461 anticipated retirements in the next 5 years. Regionally, the largest number of faculty retirements were reported in the South with 189 anticipated retirements, followed by 115 in the Midwest, 98 in the West, and 59 in the Northeast (Figure 9).

**FIGURE 9**

Anticipated Faculty Retirement in 5 Years for Associate Degree in Nursing Programs

![Pie chart showing retirement percentages by region](image)

Source: Fritzges et al. (2022).

Of particular interest in these preliminary findings was the response by the participants on the years of experience of the ADN programs’ nursing administrators. It was noted that 24% of nursing administrators reported 3 or fewer years of experience in the administrative role. With administrators being a key quality indicator of nursing education programs, this could be a concern (Spector et al., 2020).

### National Nursing Education Database

There is a critical need to collect consistent, national data from nursing education programs so that we can monitor trends, identify weaknesses early, and make improvements before programs fall below standards. To that end, in fall 2020, NCSBN launched the Annual Report Program for BONs, in which NCSBN collects the nursing education annual report data that most BONs require. The goals of this program are to assist BONs with the time-consuming data collection and to create the first-ever nursing education database for the nursing community. The core survey questions are evidence-based (Spector et al., 2020), so consistent data on key quality indicators can be benchmarked nationally. BONs and nursing programs can use these quality indicators to proactively make improvements. Currently, 31 BONs are participating in the Annual Report Program.

Data are being collected from diploma, LPN/LVN, ADN, BSN, accelerated BSN, and master’s entry programs. We recently released the aggregate data for 2020–2021, with 20 BONs participating (Spector et al., 2022). In this sample, there were:

- 843 nursing programs
- 112,147 students enrolled in their programs
- 8,263 full-time faculty
- 3,104 part-time faculty
- 7,768 clinical adjunct faculty.


### Time in Clinical Experiences

The 2020-2021 aggregate Annual Report data revealed that the average number of direct-care clinical hours in nursing programs has decreased from 2017, and the number of hours in 2017 had decreased from 2010 (Spector et al., 2022). Although many programs were not able to offer their usual clinical experience hours during the pandemic, the question on the survey asked for “typical or pre-pandemic” numbers of hours. The numbers of clinical hours in the United States lag behind those in other countries (Hungerford et al.,...
The pandemic has reinforced how important clinical experiences are, as we have seen the NCLEX pass rates fall in 2020–2022 (NCSBN, 2022b) when clinical experiences were severely limited throughout the United States.

The Annual Report Survey indicates a low number of total hours students spent in simulation: (a) 54.63 hours for LPN/LVN programs; (b) 69.9 hours for ADN programs; and (c) 85.66 hours for BSN programs (Spector et al., 2022). While most nursing regulatory bodies (NRBs) allow up to 50% of clinical experiences to be replaced by simulation, most nursing programs were not close to that. Students can best use skill laboratories to perfect their performance on clinical skills. Simulation can prepare students for direct-care clinical experiences and can be used for common clinical experiences as well as rare but critical situations. Direct-care clinical experiences, however, are the gold standard for students to learn how to communicate with and care for patients and families in all sorts of real-life situations.

In some regions, faculty have difficulty finding quality clinical placements for their undergraduate students. Additionally, some practice settings limit the numbers of students in the facility and/or limit their experiences, such as not allowing them to administer medications. Practice-academic partnerships have been successful strategies for providing enriching experiences for students (Spector et al., 2021). Additionally, many programs have used excellent alternative settings for their students, such as schools or healthcare provider offices.

Perhaps a national conversation is needed about how best to provide clinical experiences to our students, asking questions such as:

- When should we use skills laboratories, simulation, and direct care clinical experiences?
- How can we best provide quality direct-care clinical experiences for our students?
- What are some of the alternative clinical experiences programs can use?

**Director Turnover**
NCSBN’s study on nursing education quality indicators found that having more than three directors in 5 years was a warning sign and linked to lower NCLEX pass rates. The 2020–2021 aggregate Annual Report data found that 8.5% of programs (72,843) had more than three deans or directors in the past 5 years (Spector et al., 2022). The college or school administrations must be aware of the critical need of a nursing program for consistency in leadership. Research supports recruiting deans and directors who are doctorally educated, and ongoing mentorship is valuable for retaining them (Spector et al., 2020).

**Certification of Simulation Faculty and Certification of Simulation Centers**
We asked the programs if their simulation faculty were certified by the Society for Simulation in Healthcare as a Certified Healthcare Simulation Educator or if they have completed the International Nursing Association for Clinical Simulation and Learning (INACSL) 12-course INACSL Simulation Education Program. NCSBN’s simulation guidelines (Alexander et al., 2015), based on NCSBN’s national simulation study (Hayden et al., 2014), support that simulation faculty should be trained to lead simulations, and certification will document this. Similarly, accreditation of the simulation laboratory will confirm that the laboratory has the technological resources and equipment to meet the intended objectives. This accreditation can be done by the Society for Simulation in Healthcare, though more recently, programs can receive INACSL’s Healthcare Simulation Standards Endorsement. According to the 2020–2021 aggregate Annual Report data, 71.3% of programs (n=601), do not have certified simulation faculty or accredited or endorsed simulation laboratories (Spector et al., 2022) however, more current Annual Report data have shown more programs are working toward this goal. Programs might present this evidence-based quality indicator to college or university administrators to support the need for accreditation or endorsement of their simulation laboratory and training of their simulation faculty.

**Resources for Students With English as a Second Language Are Needed**
NCSBN’s qualitative site visit study, which was part of NCSBN’s larger study of quality indicators of nursing programs, found that the programs with low NCLEX pass rates did not have adequate student resources such as those (a) assisting students with disabilities, (b) remediating students with academic problems, (c) providing adequate resources to students with low socioeconomic status, and (d) aiding students with English as a second language (Spector et al., 2020). Our 2020-2021 aggregate Annual Report data found that, while most programs provide adequate resources to students, 54.9% of programs (461/843) have a lack of resources for students with English as a second language, thus preventing them from learning to their fullest extent (Spector et al., 2022).

**LPN/LVN Programs Should Be Accredited at a Higher Level**
Only 17.1% of LPN/LVN programs are currently accredited by a national nursing accreditor (the Accreditation Commission for Education in Nursing or the National League for Nursing Commission for Nursing Education Accreditation); yet, NCSBN’s comprehensive study of quality indicators (Spector et al., 2020) found that a lack of national nursing accreditation is linked to lower NCLEX scores. LPN/LVN programs might begin a conversation with the accreditors about what it would take to become accredited and present...
the data to their program administrators. While accreditation is an additional cost, if a program loses their state approval status, they may not be able to accept more students, and this can be even more costly for them. Additionally, students often look for accredited programs when making their admission decisions.

**Full-time Faculty**
The NCSBN study of quality indicators (Spector et al., 2020) found that at least 35% of faculty should be full-time. In the Annual Report data, we found 26.3% of programs had less than 35% full-time faculty (n=222/843). Maintaining at least 35% full-time faculty should be an essential goal of the dean or director of the program. The evidence supporting this goal is strong and can be presented to the college or university administrators.

**Graduation Rates**
While NCSBN’s study of quality indicators (Spector et al., 2020) did not find graduation rates to be a quality indicator, the national nursing accreditors and the U.S. Department of Education consider them to be important metrics because students who do not graduate do not become a part of the nursing workforce. Therefore, we monitor this metric in our data collection. Annual report data indicate that 48.7% of LPN/LVN programs have on-time graduation rates of 70% or greater, while 61.3% of ADN programs and 65.9% of BSN programs have on-time graduation rates of 70% or greater (Spector et al., 2022).

**Organizational Changes**
Over half of the programs (51.5% or 434/843) experienced major organizational changes during 2020-2021, which have been linked to lower NCLEX pass rates (Spector et al., 2020). Some of these changes included a new director or assistant/associate director, staff or faculty layoffs, changes in university/college leadership, collapsing programs, economic efficiencies, etc.

**State Responses to Nursing Education Challenges**
Several states have responded to the challenges of faculty and nursing shortages in various ways. In some states, legislators have taken action to increase student capacity in nursing programs, while other states have changed state requirements related to faculty credentials and teaching. Additionally, two states have increased funding to nursing education with some innovative programs.

**Capacity**
A new section to the Indiana Code allows eligible ADN or BSN programs (must be accredited by the BON and have at least an 80% NCLEX pass rate) that have been operating for at least 5 years to increase enrollment in the program at any rate the program considers appropriate. Additionally, programs accredited by the BON between June 30, 2020, and July 1, 2021, and in operation for at least 1 year may increase their enrollment rate by not more than 100% (H.B. 1003, 2022).

Kentucky Senate Bill 10 stipulates that if a school has at least an 80% average NCLEX pass rate during the previous 3 years and is otherwise meeting requirements and standards, the BON shall not impose limitations on the total number of students attending the nursing school or program or the number of students the nursing school or program may add to increase its enrollment (S.B. 10, 2022).

In North Carolina, at the conclusion of the 2022 legislative session, Session Law 2022-74 (page 54-55) included provisions directing the Board of Governors of the University of North Carolina, in collaboration with the State Board of Community Colleges, to provide recommendations and a timeline on increasing the number of graduates from nursing programs at constituent institutions by at least 50% (H.B. 103, 2022).

**Faculty**
Included in the new section to the Indiana Code were requirements for percentages of part-time faculty in ADN programs and for substituting simulation hours for clinical hours in all prelicensure nursing education programs (LPN, diploma, ADN, and BSN). Included were the following:

- The majority of employees on the faculty of a nursing program that is operated by a state educational institution that predominantly issues associate degrees may be part-time employees of an educational institution.
- Simulation can be substituted for not more than 50% of clinical hours, if a program has an overall pass rate of 80% or higher on the NCLEX.
- Simulation can be substituted for not more than 25% of clinical hours if a program has an overall pass rate of less than 80% on the NCLEX (H.B. 1003, 2022).

Responding to the faculty shortage, Kentucky legislators passed Senate Bill 10 establishing credentials for teaching in programs of nursing (S.B. 10, 2022). The minimum credentials for teaching at state-approved nursing programs are as follows:
LPN programs – associate degree
ADN programs – associate degree
BSN programs – baccalaureate degree
MSN programs – individuals working toward a master’s degree in nursing may teach any master’s degree courses that they have successfully completed.

If, however, the program is accredited by a national nursing accreditor (ACEN, CCNE or CNEA), they will have to follow the established accreditation standards (S.B. 10, 2022).

Funding
In Washington State, the nursing education community has expressed a need for more access to preceptors, both in graduate and undergraduate programs, so that students can complete their required clinical experiences. Legislators in Washington have responded to this challenge by providing $3 million per fiscal year to the BON to set up a grant program, which will provide funding to nurses who volunteer to precept students in healthcare settings. The goal of this innovative program is to reduce the shortage of healthcare settings for students to complete their clinical experiences, thus bringing more nurses into the workforce. The preceptors must provide at least 100 hours of clinical practicum instruction to be eligible for funds, and they must not precept more than two students at a time (Washington Nursing Care Quality Assurance Commission, n.d.).

The Florida legislature established the Linking Industry to Nursing Education, or LINE Fund, for the purpose of meeting local, regional, and state workforce demand by recruiting faculty and clinical preceptors, increasing the capacity of high-quality nursing education programs, and increasing the number of nursing education program graduates who are prepared to enter the workforce. Nursing programs interested in participating must have a 70% NCLEX pass rate for the prior year. The grant period for fiscal year 2022-2023 is July 1, 2022, to June 30, 2023. The grant proposal must include the contribution of the healthcare partner. The BON has established rules that set forth requirements for the LINE Fund (Florida Department of Education, 2022).

Other Issues
Diversity, equity, and inclusion in nursing education have been a major focus this year, and some promising strategies for advancing a diverse faculty and student body have been provided. Graduate education in nursing continues to grow, with literature focusing on improving both the clinical doctorate (DNP, or doctor of nursing practice) and the research doctorate or the PhD. Last, the impact of COVID-19 on nursing education continues to be studied. One silver lining of the pandemic is the light it has shone on practice/academic partnerships, which are being seen in many different specialty areas now.

Diversity, Equity, and Inclusion
As with last year’s environmental scan, the nursing education community continues to focus on increasing the diversity in nursing in the United States (Murray et al., 2022) and globally (Mayoum et al., 2022). Considering that 81% of RNs in the United States identify as White (Smiley et al., 2021) but more than 40% of the total U.S. population are diverse (non-White) (U.S. Census Bureau, 2022b), the nursing workforce does not reflect U.S. demographics. Only 15.9% of nursing faculty are faculty of color (AACN, 2017).

Osakwe et al. (2022) conducted a systematic review to determine barriers and facilitators to success among underrepresented nursing students. Barriers included social isolation and stress; family and caregiving demands; limited mentorship and access to support services; school environment (such as poor student-faculty relationships); and financial barriers. Facilitators include personal-level attributes, such as resilience; positive home environment; positive class and curriculum experiences (such as mentorships); and financial factors.

Recent literature has put forward a variety of strategies to increase diversity, equity and inclusion. Mayoum et al. (2022) describe a collaborative process of developing an antiracism action plan at their school in Manitoba, including the inspiration behind it, the work of developing the action plan and evaluating the lessons learned. Bradford et al. (2022) assert that racial discrimination has contributed to institutional gatekeeping and unfairness within the promotion and tenure process. Faculty of color have experienced social isolation, invisibility, marginalization, lower salaries, tokenism, inequitable access to resources (e.g., mentoring), and devaluation because of race and/or ethnicity. The authors present specific strategies for advancing hiring practices in nursing education. Some of these include collecting workforce data, writing a public statement committing to advancing diversity, forming a search committee via an inclusive process, brainstorming recruitment strategies, and then holding a post-search review process. Murray et al. (2022) present some practical strategies that can be used to increase student diversity, such as holistic admissions; immersion programs, such as shadowing experiences; support services where staff serve as retention specialists; mentoring, which is often not as available to students of color; and financial resources. Students who work when they are in school have a higher attrition rate.
The Impact of COVID-19 on Nursing Education

The pandemic created many challenges for nursing education, including major disruptions to clinical experiences and simulation and face-to-face learning. Nursing programs were forced to quickly change their teaching strategies to online course delivery for teaching didactic content and computer-based simulation or virtual reality for teaching patient care. Other programs strengthened or developed practice-academic partnerships where students were allowed to take care of patients during these very stressful times. Nursing programs were phenomenal in meeting these challenges.

