

# Examining the Global Nursing Regulatory Response to the COVID-19 Pandemic

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**Background:** During the COVID-19 pandemic, nursing regulatory bodies (NRBs) worldwide adopted a variety of measures to bolster the nursing workforce and ensure patient safety. **Purpose:** To examine the plethora of actions undertaken by the global nursing community in response to the public health emergency so that NRBs can increase transparency and better prepare for future crises. **Methods:** In early 2021, the National Council of State Boards of Nursing developed an online survey to capture data on the global regulatory response to the COVID-19 pandemic. The survey focused on five specific domains: (a) governance, (b) telehealth practices, (c) nurse mobility, (d) prelicensure education, and (e) the disciplinary process. The instrument was translated into 11 languages before being deployed to 150 non-U.S. regulatory representatives. Frequencies and proportions were generated for all fixed-item responses, and descriptive content analyses were applied to translated open-text responses. **Results:** Regulators representing 27 jurisdictions provided valid responses to the survey. Most jurisdictions reported that components of nursing education were adapted in some way during the pandemic. More than half (53.8%,  $n = 14$ ) of respondents indicated that changes were made to clinical and didactic curricula to ensure students graduated on time. About one-third (30.8%,  $n = 8$ ) of representatives revealed that their jurisdiction had made changes to telehealth regulations, with many granting telehealth-specific nursing licenses. Most jurisdictions (88.5%,  $n = 23$ ) also reported fewer or about the same number of regulatory complaints compared to before the pandemic. **Conclusions:** The results of this study highlight the range of actions nursing regulators worldwide adopted, which may be drawn upon to inform best practices to ensure jurisdictions are ready for the next public health emergency.

*Keywords:* Global, nursing regulation, COVID-19 pandemic response, nursing workforce, telehealth, nursing education, practice, mobility

As of January 2023, the World Health Organization (2023) reported more than 660 million confirmed cases of COVID-19 globally and more than 6.6 million resulting deaths. Although several vaccines are now widely available, variants of the original strain of COVID-19 continue to be transmitted and to place an enormous strain on healthcare systems worldwide. During public health emergencies such as the COVID-19 pandemic, nurses and other healthcare workers serve on the front lines, risking their own lives to safeguard public health. In drawing historical comparisons with the current pandemic, Lippert (2020) noted that the Spanish influenza (flu) pandemic of 1918–1919 generated nursing shortages that likely impacted public health. During the previous 2009 H1N1 pandemic, several U.S. states recognized the unique role that nurses play in addressing the expanded healthcare needs of the population (Courtney et al., 2013). Drawing on the lessons learned from the 2009 pandemic, Couig et al. (2011) developed guidelines for expanding nurses' scope of practice to provide care during public health emergencies.

Echoing the actions undertaken in previous health crises, U.S. nursing regulatory bodies (NRBs) also swiftly adjusted policies to address the COVID-19 pandemic (National Council of State Boards of Nursing [NCSBN], 2021a). In parallel, many U.S. gov-

ernors issued emergency declarations and executive orders to combat the soaring number of COVID-19 cases (National Governors Association, 2020). Viewing the pandemic through a more global lens, Jackson et al. (2020) noted early on that "Across the world, there are concerns that nursing's capacity to provide care will be stretched by the increased workload and by the number of front-line nurses that are expected to be affected by COVID-19" (p. 2042). Fraher et al. (2020) also reaffirmed calls to adjust nursing regulations to maintain the nursing workforce during pandemic conditions.

NRBs around the world have taken a range of proactive actions to ensure the resiliency of the nursing workforce and meet the unprecedented demand on the global healthcare system. For example, in recognizing the dire need for healthcare workers, the Australian Health Practitioner Regulation Agency allowed roughly 40,000 nonpracticing healthcare workers to return to practice (Ahptra & National Boards, 2020). Similar actions were undertaken worldwide, including in the United States. To prepare for future public health emergencies and reduce the likelihood of nursing shortages, NRBs must learn from the suite of actions adopted by their colleagues in regulation during this pandemic. Unfortunately, given the dynamic and emergent nature of the COVID-19 pan-

demic, few resources exist for regulators to comprehensively examine the variety of approaches adopted by a large sample of their colleagues. This study sought to document the global nursing regulatory response to the COVID-19 pandemic, allowing careful examination of regulatory actions and thereby ensuring jurisdictions are better prepared for the next public health emergency.

## Background

Despite lessons learned from both the 2009–2010 H1N1 pandemic and the 2013–2016 Ebola outbreak, many countries—including the United States—were highly unprepared for the COVID-19 pandemic (Mason & Friese, 2020; El Bcheraoui et al., 2020). As the virus began to rapidly spread throughout the United States in March 2020, Spetz (2020) illustrated how the dual calamity of both the limited number of hospital beds and the shortage of a skilled nurse workforce could significantly diminish the country's ability to handle the anticipated surge of patients afflicted with COVID-19. In mid-March, many U.S. governors recognized the severity of the crisis and began issuing public health emergency declarations and executive orders to combat the soaring number of COVID-19 cases (National Governors Association, 2020). Given the prominent role of the nursing workforce in addressing the health crisis, it is no surprise that many of these directives and subsequent legislative actions directly impacted nurses.