Leaver et al. (2022) predict that nursing education will look different in the future because of the pandemic, which revealed some of the gaps in nursing education. The profession needs to expand and improve disaster and education and training. Faculty need to reevaluate their use of educational technology and experiential learning opportunities. There is also a stark need for nurse scientists to conduct research on disaster and public health emergencies.

Researchers this year studied the preparedness of nurses entering practice during the pandemic (Bultas & L'Ecuyer, 2022; Lanahan et al., 2022). Lanahan et al. (2022), using a descriptive, correlational design, studied 105 undergraduate students and RNs with less than 2 years of experience. Participants were from various geographical locations and were recruited through social media. Using the Casey-Fink Readiness for Practice Survey, they were asked about their comfort in nursing skills and multiple patient assignments. Lanahan et al. concluded that the nurses’ perceived level of preparedness and transition to the professional nursing role were adversely affected by the reduction in clinical time. Bultas & L'Ecuyer (2022) conducted a longitudinal, descriptive study from June 2020 to May 2021 at one university, with 56 (47% response rate) responding to the 1-month survey, though there was attrition in the follow-up 3-month, 6-month, and 12-month surveys. These results are similar to those of Lanahan et al. (2022), where more than half of the new graduates rated their practice readiness negatively during the 12-month period. The loss of clinical experiences and transition to online learning in their nursing program contributed to the new nurses’ perceptions of feeling unprepared. Both Lanahan et al. (2022) and Bultas and L'Ecuyer (2022) call for future research in this area. Lanahan et al. (2022) suggested studies to discover whether patient outcomes were negatively influenced by the impact the pandemic had on nursing education. NCSBN has conducted a multi-site, mixed-methods national prelicensure study on the impact of the pandemic on nursing education, and results will be reported in the April issue of the Journal of Nursing Regulation. It promises to be a landmark study of the impact of COVID-19 on nursing education.

One bright light that emerged from the pandemic related to nursing education was the expansion and strengthening of practice-academic partnerships. These partnerships are not new to nursing (AACN, 2022a), but during the pandemic they proved to be valuable to nursing programs because they kept their doors open to nursing students (Spector et al., 2021). Harper et al. (2022) described how an established practice-academic partnership was valuable during the pandemic to manage a COVID-19 surge. Through the 6-week surge response, the nursing school faculty and students at the University of Alabama at Birmingham School of Nursing provided more than 10,000 hours of hospital staffing, over 770 worked shifts that provided about 30% of the supplemental staffing and approximately 46,000 vaccine encounters. Expansion of these practice-academic partnerships have been with APRNs (Paton et al., 2022), in vaccination clinics (Cleary et al., 2022; Diegel-Vacel et al.), in justice systems (Clifton et al., 2022), and in primary care pediatric clinics (Wall & Medina, 2022). The burgeoning of these practice-academic partnerships during the pandemic has been positive for nursing, and it is likely they will continue.

Graduate Education

In February 2022, AACN released an updated position statement on the research-focused doctoral program in nursing (AACN, 2022b). This statement was guided by the literature, surveys of deans in 147 member schools with research-focused doctoral programs and PhD students, and three AACN documents. The position statement provides recommendations for the future in three focus areas: students, faculty, and curriculum and evaluation. The recommendations include (a) the importance of mentorship with students, (b) using diverse pedagogical activities, (c) recruitment and retention of diverse nurse scientist faculty, and (d) curricula that reflect the areas of science and technology, data science, implementation science, systems science, translational science, and improvement science.

Fisher et al. (2022) provide insights for PhD students being successful in their doctoral programs. They emphasize the importance of developing a strong mentorship team, both in their topic areas as well as outside of their areas of research. Additionally, the importance of networking and developing leadership skills to guide their research team is highlighted, and they provide examples of how to get involved in national organizations. Fisher et al. (2022) also provide ideas for prospective PhD students once they complete their PhD. These practical recommendations for students can be used as a roadmap as students navigate their nursing PhD program.

Additionally, AACN released the results of a mixed methods study entitled “The State of Doctor of Nursing Practice Education in 2022” on the current utilization of DNP-prepared nurses in practice and academia. The researchers solicited perceptions of students, faculty, and employers through 42 key informant interviews on the preparation of DNPs and their impact on patient and system outcomes, quality of care, policy development, education, and leadership. The study also included a review of the literature, a curricular analysis of 50 nationally represented DNP programs, analysis of AACN survey data and a survey of over 800 DNP graduates.
with questions about several topics including impact of the DNP degree on their skills and employment preparation (AACN, 2022c). Building on the conclusions and recommendations of the 2015 RAND Corporation study (Auerbach et al, 2015) AACN sought to provide updated recommendations based through this new analysis.

Interviews with employers, academic leaders, and graduates to evaluate stakeholder perceptions demonstrated a wide spectrum of results. Most of the employers were unable to easily differentiate between the MSN or DNP-prepared nurse in the provision of direct patient care. Additionally, there were no obvious differences identified by academic leaders in terms of clinical skills. Academic leaders provided recommendations including the need to address the variability in DNP programs and strengthen the DNP curricula. DNP program graduates suggested improvements to the curricula such as increased in-person classes and more business-related course offerings (AACN, 2022c).

Because of limited knowledge regarding program completion and attrition of DNP students, Fang & Zangaro (2022) obtained data from 2006 to 2015 on 31,320 DNP students. The completion rate of this cohort (chosen to assure accurate estimates of graduation and attrition rates) was 77.3%, with an attrition rate of 19.3%. On average, it took 3 years for students to graduate and 1.9 years for those who did not graduate to drop out. Students most likely to drop out included male students, those who were not full-time or part-time faculty, part-time students, and those in programs where more than 50% of the courses were taught online. Engagement and mentorship in the program are critical for keeping students motivated and reducing attrition.

**Implications for Regulation**

- Although there was a drop in the number of LPN/LVN programs and graduates taking the NCLEX-PN last year, the number has rebounded this year. However, this fluctuating trend in the number of LPNs/LVNs bears watching, particularly during these times of a nursing shortage.
- The faculty vacancy rate is the highest it has been (8.8%) since we began reporting these data. NRBs, practicing nurses, and educators should collaborate in their states to make recommendations to their governors and legislators to recruit and retain faculty. Otherwise, these decisions may be made without the input of nursing, as has happened in some states this year with the lowering of faculty credentials as a reaction to the faculty shortage.
- From the NSNA survey, new graduates are reporting a lack of mentorships, shortened transition to practice programs that do not meet industry standards, and a decreased readiness to practice as compared to previous years. Nursing practice, education, and regulation must work together to correct some of these problems, or we will see more nurses leaving the field.
- Regulators might consider participating in NCSBN’s Annual Report Program to not only decrease the time and resources needed for collecting annual report data from their programs but to also build a consistent national nursing education database.
- The increase of practice-academic partnerships has been a positive result of the pandemic for nursing education. Regulators are in the perfect position to facilitate the formation of these partnerships.

**Healthcare Delivery**

Healthcare delivery has adjusted to the COVID-19 pandemic. Virtual nursing and telehealth remain vital care routes and present opportunities for preparedness for the next health emergency and addressing longstanding inequities in healthcare. Artificial intelligence (AI) may help nursing address shortages in personnel. The use of intravenous (IV) hydration is currently on the rise and has interdisciplinary regulatory implications.

**Virtual Nursing**

While virtual nursing is not new to hospitals, it has been mainly limited to intensive care units, where nurses at one site monitor patients at remote locations. The current high vacancy rate of nurses in many facilities, along with a substantial loss of experienced nurses, has precipitated new and innovative ways to utilize nurses at a distant location. Many nurses have left bedside nursing due to physical limitations and are not willing to undergo the grueling 12-hour shifts now required at many institutions. Other nurses are retired but miss bedside care and are willing to work in a less arduous capacity (Firth, 2022).

Virtual nurses can monitor patients and take on responsibilities that do not require hands-on care. Using highly sophisticated audio-visual technology, the virtual nurse can assess wounds, monitor IV pumps, and oversee procedures. Using Bluetooth technology, they can assess heart and breath sounds. It is believed that their freedom from other distractions on the unit may allow them to provide closer surveillance of patients and possibly call attention to a deteriorating condition before the patient reaches a critical state. Moreover, they can educate, admit, and discharge patients and provide education for patients and families (Firth, 2022).

Besides patient care, these nurses lend their years of experience as preceptors and mentors to recently hired nurses. The technology allows them to zoom in and closely monitor procedures being performed, and their presence lends guidance and support (Firth, 2022).
Telehealth Guiding Principles

One of the most notable changes in healthcare delivery resulting from the pandemic is the proliferation of telehealth services. In response, in 2022 NCSBN decided to proactively discuss the regulatory implications of international telehealth nursing with regulators from around the world. To determine the extent of crossborder telehealth care and ensure nurse regulators are prepared as this delivery method continues to rise in use, NCSBN conducted an analysis of how telehealth companies that employ nurses and physicians who provide care across international borders communicate with regulatory bodies to navigate disparate regulations. This laid the foundation for an international telehealth think tank.

The telehealth think tank was held in summer 2022 with regulators from the United States and Canada as well as other countries from around the world. The think tank produced the following set of eight international guiding principles for telehealth nursing:

1. Licensure/Registration: Telehealth nurses must be registered/licensed in the jurisdiction(s) where they will provide care for patients. (Any compact/mutual agreements among jurisdictions will continue to be recognized.)
2. Education: In addition to fulfilling the jurisdictional education requirements, telehealth nurses must have specific competencies for telehealth nursing. This includes knowledge of the language and cultural norms of the jurisdiction(s) where they are caring for patients.
3. Governance: Telehealth nurses must abide by the laws/regulations of the jurisdiction where the patients they care for are located. (Including privacy/confidentiality laws.)
4. Scope of Practice: Telehealth nurses must abide by the scope of practice requirements of the jurisdiction in which they are registered or licensed.
5. Prescriptive Authority: Telehealth nurses who wish to prescribe medications/treatments must have prescriptive authority in the country in which the patient is located.
6. Complaints/Discipline: Complaints about a nurse providing telehealth care should be sent to both the regulatory body in the jurisdiction where the incident occurred and the regulatory body in the jurisdiction where the nurse is registered/licensed.
7. Employers: Employers are responsible for all nurses caring for patients and ensuring all jurisdictional requirements for telehealth nursing are met. Employers are also responsible for reporting incidents involving a telehealth nurse to the appropriate regulatory body.
8. Regulators: Regulators should use these principles to educate the public in their jurisdiction.

With technology rapidly advancing and the possibilities for providing access to care in the face of healthcare worker shortages and curtailed access to care, telehealth is poised to continue its rise as a method of healthcare delivery. Regulators and policy makers must partner with telehealth providers to produce regulatory precedents that will continue into telehealth's future.

Artificial Intelligence

As Chomzas et al. (2022) pointed out, estimates from the BLS indicate that approximately half a million healthcare workers in the United States have left their profession since February 2020. The crush of the nursing shortage has necessitated advancements in both robotics and artificial intelligence (AI) to compensate for losses. While there continue to be great strides in the use of AI for clinical decision-making (Douthit et al., 2022), diagnosis (Adler-Milstein et al., 2022), and even predicting patient decline (Malycha et al., 2022), researchers are beginning to diversify the use of AI in healthcare delivery using pain points identified during the pandemic to direct the next innovations in machine learning.

Patient intake is one emerging use of AI that has begun to show promise. In high-volume settings like busy emergency departments, using an AI tool to collect symptoms and history from triaged patients may ultimately save time for healthcare personnel and facilitate patient relationships. In a pilot study in a German emergency department, such a tool, which used Bayesian reasoning to collect patient data, was rated highly usable by patients and nurses, though less so by physicians (Scheder-Bieschin et al., 2022). Some bioethicists asserted that this manner of usage for AI is an example of positive dehumanization, wherein the replacement of a human provider with technology facilitates better care. Palmer & Schwan (2022) give examples of instances where shame or embarrassment might present barriers to a patient's truthful reporting of symptoms or even seeking treatment, and removal of the human element is an increasingly viable option for overcoming such a barrier.

Ohio State College of Nursing has partnered with the College of Engineering to build extended reality learning tools that tackle the challenge of clinical readiness in a landscape where clinical experiences are scarce. These tools will use AI and machine learning to test nurses on failure to rescue scenarios that will adapt to support and challenge the student at their individual level of competency. The goal of the project is to “allow learners to gain competence in a low-stakes environment” in a way that can then be affirmed through traditional clinical experiences (American Nurses Association [ANA], n.d.-a). The project is part of the American Nurses Foundation’s Reimagining Nursing Initiative that aims to create practice-ready nurse graduates (ANA, n.d.-a). Educators have also found value in using AI chatbots as supplemental teaching tools for tasks such as guiding students through surgical tasks (Chen & Kuo, 2022) and testing clinical decision-making (Rodriguez-Arrastia et al., 2022) with the added value of usage data to further inform instruction.
Intravenous Hydration

The intravenous (IV) hydration industry, in which fluids, vitamins, and other supplements are infused into the bloodstream intravenously, has grown significantly in recent years. Infusion services are now provided by physicians, RNs, APRNs, and emergency medical services personnel in provider offices, medical spas, mobile units, and on-call settings such as businesses and private homes. Often, the treatment administered is chosen by the patient from a menu based on the individual’s perceived needs, such as hangover, sunburn, migraine, or cold and flu (Mobile IV Medics, 2022).

Scientific evidence demonstrating the efficacy of this type of IV hydration is lacking. A study of world-class athletes found that, except in very specific cases, oral hydration is all that is required for rehydration (Givan & Diehl, 2021). In 2018, the Federal Trade Commission issued its first charges against an IV therapy business, finding they made deceptive and unsupported claims that their services were effective in treating serious illnesses, including cancer and congestive heart failure (Federal Trade Commission, 2018).

IV infusions may pose risks to the public and to a nurse’s license if the infusion is not ordered by a physician or APRN or if the nurse does not complete a thorough patient history, including medications and allergies, prior to IV administration and does not have the skills to manage potential complications (“IV Hydration: What Texas Nurses Need to Know,” 2020).

This unregulated industry model creates a shift from the traditional patient management model, where treatment determined by a healthcare provider is changed to a dynamic where the patient creates their own personalized hydration plan that a nurse compounds using the requested vitamins, supplements, or prescription medications. The U.S. Food and Drug Administration (FDA) defines compounding as a “practice in which ingredients of a drug are combined, mixed, or altered to create a medication tailored to the medical needs of an individual patient” (FDA, 2021). There are specific national regulations that provide guidance regarding when a nurse may compound sterile preparations for immediate use (United States Pharmacopeia, 2022). The FDA has received reports of medication compounding occurring in unsanitary conditions, in one case resulting in hospitalization of a patient due to septic shock and multiple organ failure following IV infusion in her home (FDA, 2021).

Compounding and drug preparation activities are generally addressed in pharmacy regulations because this practice is typically in the purview of a pharmacist in a controlled environment according to national standards. However, several NRBs have developed guidance documents on compounding and IV hydration for nurses at all levels (North Carolina Board of Nursing [2022]; Oregon Board of Nursing [2018]; Washington Department of Health Nursing Care Quality Assurance Commission Advisory Opinion [2021]; Wyoming Board of Nursing [2022]).

It is reasonable to anticipate that the absence of regulation and the proliferation of IV hydration businesses will result in increased calls to BONs and potentially complaints against nurses.

Implications for Regulation

Many of the advancements in AI have legal and ethical challenges that may cross the boundary of regulation. In the near future, regulators may be making hard decisions in cases related to AI, including the regulatory aspects of competency and care when a non-human is making the decisions affecting patient outcomes.

As previously described, telehealth nursing will continue to expand, and over the course of the next few years, NCSBN will continue to work with telehealth companies, regulators across the globe, as well as other entities involved in telehealth such as the Federal Communications Commission to ensure that telehealth remains safe and the nursing providers are competent, abiding by an internationally established set of principles. Virtual nursing also has no limits in terms of the location of the nurse and the location of the patient. International telehealth guidelines may apply to these nurses as well.

IV hydration is currently very controversial and has interdisciplinary regulatory implications. Should nurses be providing IV hydration? Should other providers be involved? What are the qualifications and competencies necessary to safely administer IV hydration? These and a host of other questions will be at the forefront in the coming years as hydration clinics proliferate.

Legislation and Policy Issues

Building off efforts made in 2021, state and federal legislation in 2022 has continued to focus on maintaining qualified nurses, regulating telehealth, and addressing occupational licensure. New in 2022 are policy efforts aimed at student loan repayment, scholarship programs, and providing income tax credits.

State-Level Action

Throughout the 2022 legislative session, the dominant conversation surrounding state nursing legislation was how to ensure states maintained and enhanced their existing nursing workforce pipelines. The COVID-19 pandemic further contextualized and expedited the impact of the impending nursing shortage on the healthcare delivery system, which has been an ongoing problem for state legislators. To ensure that access to high quality healthcare is maintained at the state level in the face of a nursing shortage, state legislatures...
explored a myriad of solutions, including broad workforce enhancement packages, policies easing the process of obtaining licensure, and enabling licensure portability through the enactment of interstate licensure compacts.

**Workforce**

As states began exploring policy solutions to increase the nursing workforce, common approaches emerged. These approaches included studying the nursing workforce issue, creating student loan repayment and scholarship programs, and providing income tax credits to rural practitioners and preceptors to ensure equitable healthcare access.

In June 2022, Vermont enacted S.B. 11, which was a broad nursing workforce package aimed at fortifying the state’s supply of nurses through greater investment (S.B. 11, 2022). This comprehensive legislation utilized $84.5 million of both federal and state American Rescue Plan Act funding to address workforce shortages in Vermont, with $10 million directly allocated to address healthcare workforce shortages (Office of Governor Phil Scott, 2022). Within this bill, Vermont invested in nurse preceptor incentive grants, emergency grants to support nurse faculty and staff, a healthcare employer nursing pipeline and apprenticeship program, and loan repayment programs for nurses and nurse faculty, among other incentives (S.B. 11, 2022). These investments are aimed to reinforce and sustain the healthcare workforce in Vermont (S.B. 11, 2022).

In a more targeted approach, Louisiana created the Health Inequities and Disparities in Rural Areas Task Force through the enactment of House Concurrent Resolution 44 in May 2022. Through unanimous passage in both chambers, this task force was established to identify key drivers of health disparities in rural areas, consider social determinants of health when making recommendations on the delivery of rural healthcare, study solutions to reduce provider shortages in rural areas, and collaborate with healthcare occupational licensing boards to draft legislation enabling increased access to care for rural communities (House Concurrent Resolution No. 44, 2022).

Mississippi enacted House Bill 1005 in spring 2022 to create the Nursing and Respiratory Therapy Education Incentive Program, a forgivable loan program for students studying to become an LPN/LVN or RN, RNs advancing their education, or those looking to become respiratory therapists. Forgivable loans are established and shall be allocated to students who are accepted and enrolled in an accredited nursing program or respiratory therapy program, complete an application by the deadline, and enter a contract with the board. The program requires that students complete the course of study agreed upon, and following the completion of the course of study, they must practice nursing in the State of Mississippi for not less than 5 years (H.B. 1005, 2022).

**Occupational Licensure**

A persistent trend across the country has been easing the process to obtain occupational licensure by enacting provisions for reciprocal licensure, licensure by endorsement, and expedited licensure. Streamlining the licensure process by providing flexibility enables qualified practitioners to supplement the workforce in areas of greatest need and thus more easily provide borderless healthcare to patients both in person and via telehealth.

Indiana S.B. 5 established a uniform process of licensure by endorsement for healthcare professionals, including nurses, to practice in Indiana (S.B. 5, 2022). According to the provisions of this legislation, an applicant may be licensed by endorsement if they are licensed in good standing in another state or jurisdiction with substantially equivalent requirements for licensure (Indiana General Assembly, 2022). If an applicant is licensed in good standing in another jurisdiction with differing requirements, they are entitled to a provisional license or certificate (S.B. 5, 2022).

New Mexico’s approach to licensure mobility took the opposite approach, requiring the BON to determine, by rule, the states and territories of the United States or the District of Columbia from which it will not accept an applicant for expedited licensure and determine any foreign countries from which it will accept an applicant for expedited licensure. The board shall post the lists of unapproved and approved licensing jurisdictions on the board’s website, and the disapproved licensing jurisdictions shall include the specific reasons for disapproval (H.B. 191, 2022).

On December 9, 2021, Governor Andy Beshear of Kentucky released an executive order declaring a state of emergency relating to the nursing shortage (Ky. Exec. Order, 2021). Within this order, the Kentucky Nurses Association was cited projecting that Kentucky is currently operating 12% to 20% short of the needed nursing volume and will need more than 16,000 additional nurses by 2024 (Ky. Exec. Order, 2021). As a result of this executive order, Kentucky S.B. 10 (2022) was introduced at the beginning of the 2022 legislative session. As enacted, Kentucky S.B. 10, provides that the BON shall issue a temporary work permit to practice nursing as a RN or LPN to any applicant who has been licensed in good standing in another state or territory (S.B. 10, 2022).

This bill goes further than other temporary permits to practice by establishing strategies to potentially stabilize the nursing workforce through additional licensure and education provisions. Under S.B. 10, the BON shall issue a license to practice as an RN or LPN to any applicant who has passed the jurisprudence examination and is currently licensed in good standing in a U.S. state or territory that is not a member of the Nurse Licensure Compact (NLC) (S.B. 10, 2022). Additionally, the BON shall issue a license by endorsement to an applicant who has graduated from a foreign nursing school and achieved a passing score on the NCLEX and either
a satisfactory Credentials Evaluation Service Professional Report or a satisfactory VisaScreen International Commission on Healthcare Professions Certificate Verification Letter issued by the Commission on Graduates of Foreign Nursing Schools (S.B. 10, 2022). Finally, this bill addresses nursing education by providing that if a school of nursing or nursing program has at least an 80% average rate of successful completion of the NCLEX during the previous 3 years, the BON shall not impose a limit on the total number of students or the number of students that may be added to increase its enrollment (S.B. 10, 2022).

Other, states expanded the types of licenses offered during the 2022 legislative session, with Oregon establishing nursing internship licenses through House Bill 4003 (2022) and Utah establishing the licensure of RN apprentices through the enactment of Senate Bill 101 (2022).

**APRN Consensus Model**

The 2022 legislative session brought the country closer to uniformity in APRN practice and regulation. Significant legislative battles were won in Kansas and New York to remove barriers for APRN practice, resulting in full practice authority for the nurse practitioner (NP) role in more than half of the states.

Governor Hochul of New York included full practice authority language for NPs in her 2022 budget proposal (Shryock, 2022). Previously, NPs in New York were required to maintain a collaborative practice agreement with a physician for 3,600 hours, and after that to maintain the attestation of a collaborating physician. The newly enacted legislation removes the requirement for collaborative practice after 3,600 hours (Brusie, 2022). Through enactment of this legislation, New York became the 25th state to enact full practice authority for NPs, according to the American Association of Nurse Practitioners (AANP, 2022). AANP Chief Executive Officer Jon Fanning remarked, “As the 25th state with Full Practice Authority, New York joins an expanding list of states acting to retire outdated laws that have needlessly constrained their health care workforce and limited patient access to care” (AANP, 2022).

Less than 1 week later, Kansas Governor Kelly signed House Bill 2279, adding another state to this list (H.B. 2279, 2022) after an advocacy effort that spanned over a decade. In a state with 103 of 105 counties designated as mental healthcare provider shortage areas and 85 of 105 designated as whole county primary care shortage areas, lawmakers sought policy solutions to increase access to care across the state (Rural Health Information Hub, 2022a; 2022b). House Bill 2279 removed the mandated collaborative agreement APRNs in the state must hold to prescribe medications to treat their patients (H.B. 2279, 2022). The bill had been modified throughout the years as stakeholders looked for a solution that would remove restrictions, increase access to care, and clear the hurdle of opposition from the powerful Kansas Medical Society (Cooper, 2022). Previous efforts focused on the Kansas House, but the legislation stalled in 2019, falling victim to a procedure commonly referred to as a “gut-and-go”, and was amended with Medicaid expansion language (Shepard et al., 2019). In a change of strategy from previous years, supporters introduced a simplified version of the legislation, starting in the Kansas Senate.

In addition, a robust and diverse coalition backed the measure, which added to the team’s political reach and messaging. Declaring that the legislation was a “no-cost, no-delay solution that immediately cuts red tape in our state’s health system,” Christie Kriegshauser, Director of Political Affairs for the Kansas Chamber of Commerce, stressed the benefits the legislation would have for Kansans, stating, “we know 24 other states with this model in place are, frankly, more competitive. They have better access to care and more choices available for their patients” (Davis, 2022). The Kansas Chamber included the removal of collaborative practice agreements over APRNs as a healthcare priority for their Relief and Recovery Agenda related to the COVID-19 pandemic (Kansas Chamber, 2022). In addition to the Kansas Chamber, other non-nursing partners included Americans for Prosperity-Kansas, AARP, and Walmart (Douglass, n.d.). Leadership on this issue from the Kansas Advanced Practice Nurses brought together both state and national nursing stakeholders, including the AANP and NCSBN, to team up with them. Together the coalition worked to educate lawmakers on the goals of the legislation and the benefit to patients, providers, and businesses across the state.

The effort also had the backing of nearly three-fourths of Kansans, according to a Mellman Group poll (Davis, 2022). Kansans from across the state expressed support for the legislation and those lawmakers that would support the issue. Legislators including Senator Richard Hilderbrand and Representative Dan Hawkins championed the effort, leading the bill to passage in the Senate with a vote of 30-7, and a final vote of 80-34 in the House (H.B. 2279, 2022). Governor Kelly signed the bill into law on April 15, 2022, remarking, “This will improve the availability of high-quality health care by empowering APRNs to reduce local and regional care gaps” (Office of the Governor, 2022).

As the 2023 legislative session approaches, the successes and lessons learned in New York and Kansas will hopefully translate to success for states still fighting for full practice authority for APRNs.

**Licensure Compacts**

The COVID-19 public health emergency (PHE) caused numerous healthcare professions to consider alternate pathways to enable licensure portability and practitioner mobility (Hentze & Herman, 2021). While physicians and nurses were a focus during the pandemic,
nearly all healthcare professions were impacted during a time when practitioner mobility was needed most. Mobility and crossborder telehealth practice enable the existing workforce to stretch its capabilities and resources to attend to the greatest number of patients. This type of workforce agility is especially valuable during a wide-scale crisis event (Berlin, LaPointe, Murphy, & Wexler, 2022).