Chan et al.'s (2021) comprehensive work broadly highlighted how pandemic-driven regulatory actions impacted nurses in terms of telehealth practice, mobility, and education. In an effort to contain the pandemic and support rural communities, U.S. federal regulatory barriers to telehealth technologies were removed, resulting in a dramatic uptick in telehealth visits (Verma, 2020; Rutledge & Gustin, 2021). In pre-pandemic conditions, the Nurse Licensure Compact (NLC) allowed nurses the flexibility to move and work in any compact state. During the pandemic, many non-Compact states waived out-of-state endorsement requirements to similarly improve nurse mobility (NCSBN, 2021a). For students enrolled in prelicensure nursing programs, many healthcare facilities closed their doors; in response, U.S. NRBs allowed nursing programs to take a flexible approach to facilitate students' completion of their clinical education (NCSBN, 2020). These changes compelled more students than ever before to undertake their traditional clinical experiences using simulation-based education (Konrad et al., 2021) and complete their didactic lecture-style courses online (Wallace et al., 2021).

Unfortunately, not much is broadly known about what regulatory actions NRBs outside of the United States took to support their workforce and safeguard public health during the pandemic. Although it is widely known that nurses make up the majority of the global health workforce (Schwerdtle et al., 2020), there are few resources aggregating nursing jurisdictions' regulatory response to the COVID-19 pandemic. Outside of Benton et al. (2020) and Chan et al. (2021), much of the research examining the domestic regulatory response to COVID-19 has remained state-specific or context-

specific and cross-sectional in nature, such as examining the policy response to COVID-19 in long-term care facilities (Chen et al., 2020) or addressing supervision waivers in Massachusetts (O'Reilly-Jacob & Perloff, 2021). Internationally, even fewer resources are available and are similarly siloed by jurisdiction, such as an examination of the joint effort of the British Care Quality Commission and the Nursing and Midwifery Council (Glasper, 2020). Some researchers have begun examining the general pandemic response broadly as it relates to healthcare regulation in Australia, Canada, and the United Kingdom (Adams & Wannamaker, 2022) and globally via document analysis (Stralen et al., 2022); however, none have endeavored to examine the global nursing regulatory response.

As Robinson (2021) and Berwick (2020) suggested, we can better prepare for future health crises and build back a better "new normal" by carrying forward what we have learned from the COVID-19 pandemic. Furthermore, Rahimi and Abadi (2020) suggested that increased awareness of the rationale behind regulation and coordination among regulatory bodies may reduce public confusion and promote compliance in future crises. Thus, as we transition into a post-crisis phase of the pandemic, it is of the utmost importance to examine the broad changes NRBs adopted to both prepare for future crises and foster a more resilient "new normal."

In 2018, NCSBN launched the Global Regulatory Atlas (GRA), a comprehensive web-based tool that originally detailed regulation information for 178 nursing jurisdictions, representing 12 million nurses worldwide (NCSBN, 2018). The GRA provides regulatory information across six domains: governance, licensure/regulation, education, discipline, telehealth, and nursing mobility. In its present form, the GRA now holds the regulatory information for 320 global jurisdictions, representing nearly 21 million nurses (NCSBN, 2021b). Incorporating the elements most impacted by the pandemic, as identified by Chan et al. (2021), with the GRA's original domains, the present article examines changes in international jurisdictions made to (a) governance, (b) telehealth practices, (c) nurse mobility, (d) prelicensure education, and (e) the disciplinary process. As a secondary aim, this work sought to determine whether (at the time of the survey) jurisdictions planned to adopt these sweeping regulatory changes either temporarily to meet the short-term challenges wrought by the pandemic or permanently to incorporate these changes as part of a "new normal." Such descriptive information can then be used to address future health crises and promote transparency across jurisdictions.

## Methods

### Study Design

A descriptive cross-sectional study was undertaken to draw together and examine the diverse regulatory actions adopted by nursing jurisdictions outside of the United States to address the COVID-19 pandemic. Building upon information gathered for the GRA (NCSBN, 2021b), a subset of jurisdictional representatives for whom contact information was available were surveyed

via Qualtrics (Provo, UT). The survey instrument itself consisted of 41 items and was organized into five domains: (a) Governance, (b) Practice, (c) Education, (d) Workforce and Discipline, and (e) Telehealth. Before final dissemination, the instrument was reviewed for face validity through coordination with experienced nurse regulators. The survey prompts and instrument were translated into the most common officially stated, or primary, languages identified within this subset of jurisdictions as noted in *The World Factbook* (Central Intelligence Agency, 2021). In total, all documentation was professionally translated into 11 languages: Arabic, Dutch, Albanian, French, German, Korean, Portuguese, Russian, Spanish, Swedish, and simplified and traditional Chinese.