While states have continued to ease the process to obtain occupational licensure for existing healthcare practitioners, the most effective way to easily supplement the healthcare delivery system in times of crisis is through interstate licensure compacts. Interstate licensure compacts offer a safe process for increased licensure mobility for qualified healthcare practitioners. Currently operational licensure compacts encompass RNs, LPNs/LVNs, APRNs, physicians, physical therapists, emergency medical services personnel, and psychologists. With nearly 70 pieces of compact legislation enacted across the country, professional licensure compacts continue to see exponential growth and interest in state legislatures.

In December 2021, the NLC added the U.S. Virgin Islands to its list of members, bringing the total membership to 39 jurisdictions. The U.S. Virgin Islands was the second territory to enact the NLC after Guam did so in March 2021. To view a map of participating jurisdictions and their implementation status, visit www.nursecompact.com.

After 5 years of successful operation, the Interstate Medical Licensure Compact (IMLC) currently boasts 39 member jurisdictions (IMLC, n.d.). The Physical Therapy Licensure Compact remains at 33 member states after the 2022 legislative session (PT Compact, n.d.). The Psychology Interjurisdictional Compact (PSYPACT) increased its membership to include 33 states and the District of Columbia (PSYPACT, n.d.). The Recognition of EMS (emergency medical services) Personnel Licensure Interstate Compact has been enacted via legislation in 22 states (The EMS Compact, n.d.).

Other professions, both in and out of the healthcare field, are in various phases of compact development or implementation. In 2022, occupational therapists, audiologists and speech-language pathologists, and counselors met the threshold number of enacted states to become operational. The Audiology and Speech-Language Pathology Interstate Compact (ASLP-IC) increased its membership to 23 states (ASLP-IC, n.d.). As the ASLP-IC surpassed its threshold for activation last year, the ASLP-IC Commission convened for the first time in January 2022 (ASLP-IC, n.d.). It is anticipated that applications for compact licensure privileges will open in 2023 (ASLP-IC, n.d.). The Occupational Therapy Licensure Compact (OT Compact) is now enacted in 22 states (OT Compact, n.d.-a). After the OT Compact Commission convened for the first time in August 2022, it was announced that OT Compact privileges to practice are anticipated to be available in late 2023 or early 2024 (OT Compact, n.d.-b). Finally, the Counseling Compact increased from 2 participating states to 17 participating states by fall 2022 (Counseling Compact, n.d.-a). Since surpassing the 10-state activation threshold, the Compact Commission will convene and applications for privileges to practice through the Counseling Compact are expected to be available in late 2023 or early 2024 (Counseling Compact, n.d.-b).

Most notably, 2022 marked the first-time compacts were successfully enacted in Connecticut, a state that has previously been resistant to exploring compact legislation. The Office of Governor Ned Lamont conducted extensive workgroups studying licensure compacts. After much discussion, the decision was made to pursue two compacts and include them as part of the Governor’s mental and behavioral health services bill, Senate Bill 2. As a result of this process, the IMLC and PSYPACT were enacted in Connecticut in May 2022 (An Act Expanding Preschool and Mental and Behavioral Services for Children, 2022).

In 2023, we expect to see initial compact bills introduced in state legislatures for the professions of social work, teaching, cosmetology, and barbering. We also anticipate that dentistry, massage therapy and physician assistants will complete the stakeholder review and final drafting phases of their respective compacts in 2023 (National Center for Interstate Compacts, 2022). In the next several years, approximately 20 licensure compacts for healthcare professions could be realized (National Center for Interstate Compacts, 2022). Figure 10 summarizes the current number of states that have enacted licensure compact legislation for several healthcare professions.
APRN Compact

The 2022 legislative session saw three introductions and one enactment of the APRN Compact, due in no small part to significant support at both the state and national levels. To date, state associations representing each of the four APRN roles have expressed support for the APRN Compact. CRNA support has been especially strong, with state associations representing CRNAs supporting the APRN Compact in Delaware, Maryland, North Dakota, and Utah. The mobility that the APRN Compact facilitates, along with the financial and administrative costs savings, is no doubt a consideration in CRNA support for the legislation. According to a survey conducted in May 2021 by healthcare job placement service LocumTenens, 45% of CRNA respondents cited their employment status as exclusively locum tenens or independent contractor (LocumTenens.com, 2021).

The Utah Nurse Practitioners led a robust coalition of supporters for Utah Senate Bill 151, and the bill was successfully enacted with unanimous legislative support. Senator Curtis Bramble sponsored the legislation and commented, “It was my privilege to support APRNs in Utah and the important role they play in providing excellent care to our community...” Senator Bramble remarked, “[W]e need these highly qualified health care professionals to live and work in Utah in order to address our growing population’s needs. This bill balances the urgent need for more health care workers while upholding high standards for training and safety” (NCSBN, 2022d). In addition to a coalition including nursing stakeholders such as the Utah Nurses Association, the University of Utah School of Nursing, and the Utah Organization of Nurse Leaders, the coalition also included stakeholders representing business, telehealth, and military families (Utah Senate, 2022). The Alliance for Connected Care, an organization dedicated to facilitating quality care through telehealth, submitted written testimony supporting the bill. “As a telehealth advocacy organization, the Alliance believes APRNs are an essential component to expanding access to care through the use of telehealth, especially for patients who live in rural and underserved communities who may not have access to services they need where they reside,” the Alliance Executive Director Krista Drobac wrote (Drobac, 2022). With enactment of Senate Bill 151, Utah becomes the third state to enact the APRN Compact (NCSBN, 2022d).

In Maryland, Senator Adelaide Eckardt added the APRN Compact to the already extensive list of nursing legislation she has championed in the state. Senate Bill 154 was pre-filed in the spring of 2021 and, like the NLC, of which Maryland was the first member in 1999, advocates looked to ensure Maryland was one of the first states to join the APRN Compact (S.B. 154, 2022; Maryland Board of Nursing, 2017). In their testimony before the Senate Education, Health, and Environmental Affairs Committee, the U.S. Department of Defense Liaison Office argued that with passage of the bill, “Maryland is poised to play a founding role in developing the compact” (Support of: SB 154, 2022). The testimony focused on the benefits of licensure mobility for the military community. “The APRN Compact will assist Maryland military spouse nurses practicing both in and out-of-state, while improving the quality of care in the Old Line State” Northeast Region Liaison Christopher R. Arnold testified (Support of: SB 154, 2022). Though the bill did not advance past the committee stage, 14 proponents testified on behalf of the bill, which sets the stage for future efforts in the state (Maryland General Assembly, 2022).
The Maryland Association of Nurse Anesthetists testified in favor of the APRN Compact bill (Hopkins, 2022). The association’s president, Natasha Hopkins, remarked that Senate Bill 154 “increases access to care, protects patient safety and reduces costs while supporting state-of-the-art health care delivery” (Hopkins, 2022).

Maryland’s introduction saw the first support from a clinical nurse specialist organization (Diana, 2022). The Chesapeake Bay Affiliate of the National Association of Clinical Nurse Specialists supported Senate Bill 514 (Diana, 2022). Clinical nurse specialists were included in a statewide survey of Maryland APRNs conducted in December 2021. Support among all APRNs for introduction of the APRN Compact was 93%, a significant result demonstrating strong support for licensure mobility among the profession (Diana, 2022). Among those respondents indicating they would not be supportive, the majority indicated they were unfamiliar or unsure of the language of the compact. Ongoing coalition building and education efforts, including by the Maryland Academy of Advanced Practice Coalition (2022), are working toward informing more APRNs about the legislation.

A 2022 survey conducted in Arizona saw equally robust support for the APRN Compact (Ridenour, 2022). The survey found that 95% of APRNs were in favor of adopting the APRN Compact and that half of the respondents expressed interest in practicing across state lines via telehealth (Ridenour, 2022). Demonstrating the need for licensure mobility among APRNs in Arizona, the survey found 65% of respondents reported a “need to provide APRN care or educational services to individuals living or traveling outside of Arizona in the past 24 months” (Ridenour, 2022).

Although New York does not currently participate in any healthcare licensure compacts, discussion among legislators has been increasing on the subject. The NLC received a spotlight in the 2022 legislative session as Governor Hochul included the compact for RNs and LPNs in her budget address and subsequent budget bill (Governor Kathy Hochul, 2022). In May 2022, Republican Minority Leader Senate Ortt introduced the APRN Compact and NLC bill in Senate Bill 9236 (S.B. 9236, 2022). Although 2022 efforts in New York did not ultimately result in passage of either compact, growing interest in nursing compacts in New York is encouraging, and the 2023 session is likely to bring further discussion to the issue there and across many states.

Four additional enactments of the APRN Compact language are needed for the APRN Compact to become operational. With interest increasing among lawmakers and stakeholders alike, the coming legislative sessions will bring APRNs closer to having licensure mobility currently enjoyed by registered nurses and licensed practical nurses.

**COVID-19**

Outside of the strategies to enhance the nursing workforce, it is imperative to discuss one key legislative trend we saw during the 2022 legislative session—namely, bills related to COVID-19 misinformation and the ability of practitioners to prescribe and ivermectin and hydroxychloroquine as alternative treatments for COVID-19. While ivermectin and hydroxychloroquine were initially considered to treat COVID-19, their efficacy as a treatment has been widely discredited and deemed ineffective (Hill, Mirchandani, & Pilkington, 2022; Boulware et al., 2020). As misinformation promoting these alternative treatments prevailed, the FDA explicitly advised against taking ivermectin as an alternative treatment for COVID-19 (FDA, n.d.). This session, NCSBN tracked approximately 70 pieces of legislation introduced in more than 30 states addressing the ability of practitioners to prescribe and dispense ivermectin and hydroxychloroquine.

While the majority of legislation introduced surrounding COVID-19 misinformation failed, two bills of interest were enacted this session: New Hampshire House Bill 1466 (2022) and Tennessee Senate Bill 2188 (2022) and House Bill 2746. According to New Hampshire H.B. 1466, an APRN, physician assistant, or physician may lawfully prescribe an FDA-approved drug for off-label use and be held to the same standard of care as when prescribing for on-label indications when off-label use of the drug product for this indication has longstanding common use, there is medical evidence to support this use and no known evidence contraindicating such use, or the licensee has provided and the patient has signed an informed consent form acknowledging risks and disclosing that the prescription is for an off-label use (H.B. 1466, 2022).

Pursuant to Tennessee Senate Bill 2188/House Bill 2746, ivermectin is available for treatment for COVID-19 without a prescription in the state of Tennessee. This bill enables a pharmacist to provide ivermectin to a patient who is aged 18 years or older pursuant to a valid collaborative pharmacy practice agreement containing a non–patient specific prescriptive order and standardized procedures developed and executed by one or more authorized prescribers (S.B. 2188, 2022). Additionally, this legislation requires the Board of Pharmacy to create rules to establish a standardized procedure for the provision of ivermectin by pharmacists (S.B. 2188, 2022).

While bills addressing misinformation and ivermectin dominated legislative discussions, the majority of enactments related to COVID-19 were bills providing for continued licensure flexibilities in response to the COVID-19 PHE. One example of a bill of this type is Vermont House Bill 654, which extends healthcare regulatory flexibilities enacted due to the COVID-19 pandemic until March 31, 2023. These flexibilities include authorizing a healthcare professional who holds a valid license, certificate, or registration in good standing in any other U.S. jurisdiction to provide healthcare services to a patient located in Vermont as a volunteer member of the Medical Reserve Corps, for a period not to exceed 6 months, as part of the staff of a licensed facility or federally qualified health center (An Act Relating to Extending COVID-19 Health Care Regulatory Flexibility, 2022).
Looking Ahead

While we expect all the aforementioned trends to be topics of conversation at state legislatures in 2023, we anticipate additional legislation on the following topics:

- The nursing workforce as states continue to study and explore policy solutions to both retain and enhance the workforce
- Expansion of the role and regulation of CNAs
- Changing nursing education program standards
- Qualifications necessary for nursing students to obtain licensure
- Reproductive health laws in the wake of the overturning of Roe v. Wade.

In 2022, we saw enactments addressing reproductive health laws in a myriad of ways, including states either implementing protections or restrictions of the provision of abortion services, expanding the scope of APRN practice to increase access to reproductive care, and addressing the issue of practitioner discipline and reciprocal discipline of licensees who provide such services.

Federal-Level Action

The start of 2023 will usher in the 118th Congress, and there are several new challenges in the nursing regulatory world that will need to be addressed. With the 2024 presidential election quickly approaching, we anticipate a large number of priority items to be catalyzed by the Biden White House in the coming year. COVID-19 brought about a wave of discussions on a variety of health-related topics such as telehealth that we anticipate will continue through 2023 and be adapted to address a post-pandemic world.

Public Health Emergency

The United States has been in a PHE since March 2020, with the PHE status renewed every 90 days (Administration for Strategic Preparedness and Response, n.d.). In response to the declared PHE, the Centers for Medicare & Medicaid Services (CMS) issued waivers related to state licensing, telehealth, and support of workers, aimed at reducing burdens and increasing states’ abilities to respond to COVID-19. Secretary of Health and Human Services (HHS) Xavier Beccera committed that HHS would give 60 days’ notice before the end of the PHE to allow states to prepare for the termination of waivers (Cochran, 2021); Congress granted a 151-day grace period following the end of the PHE to allow states additional time to prepare (CMS, 2022).

CMS

Some waivers were terminated prior to the end of the PHE, including waivers related to nurse aides and their educational and training requirements. Previously, educational and training requirements could be waived for a period of 4 months, after which the individual would need to begin education or training. CMS terminated this waiver in October 2022, compelling all employed nurse aides to come into compliance with state requirements. Facilities demonstrating hardship could apply for an extension, and states with wider compliance issues could apply for a waiver. Importantly, any extensions would terminate the day the PHE ends, which will likely be early 2023 (Wright, 2022).

Telehealth

Over the past year, there has been increased interest in looking at the future of telehealth beyond the COVID-19 pandemic. In 2020, CMS issued multiple waivers that aimed to increase access to telehealth by expanding the list of eligible providers and allowing audio-only telehealth services to be used and billed for accordingly. By November 2022, CMS had announced some of the waivers that would be terminated 151 days after the PHE ends, including ending audio-only services and expanded providers (CMS, 2022). As this expanded access is poised to end, Congress has explored ways to perpetuate some aspects of expanded access to telehealth services via legislation.

Representative Mike Thompson of California introduced the Protecting Access to Post-COVID-19 Telehealth Act of 2021, which would allow the secretary of HHS to waive Medicare requirements regarding telehealth, such as geographical restrictions, in the event of another PHE. The aim of this bill is to position the United States to better respond to future public health crises similar to COVID-19 (Protecting Access to Post-COVID–19 Telehealth Act, 2022).

Senator Catherine Cortez-Masto introduced the Telehealth Extension and Evaluation Act, which would extend all CMS COVID-19 waivers related to telehealth for a 2 years following the end of the PHE. It also would require a study of the impact of telehealth waivers during the COVID-19 pandemic with the aim to better understand whether any of the waivers need to be made permanent (Telehealth Extension and Evaluation Act, 2022). These bills are still pending in Congress and are unlikely to move in the remaining time of the 117th Congress.

Senator Brian Shatz introduced The Creating Opportunities Now for Necessary and Effective Care Technologies (CONNECT) for Health Act of 2021, or the CONNECT for Health Act of 2021. This legislation is aimed at broadly expanding telehealth and reducing barriers for individuals to access services, including removing geographical restrictions to allow a patient to see their provider
via telehealth regardless of the physical distance between the two sites. The CONNECT for Health Act also aims to expand the list of providers who are eligible to practice via telehealth (CONNECT for Health Act, 2021). This bill is pending in Congress; it is not expected to move forward and will likely be reintroduced in the 118th Congress.

### Veterans Affairs

Provider accountability within the Department of Veterans Health Administration (VHA) remains a concern for federal legislators. Senator Joe Manchin introduced the Department of Veterans Affairs Provider Accountability Act, which is a bill that aims to require VHA facilities to report adverse events to state licensing boards and the National Provider Databank to prevent unsafe providers from moving out of a VHA facility and into the private sector with no legal record of the adverse events. This legislation would also ensure that the VHA does ongoing monitoring of licenses for healthcare providers and prevents VHA facilities from entering into agreements that would require them to conceal the adverse events of a provider (Department of Veterans Affairs Provider Accountability Act, 2021). This bill is not moving forward in 2022 and will need to be introduced in the 2023 session. The VA is also developing a set of national standards of practice for each healthcare role that would create uniformity across the entire VHA system. This will include nurses (RNs and LPNs/LVNs) and all APRN roles; however, nursing roles are expected to be among the last occupations to be analyzed (U.S. Department of Veterans Affairs, 2021).

### Social Issues Related to Nursing Regulation

The continued opioid epidemic in the United States remains a priority social issue that impacts nurses and the nursing profession. Furthermore, workplace violence and racism have affected the profession and the individuals involved, leading to legislation on diversity, equity, and inclusion and guidance on confronting individual and systemic racism.

### Opioids

The year ending 2021 presented a historic and disturbing number as 107,000 Americans died of drug overdose (Centers for Disease Control and Prevention [CDC], 2022a). The CDC calculated the number of overdose deaths by reviewing death certificates and then making an estimate to account for delayed and incomplete reporting. The provisional total for 2021 "translates to roughly one U.S. overdose death every 5 minutes. It marked a 15% increase from the previous record, set the year before" (Stobbe, 2022).

The data are featured in an interactive web data visualization on the CDC website (National Center for Health Statistics, 2022).

For the past 2 decades, U.S. overdose deaths have increased almost every year. "The increase began in the 1990s with overdoses involving opioid painkillers, followed by waves of deaths led by other opioids like heroin and—most recently—illicit fentanyl" (Stobbe, 2022). In 2021, there was a 23% increase in overdoses involving fentanyl and other synthetic opioids, accounting for more than 71,000 deaths. Likewise, deaths involving cocaine were also up by 23%. Additionally, there was a 34% increase in deaths involving methamphetamine and other stimulants (Stobbe, 2022).

Several research studies published in 2022 revealed insight into the extraordinary number of deaths by drug overdose. Law enforcement seizures of pills containing illicit fentanyl increased dramatically between January 2018 and December 2021. A National Institute on Drug Abuse–funded study found that the number of individual pills seized by law enforcement increased nearly 50-fold from the first quarter of 2018 to the last quarter of 2021 (Palamar et al., 2022). These confiscations represented more than a quarter of illicit fentanyl seizures by the end of 2021. Additionally, there was an increase in fentanyl-containing powder seizures. Associating the CDC data in the 12-month period ending in October 2021 with the study’s data revealed that “the United States hit a record high in the number of overdose deaths ever recorded, estimating that nearly 106,000 people died from drug overdoses…. This rise is largely driven by illicit fentanyl and other synthetic opioids” (National Institute on Drug Abuse, 2022).

Current or leftover controlled substance medications that remain in the home continue to present a danger to those in the household. Research data from 40 states revealed that fatal poisonings among children younger than 5 years found that 47.3% of poisoning deaths involved opioids, while 14.7% of poisoning deaths were related to over-the-counter pain, cold, and allergy medications. Researchers also highlighted that 60.7% of poisoning deaths occurred in the child’s home, and in 70.6% of those cases, the child was being supervised when the poisoning occurred (Haelle, 2022).

In 2021, the American Medical Association (AMA) called for the CDC to overhaul its 2016 opioid prescribing guidelines because it was believed that the guidelines limit patients access to pain management treatments. In a letter to the CDC, the AMA asserted that 2016 guidelines have not kept pace with how the opioid epidemic has evolved. Drug overdose deaths continue to rise despite the CDC prescribing restrictions. Additionally, the AMA argued that the CDC’s prescribing recommendations “continue to be used against patients with pain to deny care” (AMA, 2021). The CDC presented new draft guidelines in the Federal Register for comment in February 2022 (CDC, 2022b). The finalized guidelines released on November 4, 2022, remove the specific dosage and day limits for appropriate opioid prescriptions. The recommendations now include a focus on acute (duration of less than 1 month) and subacute...
In April 2022, the Biden Administration unveiled a new strategy for tackling drug addiction overdoses that aims to expand access to medications for opioid overdoses, increase funding for law enforcement, and expand sanctions against traffickers (The White House, 2022). Titled the National Drug Control Strategy, it focuses on two critical drivers of the epidemic: untreated addiction and drug trafficking (The White House Executive Office, 2022). Federal agencies are to prioritize actions that will save lives, get people the care they need, go after drug traffickers’ profits, and make better use of data to guide all these efforts.

The National Drug Control Strategy relied on the data from the 2020 National Survey on Drug Use and Health, which demonstrated that of the 41.1 million people who needed treatment for SUDs, only 2.7 million (6.5%) received treatment at a specialty treatment facility over the previous year. The study’s conclusion was that “one reason for this gap is that people with addiction and those who care for them face too many barriers to treatment” (The White House, 2022). Therefore, the National Drug Control Strategy includes a charge to Federal agencies to address untreated addiction for those at-risk of an overdose by expanding high-impact harm reduction interventions like naloxone; ensuring those at highest-risk of an overdose can access evidence-based treatment; and improving data systems and research that guide drug policy development (The White House, 2022).

The distinct state and federal initiatives announced in 2022, as well as the collaboration between regulatory boards, identify a need for better alignment of opioid-related guidance and policies across regulatory boards to increase effectiveness in addressing opioid issues. One of the first products of the ORC is the website curbopioidmisuse.org, which provides information about ORC, SUD news and information, and a wide range of state, federal, and organizational resources for SUD, opioids, overdose, etc. (curbopioidmisuse.org, n.d.).

A collaborative effort aimed at addressing the opioid epidemic was launched by four healthcare regulatory boards in 2021 (American Association of Dental Boards, Federation of State Medical Boards, National Association of Boards of Pharmacy, and NCSBN) (Federation of State Medical Boards, 2021). This new partnership, the Opioid Regulatory Collaborative (ORC), will share resources and strategies to reduce opioid SUD among the public as well as healthcare practitioners, basing its work on:

- Ensuring that medical, pharmacy, nursing, and dentistry regulatory boards are kept informed of trends and developments in the nation’s ongoing effort to reduce opioid SUD
- Seeking better alignment of opioid-related guidance and policies across regulatory boards to increase effectiveness in addressing opioid issues
- Partnering with and supporting the initiatives of other healthcare organizations aimed at the opioid epidemic, including the National Academy of Medicine’s Action Collaborative on Countering the U.S. Opioid Epidemic.

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- Harmonize continuing education (CE) recommendations
- Help reduce stigma of addiction and SUD/opioid use disorder (OUD)
- Support access to evidence-based treatments for SUD/OUD.

The distinct state and federal initiatives announced in 2022, as well as the collaboration between regulatory boards, identify distinct guidance to end the opioid epidemic. A commonality from all the initiatives is to focus efforts on supporting access to evidence-based treatments for SUDs. SUD deserves the same level of treatment provided for those with diabetes or hypertension. Additionally, we must all participate in reducing the stigma of treatment both by providers and patients.

**Medication-Assisted Treatment**

The AMA’s 2022 Overdose Epidemic Report details the toll of the nation’s overdose and death epidemic and calls for “an all-hands approach—policymakers, public health experts, educators, faith leaders, and employers—to help save lives” (AMA, 2022a). The AMA’s all-hands approach requests increased access to medications to treat OUD and evidence-based harm reduction initiatives. Specific
strategies are detailed in the *State Toolkit to End the Nation’s Drug Overdose Epidemic: Leading-Edge Actions and Strategies to Remove Barriers to Evidence-based Patient Care* (AMA, 2022b).

Although therapy and abstinence-based models were the dominant treatment for many years, this type of treatment resulted in a high relapse rate. Renewed use after abstinence is associated with high overdose risk because a person’s drug tolerance decreases after a period of abstinence (Velander, 2018). That low tolerance and misjudgment of safe amounts often results in an avoidable overdose death.

Research demonstrates that buprenorphine and extended-release naltrexone significantly lower the risk of mortality and adverse outcomes (Velander, 2018). However, prescribing buprenorphine requires that the practitioner apply for a buprenorphine waiver and complete necessary training before prescribing (Substance Abuse and Mental Health Services Administration [SAMHSA], 2022a). These requirements for buprenorphine are unique in the prescribing of medication and serve as barriers to treatment for many.

The SAMHSA defines medication-assisted treatment as “use of medications, in combination with counseling and behavioral therapies, to provide a ‘whole-patient’ approach to the treatment of substance use disorders” (SAMHSA, 2022b). SAMHSA also states that medication-assisted treatments “are safe to use for months, years, or even a lifetime” (SAMHSA, 2022b). Despite the research, medications to treat OUD, such as methadone, buprenorphine, and naloxone extended release, although considered the standard of care for OUD, are controversial in some settings.

Velander (2018) identified several misconceptions for the use of buprenorphine, which include substituting one drug for another; exemplifying a failure of willpower or giving up; being incompatible with 12-step groups; allowing patients to get “high or loaded”; and being sold. The truths are that buprenorphine is a medication, not a substance; SUD is a medical disease, not a moral failure; 12-step programs distinguish between prescribed medications and substance use; intoxication does not occur if the patient is opioid dependent; and physicians can monitor for diversion of buprenorphine (Velander, 2018).

Recent actions and guidance are working to root out these misconceptions and allow the standard of care to be provided to those in rehabilitation programs. The U.S. Department of Justice participated in several lawsuits in spring 2022 related to the prohibition of medication for OUD. In February, the Justice Department filed a lawsuit against the Unified Judicial System of Pennsylvania for prohibiting medication for OUD during their supervision program. Then, in March, it entered into settlement agreements with Ready to Work, a Colorado-based employment, residential, and social services program, for denying admission based on medication for OUD. It reached a similar settlement with the Massachusetts trial court to resolve allegations that its drug court violated the ADA by discriminating against those with OUD. Also in March, the Justice Department issued a letter finding that the Indiana State BON violated the ADA by denying participation in a rehabilitation program because of OUD medication (U.S. Department of Justice, 2022). Through these actions, the Civil Rights Division of the Department of Justice, together with U.S. Attorneys’ offices, have been working to remove discriminatory barriers to recovery for individuals who have completed, or are participating in, treatment for OUD.

On April 5, 2022, the Civil Rights Division of the U.S. Department of Justice released *The Americans With Disabilities Act and the Opioid Crisis: Combating Discrimination Against People in Treatment or Recovery*. This guidance document provides information about how the ADA can protect individuals with OUD from discrimination. The legal principles discussed also apply to individuals with other types of SUDs (Civil Rights Division, 2022). Some key provisions of the guidance are:

- **Drug addiction is considered a physical or mental impairment under the ADA**
- The ADA also protects individuals who are in recovery, but who would be limited in a major life activity in the absence of treatment and/or services to support recovery
- An individual’s use of prescribed medication, such as that used to treat OUD, is not an “illegal use of drugs” if the individual uses the medication under the supervision of a licensed health care professional, including primary care or other non-specialty providers
- Individuals whose OUD is a disability and who are participating in a supervised rehabilitation or drug treatment program are protected by the ADA if they are not currently engaging in the illegal use of drugs (Civil Rights Division, 2022, pp. 1–3).

**Regulatory Implications**

Any provision that restricts participation in SUD monitoring programs because of the participant’s use of medication for OUD is in violation of the guidance in *The Americans with Disabilities Act and the Opioid Crisis: Combating Discrimination Against People in Treatment or Recovery*. However, following the guidance alone does not fulfill the monitoring program’s responsibility. Policies for evaluation of return to the workplace and fitness for practice must be considered for those using medication for OUD, as well as those not using medication for OUD. The work of ORC to harmonize CE requirements, help reduce the stigma of SUD/OUD, and support access to evidence-based treatments for SUD/OUD provides a mandate for healthcare regulators.

**Workplace Violence in Healthcare Settings**

Workplace violence in healthcare settings is an increasing threat and concern for nurses, other healthcare employees, and facility administration. In the past year, shootings killed two physicians, a receptionist, and a patient in Tulsa, Oklahoma (Hanna & Watts, 2022) and a nurse and a caseworker in Dallas, Texas (AP News, 2022). Another nurse was stabbed to death in Durham, North Carolina.
Proposals in the bill include the following (The Workplace Violence Prevention for Health Care and Social Service Workers Act, 2021):

- Undertaking of risk assessments relating to workplace violence from employees and other stakeholders
- Comprehensive violence prevention plan tailored to the organization, developed, and implemented with “meaningful participation” from employees and other stakeholders
- Raising awareness in communities about violence against health personnel
- Development of new legislation to protect health personnel
- Improvement relations between health personnel and patients and their family members
- Training health personnel in communication skills for de-escalating potentially violent situations

A study published in 2022 reported on a workplace nonfatal violence survey during one of the early months of the COVID-19 pandemic (Byon et al., 2022). As contextual evidence, the authors noted that the BLS indicated an increasing trend in violent nonfatal incidents in the healthcare sector from 2011 to 2018 (Byon et al., 2022). Almost three quarters of all nonfatal injuries and illnesses requiring days away from work occurred among healthcare workers. “Compared to private industry, workers in hospital settings were eight times more likely to experience nonfatal violence-related injuries from other persons (22.8 vs. 2.9 incidents per 10,000 full-time workers)” (Byon et al., 2022, citing BLS, 2020a). The authors also noted that in a BLS 2020 report, one of the highest rates of violent nonfatal incidents in the healthcare industry is experienced by nurses involved in direct patient care (BLS, 2020b).

Specifically investigating the early period of the pandemic, February through June 2020, the researchers found that:

- 44.4% of the RNs reported experiencing physical violence at least once from their patient, visitors, or family members. Among this group, those who experienced it 2 to 3 times were most frequent (20.7%). Two thirds (67.8%) of the RNs experienced verbal abuse at least once during the pandemic. Those who experienced it 2 to 3 times were most frequent (28.1%). Furthermore, RNs who provided care for patients with COVID-19 reported experiencing significantly more physical violence than those who did not (Byon et al., 2022, p. 414).

Researchers in Turkey also found increases in nonfatal workplace violence during the pandemic. Specifically examining the period between October and December 2020, the authors learned that “nurses’ exposure to all types of violence except for mobbing during the pandemic was found to decrease” (Özkan Şat, Akbaş, & Yaman Sözbir, 2021). The authors define mobbing as “psychological violence, emotional abuse, humiliation, exclusion, damaging the employee's self-confidence, breaking motivation, and restricting powers” (Sat, Akbas, Sözbir, 2021). The exposure to mobbing rose during the pandemic and was associated with decreased professional commitment and thoughts of quitting the profession.

In September 2022, data from a Press Ganey analysis revealed that “more than two nursing personnel were assaulted every hour in Q2 2022. That equates to roughly 57 assaults per day, 1,739 assaults per month and 5,217 assaults per quarter” (Business Wire, 2022). As expected, the highest number of assaults occurred from male patients in psychiatric units, emergency departments and, surprisingly, female patients in pediatric units such as pediatric burn, pediatric rehabilitation, and pediatric surgery (Business Wire, 2022).

There are many possible underlying factors contributing to the uptick in workplace violence during the pandemic, including the following: (a) the many strains on patients, staff, and facility management; (b) the limited visiting rules during the early pandemic; (c) the increase in frustration, anger, and uncertainty among patients; (d) the stressful and tiring environment for nurses; (e) the increased patient to nurse ratio; and (f) the increased fear for safety and health.

As nurses experienced similar episodes around the world, four groups came together to investigate these episodes. Some members of global Community of Concern of the Health Care in Danger Initiative (the International Council of Nurses [ICN], International Committee of the Red Cross, International Hospital Federation, and the World Medical Association) conducted a survey study to evaluate the perceptions of violence against healthcare personnel during the early stages of the pandemic and to identify good practices to prevent, reduce, or mitigate these type of incidents (ICN et al., 2022). Results of the survey “demonstrate the persistence of violence against health personnel in all responders’ locations, with a higher frequency of incidents after the coronavirus pandemic started. The incidents also impacted negatively on a wide range of health care services, from emergency care to programmatic preventive activities” (ICN et al., 2022, p. 1). Conclusions from this study indicated the following measures could be helpful (ICN et al., 2022):

- Raising awareness in communities about violence against health personnel
- Development of new legislation to protect health personnel
- A better and more robust system for reporting, monitoring, and analyzing data is required to allow for a better understanding of the magnitude of this phenomenon and to take appropriate decisions
- Improving relations between health personnel and patients and their family members
- Training health personnel in communication skills for de-escalating potentially violent situations.

Representatives Joe Courtney of Connecticut and Fred Keller of Pennsylvania introduced the Workplace Violence Prevention for Health Care and Social Service Workers Act in February 2021 to protect healthcare personnel. This bill passed out of the U.S. House of Representatives in April 2021 and is awaiting review by the Senate Committee on Health, Education, Labor, and Pensions. The proposals in the bill include the following (The Workplace Violence Prevention for Health Care and Social Service Workers Act, 2021):

- Comprehensive violence prevention plan tailored to the organization, developed, and implemented with “meaningful participation” from employees and other stakeholders
- Undertaking of risk assessments relating to workplace violence
• Implementation of suitable violence prevention measures and hazard training
• Procedures for emergency response, including procedures for threats of mass casualties and procedures for incidents involving a firearm or a dangerous weapon
• Undertaking reporting, incident response, and post-incident investigation procedures, including procedures for employees to report workplace violence risks, hazards, and incidents.

Furthermore, the Act’s comprehensive workplace violence prevention plan should be based on the 
*Guidelines for Preventing Workplace Violence for Healthcare and Social Service Workers* published by the Occupational Safety and Health Administration of the Department of Labor in 2015 (The Workplace Violence Prevention for Health Care and Social Service Workers Act, 2021).

Although the American Public Health Association, American Psychiatric Nurses Association, ANA, National Nurses United, and other nursing unions support the legislation, the American Hospital Association (AHA) opposes the legislation citing prohibitive costs that the bill would impose on America’s hospitals (Petrino, 2022; AHA, 2021). Instead, the AHA opined that “Federal policymakers should focus on dissemination of best practices to the field and support increased funding for behavioral health care” (AHA, 2021, p.3). The AHA also remarked that societal issues, in part, drive the assaults in the healthcare arena, mentioning the increasing numbers of behavioral healthcare patients treated in emergency rooms and other acute care settings and the growing opioid epidemic. Furthermore, the AHA stated that efforts to address the root causes of negative workplace safety issues should be the priority (AHA, 2021).

Shortly after the shooting deaths of four people in an Oklahoma hospital in June 2022, Representatives Madeline Dean (PA) and Larry Bucshon (IN) introduced the Safety from Violence for Healthcare Employees (SAVE) Act (2022). This bill is in response to the rise of hospital violence and provides steps to enhance criminal penalties for someone who knowingly and intentionally enters a hospital and assaults an employee; it is modeled after current protections for aircraft and airport workers. The bill also provides for a grant program for hospital workforce safety and security for the purpose of conducting programs to reduce the incidence of violence at hospitals, including violence or intimidation against hospital personnel in the performance of their duties. Currently, the bill sits in the House Committee on the Judiciary awaiting review. The AHA does support this bill (AHA, 2022).

In response to the October 2022 murder of the Texas nurse and caseworker, the AHA released an article by AHA’s Chief Nursing Officer, Robyn Begley. She noted, “As health care leaders, we must urgently lead work with all clinicians, staff and leadership to drive a cultural change so no one accepts workplace violence as part of a health care worker’s job” (Begley, 2022). Furthermore, the Begley directed hospitals and health systems to protect their employees and patients by using the recently updated *Guiding Principles: Mitigating Violence in the Workplace* by the American Organization for Nursing Leadership (AONL) and the Emergency Nurses Association (ENA) (2022a).

The principles generally include information about evidence-based strategies, comprehensive solutions, promoting a culture of safety, commitment and action from interprofessional teams, whole-system accountability, identification and addressing of violence in the workplace, creating a culture of nonviolence, and addressing workplace violence (AONL & ENA, 2022a). A *Toolkit for Mitigating Violence in the Workplace* is also available (AONL & ENA, 2022b). This toolkit serves as a resource for developing a plan to mitigate violence and lists the following steps: (a) understanding workplace violence, (b) creating a culture of nonviolence, (c) assessing and mitigating risk factors, (d) developing a workplace violence prevention program, (e) continuously training and deploying staff, and (f) evaluating and measuring impact.

Although the resources above provide general areas that a violence prevention plan should include, none of them require a plan to be developed by healthcare entities. Only the Workplace Violence Prevention for Health Care and Social Service Workers Act requires the development of a plan. However, The Joint Commission (2021) updated its accreditation standards for hospitals to include new and revised elements of performance pertaining to safety and security. These revisions include requiring an annual worksite analysis related to violence prevention and requiring an established hospital process for monitoring, reporting and investigation of workplace violence. The revised standards also require the creation of a workplace violence prevention program and hospital-provided training on the subject. These revised standards took effect January 1, 2022 (The Joint Commission, 2021).

**Racism in Nursing**

In January 2021, several nursing organizations launched the National Commission to Address Racism in Nursing (the Commission) (ANA, 2021). With the goal of motivating nurses, patients, and communities to confront individual and systemic racism, this Commission examines the issue of racism within nursing nationwide, focusing on the impact on nurses, patients, communities, and healthcare systems. Nearly 20 organizations are members of the Commission, with the lead members being the ANA, the National Black Nurses Association, the National Coalition of Ethnic Minority Nurse Associations, and the National Association of Hispanic Nurses.

Declaring that “The nursing profession exemplifies inclusivity, diversity, and equity creating an antiracist praxis and environment,” the Commission seeks to “set as the scope and standard of practice that nurses confront and mitigate systemic racism within the nursing profession and address the impact that racism has on nurses and nursing” (National Commission to Address Racism in Nursing, n.d.-a).

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In January 2022, the Commission released the findings of its *Racism's Impact in Nursing* research study. More than 5,600 nurses participated in the study, and the findings revealed that nearly half of those nurses agreed there is “a lot” of racism in nursing. Other findings include the following: (a) 63% of nurses surveyed say that they have personally experienced an act of racism in the workplace, with the transgressors being either a peer (66%), patients (63%), or a manager or supervisor (60%); (b) 57% of nurses said they have challenged racism in the workplace, but more than half said their efforts resulted in no change; (c) more than half of nurses say racism in the workplace has impacted their professional well-being; and (d) more than three quarters of Black nurses say racism negatively impacts their professional well-being (National Commission to Address Racism in Nursing, n.d.-b).

The study’s findings “validate the Commission’s new definition of racism: ‘assaults on the human spirit in the form of actions, biases, prejudices, and an ideology of superiority based on race that persistently cause moral suffering and physical harm of individuals and perpetuate systemic injustices and inequities’” (National Commission to Address Racism in Nursing, 2021).

In May 2022, the Commission issued a foundational report *Racism in Nursing* that explored the impact of systemic racism on the nursing workforce and the delivery of nursing care (National Commission to Address Racism in Nursing, 2022). This report series includes six individual reports:

1. The History of Racism in Nursing: A Review of Existing Scholarship
2. Systemic Racism in a Contemporary Society
3. How Does Racism in Nursing Show Up in the Education Space?
4. How Racism Shows Up in Policy
5. Racism in Nursing Practice
6. Racism in Nursing Research Themes

The Commission describes these reports as exploring how racism manifests in the nursing profession and invites readers “to read each document with an open mind and heart, and with the empathy and thirst for knowledge that define excellence in nursing. How might this information influence you and your nursing practice? How might it be fuel for improving our profession, and the health, educational, and social systems in which we engage and work?” (ANA, n.d.-b)

Shortly after the *Racism in Nursing* report, the ANA voted during its June 11, 2022, membership assembly to begin a journey of racial reckoning (ANA, 2022a). This official recognition of the organization’s history of systemic racism was followed with a formal apology letter to nurses of color. This historic apology letter sought to publicly identity and acknowledge the ANA’s past actions and address harms that continue today. The ANA notes that this letter is “a meaningful first step to acknowledge its own past actions that have negatively impacted nurses of color and perpetuated systemic racism” (ANA, 2022a).

The ANA letter addresses specific examples of ANA’s history and failure to include and represent the views and needs of nurses of color. Among the several listed examples of that failure is ANA’s purposeful, systemic, and systematic exclusion of Black nurses from 1916 until 1964 (ANA, 2022a). The letter specifically notes that the examples included are not a complete reckoning of ANA’s past. The ANA further apologized for the harms and concludes that these actions caused “irreparable physiological, psychological and socioeconomic harm, not only to nurses of color but to all patients, families and communities that depend on ANA as the national leader of the nursing profession” (ANA, 2022a).

According to the letter, the ANA Board of Directors will continue this racial reckoning journey through the following actions: (a) continuing to recognize and apologize for past harms, (b) directly reconciling with ethnic-minority professional nursing organizations, (c) developing a diversity, equity, and inclusion impact analysis, and (c) publicizing the contributions of ethnic-minority nurses through an oral history project (ANA, 2022a).

As an organization, the ANA will continue to make amends through its participation in the National Commission to Address Racism in Nursing as it strives to create antiracist practices and environments. The ANA will also advocate for established guidance on the reporting of race and ethnicity in professional journals and publications and appropriate representation and inclusion in textbooks and other educational material. The ANA also intends to implement a diversity, equity, and inclusion program within the association, provide transparency into the race and ethnic makeup of the association, and work to build diversity within the organization (ANA, 2022a).

ANA President Ernest Grant expressed the importance of taking this step in the current cultural climate, “ANA didn’t undertake this work because diversity, equity, and inclusion are fashionable in 2022. Rather, we see it as a pivotal moment to live up to our Code of Ethics and listen carefully to nurses of color—a term that reflects all nurses representing racial and ethnic groups. The statement also opens a space for long-overdue dialogue and positive change” (Grant, 2022). Grant also noted that the work of the Commission influenced the ANA letter. Though the Commission’s work is separate from ANA’s self-examination, that work did inform ANA’s reckoning and reconciliation journey (Grant, 2022).

The work of the Commission and the ANA continues to move forward. Project ECHO on Addressing Racism in Nursing is an educational program conducted as part of the ongoing work (ANA, 2022b). Through ECHO, a free tele-mentoring program, nurses
are connected to diversity, equity, and inclusion (DEI) experts via brief lectures and case-based learning and discussion. Eight 90-minute sessions were offered in fall 2022.

**NCSBN Regulatory Initiatives**

At a time when the world is picking up where it left off before COVID-19, we at NCSBN are advancing projects that we have been working on before and throughout the pandemic. These projects have held our attention and kept us focused during this erratic time because we know they will contribute to patient safety and public protection in the present and will be invaluable during the next global health crisis. These projects educate healthcare regulators and nursing professionals, use the latest science to test clinical judgment and decision-making, boost the standards of prelicensure nursing education programs, and provide the evidence needed to shape nursing regulation and health policy.

**NCSBN International Center for Regulatory Scholarship**

Healthcare regulators from around the world turn to the International Center for Regulatory Scholarship (ICRS), an advanced education program developed by the NCSBN, for education tailored to nursing regulators, professionals interested in regulatory careers, and others who want to understand nursing regulation because they recognize that it is a critical facet of global health policy. Nurses also turn to ICRS for courses that emphasize patient safety and public protection. To cater to each of these professional demographics, ICRS consists of three programs: (1) the ICRS certificate program, (2) foundations of regulation, and (3) CE.

**ICRS Certificate Program**

The ICRS certificate program is a competency-based online and blended plan of study that offers courses along the Pathways of Governance and Leadership, Public Policy and Legislation, and Research and Measurement. For example, a new course for 2022 is Cracking the Code to Nursing Education Program Approval: The Evidence. Situated in the Governance and Leadership Pathway and taught by Nancy Spector, PhD, RN, FAAN, this course focuses on the evidence-based quality indicators and warning signs of program performance that NRBs use when evaluating nursing education programs. Participants take a minimum of six courses over approximately 2 years before they are invited to an ICRS Advanced Leadership Institute, an in-person seminar that serves as the program’s capstone where participants hear expert speakers, engage in workshops, and network with peers from around the world. The inaugural ICRS Advanced Leadership Institute was hosted at the House of Sweden, home to the Embassy of Sweden, in Washington, DC, in April 2022. The 2-day event featured experts who spoke about nursing advocacy, leadership, mentorship, and mapping out a career that leaves a meaningful legacy. On the final night, a prestigious dinner and graduation ceremony was held at the American Revolution Institute of the Society of Cincinnati’s Anderson House, a “1905 Beaux Arts mansion” (Destination DC, n.d.). Caroline Muchina, the corporation secretary and director of legal services at the Nursing Council of Kenya, addressed the participants, and 30 graduates received their certificates, marking outstanding accomplishments in healthcare regulation.

The ICRS certificate program inspires graduates to collaborate with peers on projects of mutual interest, introduce new policies and procedures that will improve patient safety in their home jurisdictions, and publish scholarly manuscripts that share empirical data and best practices with international researchers and healthcare regulators who are charged with public protection. The next biennial ICRS Advanced Leadership Institute is expected to take place in 2024. The ICRS certificate program accepts new participants on a rolling basis.

**Foundations of Regulation**

Foundations courses consist primarily of self-paced, online short courses that can be taken independently of each other. These courses are geared toward NRB board and staff members. Examples of courses include Conducting a Literature Review with Brendan Martin, PhD, MS, and Principles of Nursing Board Governance with Sandy Evans, MAEd, RN. One instructor-led course called Role of the Executive Officer that includes live sessions with Laura Rhodes, MSN, RN, was introduced in 2022. This course is available exclusively to NCSBN members and is designed for new NRB executive officers. Most Foundations of Regulation Courses are open to healthcare professionals around the world; enrollment in the self-paced courses is always open.

**Continuing Education**

CE is also composed of self-paced, online short courses, but this selection is for practicing nurses. In 2022, NCSBN streamlined its educational offerings when it discontinued the Learning Extension program, moving the most in-demand courses into the CE catalog. While some courses are state-specific, such as the course Nurse Practice Act—Arkansas, others, such as Ethics of Nursing Practice, will be of interest to a wider audience. In addition, new and revised courses are in development. Remediation, for instance, is expected to launch soon. Other courses in the CE program include the COVID-19 course series, which educate nurses about the epidemiology...
of COVID-19 and how to care for patients infected with the disease. Like most of the Foundations of Regulation courses, CE enrollment is always open.

More information about each of these educational programs can be found on the ICRS website (icrsncsbn.org) or by emailing icrs@ncsbn.org.

**NCLEX**
The NCLEX, the psychometrically sound nurse licensure examination used by NCSBN member boards to ensure nurse graduates’ skills and competency, was introduced in 1982. Since then, it has qualified hundreds of thousands of nurses were competent to enter the nursing workforce. While there have been changes to the examination over the years, such as moving from a paper examination to a computer-adaptive examination, the Next Generation NCLEX (NGN), which is scheduled for release in April 2023, reflects the biggest changes to the science behind the NCLEX in 30 years.

The NGN will not be a new examination but rather an enhanced one, drawing upon the latest research in cognitive psychology, decision science, nurse pedagogy, nursing, and psychological assessment. Combined with data collected from nursing experts and NCLEX candidates, NCSBN’s Examinations Department developed the NCSBN Clinical Judgment Measurement Model (NCJMM). This tool provides a framework for measuring examinees’ clinical judgement and decision-making, which works in tandem with “an evidence-based framework for developing, classifying, and scoring test items within the NCLEX computerized testing paradigm” (NCSBN, 2022c).

This new way of measuring candidate ability is revolutionary, and it may be applicable to other regulated professions that employ rigorous examinations for licensure. What the future holds for NCSBN’s model might be a greater public protection footprint that extends beyond healthcare.

**Nursing Education**
NCSBN’s Education Department runs initiatives that support NRB oversight of nursing education programs, and members of this department conduct original research that provides evidence for NRBS, university administrators, and others working to ensure that nursing students practice safely and competently within their scopes of practice.

In 2020, NCSBN published the “NCSBN Regulatory Guidelines and Evidence-Based Quality Indicators for Nursing Education Programs” as a supplement to the Journal of Nursing Regulation. Since then, 52% of NCSBN’s member organizations (U.S. BONs, provincial/territorial nursing boards, etc.) have reported they use these guidelines, and their data are being gathered for NCSBN’s Nursing Education Department’s Annual Report Program.

The aggregate data indicate that programs that do not meet these quality indicators have poorer outcomes. Clearly, this is critical information for NRBS to know, and the Annual Report Program provides additional useful information that NRBS can use to improve outcomes in their jurisdictions. For example, NRBS can see not only how their jurisdictions’ programs are faring in terms of the quality indicators, but they can also use the Annual Report as a tool for comparing programs. These comparisons can highlight areas for improvement, and when these areas are addressed, the refinements will improve the program’s outcomes. Ultimately, this means that nurses from these programs will be better prepared when they enter the workforce.

NCSBN Regulatory Guidelines and Evidence-Based Quality Indicators for Nursing Education Programs can be found on NCSBN’s website (https://www.ncsbn.org/research-item/ncsbn-regulatory-guidelines-and-evidencebased-quality-indicators-for-nursing-education-programs). They will also be available in the near future on the Journal of Nursing Education’s website (https://journals.healio.com/journal/jne).

**Research Department**
NCSBN’s Research Department is the only research incubator focused exclusively on nursing regulation in the world. Our scholars are experts in research methodology, statistics, and quantitative methods, and their work has been published in prestigious scholarly journals, including the Journal of Nursing Regulation, Nursing Outlook, and BMJ Quality & Safety. Their current projects are diverse, covering various regulatory topics along with projects borne out of the COVID-19 pandemic. The upcoming National Nursing Safety Study, for instance, will use quantitative and qualitative methods to explore the leading causes of nursing error.

Another project, published in the July 2022 issue of the Journal of Nursing Regulation, was “A Retrospective Review of NCLEX Candidates’ Testing Behavior: Examining the Relationship Between Repeat Testing, Time-to-Test, and Discipline” by Nicole Kaminski-Ozturk, PhD; Richard Smiley, MS; Elizabeth Zhong, PhD; and Brendan Martin, PhD. This study analyzed data collected from nearly a quarter million NCLEX test-takers and found that “empirical evidence supports the comparable safety profile of single- and multitest-taker groups,” leading them to conclude that restrictions for candidate retesting should be re-examined (Kaminski-Ozturk et al., 2022, p. 4). They also concluded that nursing education programs need to urge graduates to take the NCLEX promptly because the study showed a correlation between time-to-test delays of even a few months and future discipline.
Also published in the July 2022 issue was “Risk Factors for Recidivism in Nursing Practice: A Criminal Conviction Case Review Cohort Study” by Elizabeth H. Zhong, PhD, and Brendan Martin, PhD, which looked at two sets of Nursys data to determine whether nurses with prior criminal convictions place patients at risk (Zhong & Martin, 2022). Nursys is a nurse licensure database maintained by NCSBN and its member organizations. These NCSBN scholars found that the majority of nurses who had been disciplined by their NRMs due to their criminal convictions were not disciplined a subsequent time within 5 years for additional practice-related violations. Thus, the researchers concluded that the current licensure and discipline procedures used by NRMs are sufficient in reducing the potential risk that nurses with prior criminal convictions might have posed to patient safety. While the Research Department has published other studies over the past year, these two are representative of the evidence-based contributions this team adds to the corpus of regulatory literature.

In addition, the Research Department is currently conducting nine studies related to the COVID-19 pandemic. This collection includes the APRN COVID-19 Waiver Impact Study, the Licensed Practical Nurse Program Survey, and the Global Effects of COVID-19 Study. The results of these studies will appear in a special issue of the Journal of Nursing Regulation that will be published in April 2023. This will be the Journal of Nursing Regulation's first special issue, and it will focus on healthcare regulation during the COVID-19 pandemic.

The Research Department, often partnered with the Journal of Nursing Regulation, proliferates much of the nursing regulation research that is available to the NRMs and governments that are responsible for patient safety. NCSBN also supports outside researchers who study nursing regulation through the Center for Regulatory Excellence Grant Program. Information can be found on NCSBN’s website (https://www.ncsbn.org/cre).

**NCSBN Projects in 2023 and Beyond**

The world is looking brighter than it has over the past few years, and healthcare regulators are no longer consumed by the present. They can look ahead and plan for the future. NCSBN’s ongoing projects will continue to provide these essential health policy professionals with the resources they need to network and collaborate across borders, the evidence-based frameworks they depend on for valid testing measurement, the data they rely on to support their initiatives, and the tools they need to ensure excellence in nursing education and practice.

**Summary**

The COVID-19 pandemic left a heavy burden on healthcare institutions as they struggled to contend with a variety of issues that have seriously impacted the nursing workforce, nursing education, healthcare delivery, legislation and policy, and social issues. Compounding these factors was a lack of national and state data that accurately depicts the current numbers and state of nursing across the country.

**Nursing Workforce**

Nurse employment is projected to grow 6% between 2021 and 2031, with approximately 203,200 job openings for RNs projected each year over the next decade (BLS, 2022e). Similarly, McKinsey researchers estimated that by 2025, the United States may have a gap of 200,000 to 450,000 nurses. They attribute the possibility to effectively meeting patient needs: (a) a decreased supply of the absolute RN workforce, (b) an increased in-patient demand from or related to COVID-19, and (c) continued work setting shifts and increased demand due to a growing and aging population (Berlin et al., 2022).

While numbers of new graduate RNs indicate a continuous uptick, it is uncertain whether those numbers are sufficient for the present or the future. An indicator of the shortage of experienced nurses may be the record employment of new graduates (up from 85% employment in 2020 to 92% in 2021) (Feeg et al., 2022). While this may bode well for the future, currently it places a strain on the system as new graduates, who have reported feeling unprepared to enter practice, handle increasingly complex cases.

The decrease in the number of LPNs/LVNs is alarming. These numbers have gradually diminished since 2018; in 2021, the most significant decrease occurred, falling from 676,460 to 641,240. This decrease is especially concerning because PNs are the mainstay of long-term care, and with an aging population, the demand for long-term care can be expected to escalate. The decreasing numbers may be attributed to the decrease in the number of PN programs over the past few years, but, on a more positive note, 62 additional programs were established from 2021–2022. Both the RN and LPN/LVN workforce warrants close scrutiny.

APRN continue to increase in number. While the master's degree is still the requirement for authorization and licensure to practice, the DNP degree is widely discussed as the new standard. While many believe this should be the minimum education requirement for advanced practice, there is no evidence that indicates it increases patient safety or public protection.
**Nursing Education**

Nursing education programs are challenged by the highest faculty vacancy rate (8.8%) yet recorded and a lack of clinical sites. The need for nurses places a strain on nursing programs to produce more graduates, yet, in an analysis performed by NCSBN for the Annual Report Program, many programs are not yet meeting the evidence-based criteria for quality nursing education programs.

From the recent NSNA survey, new graduates are reporting a lack of mentorships, shortened transition-to-practice programs that do not meet industry standards, and a decreased readiness to practice as compared to previous years.

**Healthcare Delivery**

Many of the biggest changes to the healthcare delivery landscape in 2022 were necessary responses to the pressures of the pandemic, such as a telehealth boom, a shortage of healthcare workers that required innovative solutions, and a cohort of new nurses who entered the profession with limited clinical preparation. For every challenge, there lies an opportunity. Nursing educators are examining new methods for educating students, hospitals and education programs are forming practice-academic partnerships, and new technologies to assist healthcare providers and increase access to care.

Virtual nursing is providing a new option for some facilities with staff vacancies. Extending care beyond the intensive care unit, virtual nurses are taking on responsibilities that do not require direct hands-on care and provide an option for retired nurses and those unable to manage the physical rigor at the bedside to return to practice. AI is also being developed to triage patients in busy emergency departments.

**Legislation and Policy Issues**

Legislative trends during 2022 were focused on workforce and COVID-19. Many state legislators introduced bills to alleviate the shortage and make it easier to obtain a license to practice in their state. Thirty-nine states are now a part of the NLC, and three states are members of the APRN Compact. Oddly, the 2022 legislative session produced approximately 70 bills in more than 30 states providing clinicians the authority to prescribe and dispense ivermectin and hydroxychloroquine. This was contrary to the recommendations of the FDA that advised against taking ivermectin as an alternative treatment for COVID-19 (FDA, n.d.). Bills related to this topic were passed in New Hampshire and Tennessee.

**Social Issues**

Adding to the nursing staffing crises across the country are other critical issues that threaten the profession. These include stress and burnout and SUD and contribute to the fact that nurses have the highest suicide rate of any profession. In addition, the profession is dealing with violence in the workplace. Also, according to a survey by the National Commission to Address Racism in Nursing (n.d.-b), more than half of all responding nurses and more than three quarters of black nurses indicate racism in the workplace has impacted their professional well-being.

**Nursing at a Crossroads**

Thus, nursing is at a crossroads. Amidst the challenges, there is a resounding wake-up call for nursing leaders, legislators, and regulators to act and prepare for the future. New models of care delivery must be developed to take advantage of the competencies and opportunities presented by the entire workforce, including that of support workers. New education models for these individuals are needed as well. Support workers need consistent roles, competencies, training, and testing methods. Clinical ladders and education opportunities must be available to support and advance these workers into higher levels of nursing care, so a pipeline is created.

Complete and comprehensive workforce data must be available at the regional, state, and national levels. Such data can be made available using technology already established through NCSBN's E-Notify system; however, legislators need to recognize the value of the data and pass legislation that allows BONs to collect it. This model has already been successfully demonstrated in Missouri, which now has complete workforce data on all their nurses (Murphy et al., 2021).

Finally, new models are needed to prepare new graduates to enter practice. While nursing programs grapple with the call to produce more nurses, they must partner with healthcare facilities to ensure that students receive the clinical preparation they need. Healthcare facilities also play a role and must ensure that students have adequate experiences and that new graduates have solid transition-to-practice programs. These are a few suggestions; however, all of nursing along with legislators must work together to address these significant challenges and opportunities.

In 2023, NCSBN is launching its 45th (Sapphire) Anniversary as an organization, and in accordance with the sapphire symbolism, it has adopted a theme of “shaping a brilliant future.” In collaboration with BONs, regulators from across the healthcare spectrum, nursing leaders, and policymakers, NCSBN is working to ensure that the next 45 years of nursing regulation provide new and contemporary approaches to regulation and safeguarding the public, increased efficiencies for BONs, support for practice and education, and of utmost importance, solutions that are harmonized with the healthcare challenges of the post-COVID-19 world.


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APPENDIX

State Policy and Position Statements

A review was conducted of position statements, advisory opinions, practice statements, clinical practice advisories, declaratory rulings, and interpretive guidelines developed by U.S. nursing regulatory bodies (NRBs) from September 2021–September 2022.

Nine states (Arizona, Kentucky, Massachusetts, Nevada, New Mexico, North Carolina, South Dakota, Texas, and Wyoming) revised or adopted new statements on the role and scope of practice of licensed practical nurses/licensed vocational nurses (LPNs/LVNs), advanced practice registered nurses (APRNs), and registered nurses (RNs).

Five states (Arizona, North Carolina, Texas, Washington, and Wyoming) revised or adopted new statements regarding the administration of infusion therapy-venipuncture (IV therapy). This addresses the roles of LPNs/LVNs and RNs when engaging in IV hydration therapies and compounding medications.

Eight states (Florida, Nebraska, North Carolina, North Dakota, Oklahoma, South Carolina, Texas, and Wyoming) revised or adopted new statements regarding the role of RNs and LPNs/LVNs in pain management. The statements include moderate sedation, analgesia, anesthesia, administration of ketamine and lidocaine for pain, and administering medication via catheters or epidural.

Four states (Nevada, Massachusetts, Oklahoma, and Wyoming) revised or adopted new guidelines, statements, or advisory opinions regarding nursing practice by nursing students. These statements address the roles of RNs and LPNs/LVNs in the school setting and provide guidance for the scope of work and regulations in the school setting.

The purpose of these guidance documents is to provide direction to nurses practicing in the United States. They reflect the decisions made by NRBs regarding specific nursing practice concerns. NRBs can review the existing guidance documents with the intent of anticipating any emerging issues and trends that may affect their NRB in the upcoming year.

The following is a list of the position/practice statements, advisory opinions, practice statements, clinical practice advisories, declaratory rulings, and interpretive guidelines issued or revised by U.S. NRBs during September 2021 through September 2022:

Arizona
- Adopted the following advisory opinions: Administration of Medications Via Intrapleural Route, Auricular Acupuncture: Role of the RN, External Ventricular Drain Management, Cerebral Spinal Fluid Sampling and Line Flushing
- Revised the following advisory opinions: Apheresis Donor: Role of the LPN, Delegation of Nursing Tasks by RN/LPN, Endoscopic Procedures: The Role of the RN, Infusion Therapy-Venipuncture: The Role of the Licensed Practical Nurse, Ultrasounds Limited Obstetric, Gynecologic, and Reproductive, Ventilator and Tracheostomy Care: The Role of the LPN

California
- Revised the following advanced practice guidelines: Frequently Asked Questions Related to Midwifery Practice and the Implementation of Senate Bill 1237, Frequently Asked Questions Related to Advanced Practice Registered Nurses Practice and the CARES Act of 2020 (for ordering homecare services)

District of Columbia
- Amended the following policy statement: Use of Home Health Aides and Certified Nurse Aides During the COVID-19 Pandemic

Florida
- Released the following declaratory statements: Administration of low dose ketamine for the purpose of pain control in the acute care hospital setting, Ordering of Radiology Exams

Kentucky
- Revised the following advisory opinion statement: Components of Licensed Practical Nursing Practice

Maine
- Amended the following position statement: Joint Rule Regarding Telehealth Standards of Practice

Massachusetts
- Released the following guidelines: Guidance for Nursing Practice by Graduates and Students in Their Last Semester of Nursing Education Programs — Authorization Extended
- Revised the following advisory ruling: The Licensed Practical Nurse in the Charge or Supervisor Nurse Role

Minnesota
- Adopted the following policy statement: Dissemination of Non-scientific and Misleading COVID-19 Information by Nurses

Nebraska
- Adopted the following advisory statement: Esketamine (Spravato) Direction and Monitoring
- Reaffirmed the following advisory statement: Patient Abandonment, Nursing Accountability to Perform Cardiopulmonary Resuscitation, Safe Practice: Fitness to Practice, Safety to Practice: Staffing Assignments, Sub-Anesthetic Ketamine, Team-Based Nursing Care Services, Wound Debridement
- Revised the following advisory statement: Analgesia/Anesthesia by Catheter, Sedation and Analgesia, Verbal Orders

Nevada
- Adopted the following practice decisions: The role of the RN in Vaginal Speculum Examination, LPN Scope of Practice Regarding Assessment and Minimum Data Set (MDS)/Resident Assessment Instrument (RAI), The LPN
Amended the following nursing practice acts:
- 61-3-10. Powers; duties
- 61-3-14. Licensure of registered nurses; by examination; expedited licensure
- 61-3-19. Licensure of licensed practical nurses; by examination; by expedited licensure
- 61-3-23.2. Certified nurse practitioner; qualifications; practice; examination; endorsement; expedited licensure
- 61-3-23.3. Certified registered nurse anesthetist; qualifications; licensure; practice; endorsement; expedited licensure
- 61-3-23.4. Clinical nurse specialist; qualifications; endorsement; expedited licensure

Adopted the following position statement: Administration of Intravenous Fluids (IV Hydration), Nutrient Therapies, and Medications for Hydration, Health, and Wellness

Revised the following position statements: Accepting an Assignment, Competency Validation, Cosmetic/Aesthetic Dermatological Procedures, Over-the-Counter Medications and Non-Prescriptive Devices, Palliative Sedation for End-of-Life Care, Physician Orders Communication and Implementation, Practicing at Level Other Than Highest Licensure/Approval/Recognition, Procedural Sedation/Analgesia, Psychotherapy – An Advanced Practice Nursing Intervention, Rapid Sequence Intubation (RSI), RN and LPN Scope of Practice: Components of Nursing Comparison Chart, Standing Orders, Title "Nurse" is Protected, Transport of Client

Revised the following position statements: ND Board of Nursing and ND Medical Imaging and Radiation Therapy Board Joint Position Statement: Advanced Practice Registered Nurses Supervising/Performing Fluoroscopy, Role of the Nurse in Pain Management

Adopted the following guidelines: APRN Licensure and Practice in Ohio, 2022 Board Approved National Certifying Organizations For Certified Nurse-Midwives, Certified Nurse Practitioners, Clinical Nurse Specialists, and Certified Registered Nurse Anesthetists

Revised the following guidelines: Board Document Definitions Policy, Medic Veteran to Licensed Practical Nurse Bridge Course Guidelines, CRNA Inclusionary Formulary, Determining Appropriate Faculty to Student Ratios in the Clinical Area in Board-Approved Nursing Education Programs Guidelines, Registered Nurse Administering, Managing and Monitoring Non-obstetrical Patients Receiving Analgesia/Anesthesia by Catheter Techniques (Epidural, PCEA and Intrathecal Catheters) Guidelines, Registered Nurse Monitoring Obstetrical Patients Receiving Analgesia/Anesthesia by Catheter Techniques (Epidural, PCEA and Intrathecal Catheters) Guidelines

Adopted the following interpretative statement: A Nurse's Discussion With Their Client on the Use of Medical Marijuana

Revised the follow interpretive guidelines: Nursing Practice Hour Requirement for the Registered Nurse and Licensed Practical Nurse, The Registered Nurse Who Performs Sexual Assault Examinations

Formulated the following advisory opinion: Medical Screening Exams

Approved the following advisory guideline: Assignment and Supervision of Nursing Tasks to Medical Assistants by a Registered Nurse

Revised the following advisory opinion: More than One Medication for Same Indication and PRN Dose Ranges

Revised the following position statements:
- 15.1 Nurses Carrying Out Orders From Physician Assistants (p. 4)
- 15.3 LVNs Engaging in Intravenous Therapy, Venipuncture, or Peripherally Inserted Central Catheter (PICC) Lines (pp. 7-9)
- 15.5 Nurses With Responsibility for Initiating Physician Standing Orders (pp. 11-13)
- 15.7 The Role of LVNs & RNs in Management and/or Administration of Medications via Epidural or Intrathecal Catheter Routes (pp. 18-20)
- 15.8 Role of the Nurse in Moderate Sedation (pp. 21-26)
- 15.10 Continuing Education: Limitations for Expanding Scope of Practice (pp. 29-30)
- 15.11 Delegated Medical Acts (pp. 31-32)
- 15.25 Administration of Medication & Treatments by LVNs (pp. 60-62)
- 15.27 TheLicensed Vocational Nurse Scope of Practice (pp. 64-74)
- 15.28 The Registered Nurse Scope of Practice (pp. 75-86)

Released the following statement: DOPL to temporarily suspend enforcement of e-prescribing requirements under Utah Code Section 58-37-22
Virginia

- Reaffirmed the following guidance documents: Guidelines for Processing Applications for Licensure: Examination, Endorsement and Reinstatement, Sanctioning Reference Points Instruction Manual

Washington

- The following advisory opinions took effect: Camp Nursing, Registered Nurse Delegation in School Settings: Kindergarten-Twelve (K-12) Grades, Public and Private Schools, Determining, Pronouncing, and Certifying Death, Seizure Disorder Management: Nursing Care Coordination, Registered Nurse and Licensed Practical Nurse: Compounding and Reconstituting Medications

Wyoming

- Approved the following advisory opinions: APRN Prescriptive Authority, Home Health Aide, Moderate Sedation, Nursing Internship Programs, Treating Self or Family Member
- Revised the following advisory opinions: Aesthetic & Infusion Therapy Procedures, Amniotomy, APRN Scope of Practice Guidelines, Bowel Maintenance Program by CNA, Placement of Central and Arterial Lines, CNA II Role and Course Requirements, LPN and RN Scope of Practice, LPN IV-Certified (IV-C) Course Requirements, LPN IV-C Scope of Practice, Medication Assistant-Certified (MA-C) Role & Course Requirements, Pre & Post Anesthesia Nursing Practice, Pre Hospital Nursing, RN First Assistant & APRNs in the Perioperative Environment, Safe Staffing, School and Alternative Setting Nursing Practice, Verification of Active Nursing Practice