### Study Sample

A total of 150 non-U.S. regulators' email addresses (each representing one nursing jurisdiction) were gleaned from the GRA (NCSBN, 2021b). Email addresses were identified in 2014 through board websites and broad web searches. Although contact information was collected by the GRA 7 years prior, the list remained the most comprehensive list of non-U.S. regulators at the time.

The Qualtrics survey was disseminated to this subset of regulatory representatives in early January 2021. Jurisdictional representatives were informed that their responses would be reported only in aggregate in order to preserve their confidentiality. Nonrespondents were then prompted to complete the survey via weekly reminders until the survey was closed in late February 2021. Twenty-seven jurisdictions provided a response (i.e., answered at least one item), resulting in a 19.3% response rate.

### Statistical Analysis

Summary descriptive statistics were generated for each regulatory domain. Frequencies and proportions were reported for categorical values. Translations of open-text responses were first conducted using an Artificial Intelligence translator, DeepL, and when possible, they were verified with individuals fluent in the response language. Translated responses were then identified using brackets, and descriptive content analysis was conducted. Quantitative analyses were conducted in Python (Python Software, Amsterdam, Netherlands), and visualizations were generated in Tableau (Tableau Software, Seattle, Washington).

## Results

Regulators representing 27 jurisdictions provided valid responses to the survey. The majority of respondents (70%,  $n = 19$ ) represented country-based jurisdictions, while the remainder indicated they represented a province or territory within a country (Table 1).

### Nursing Regulatory Board Governance

Four representatives (15.4%) indicated their jurisdiction was part of a regional compact (Table 2). Of this group, half ( $n = 2$ ) indicated their regional compact improved the mobility of nurses during the pandemic. Interestingly, only one-third (32.0%,  $n = 8$ ) of represen-

TABLE 1

### Respondents' Jurisdiction and Language in Which the Survey Was Completed

Jurisdiction	Language
<i>Province-Based Jurisdictions</i>	
New South Wales (Australia)	English
New Brunswick (Canada)	English
Newfoundland and Labrador (Canada)	English
Northwest Territories and Nunavut (Canada)	English
Prince Edward Island (Canada)	English
Saskatchewan (Canada)	English
Yukon Territory (Canada)	English
Tamil Nadu (India)	English
<i>Country-Based Jurisdictions</i>	
Republic of Congo	French
Antigua & Barbuda	English
Argentina	Spanish
Bulgaria	English
Grenada	English
Honduras	Spanish
Hungary	English
Iran	Arabic
Japan	English
Kazakhstan	Russian
Lebanon	Arabic
Liberia	English
Philippines	English
Poland	English
Seychelles	French
Solomon Islands	English
Sweden	Swedish
Taiwan	Taiwanese
Thailand	English

tatives indicated their jurisdiction took other legislative actions to support nurse mobility during the pandemic. Representatives indicated that these measures included instituting emergency processes to expedite the review and processing of registration as well as emergency allowance of telehealth-facilitated care. One respondent indicated their government jurisdiction shifted healthcare workers to regions of need:

*A new health service (or healthcare employment) law was accepted. Healthcare workers can be sent to another provider for 1 + 1 years, the fact of which must be announced by the employer only 10 days in advance. Additionally, they can be directed to another hospital or even another city.*

Of the group of representatives whose jurisdictions' enacted additional legislative actions to support the mobility of nurses during the pandemic, most were evenly divided as to whether these changes would be permanent ( $n = 3$ ), temporary ( $n = 2$ ), or a mix of both ( $n = 3$ ).

Survey Item	% (n)
1. Regional compact? (n = 26)	
Yes	15.4% (4)
No	84.6% (22)
1a. Has your regional compact improved pandemic mobility of nurses? (n = 4)	
Yes	50.0% (2)
No	50.0% (2)
2. Other legislative actions to support mobility? (n = 25)	
Yes	32.0% (8)
No	68.0% (17)
2a. Will these changes be... (n = 8)	
Temporary	25.0% (2)
Permanent	37.5% (3)
A mix of both temporary and permanent	37.5% (3)

Survey Item	% (n)
3. Role of the nurse expanded? (n = 27)	
Yes	18.5% (5)
No	81.4% (22)
3b. Will these changes be... (n = 5)	
Temporary	0.0% (0)
Permanent	20.0% (1)
A mix of both	80.0% (4)
4. Has the process for allowing internationally educated nurses in your jurisdiction changed? (n = 27)	
Yes	14.8% (4)
No	85.1% (23)
4b. Will this change remain... (n = 3)	
Temporary	66.7% (2)
Permanent	33.3% (1)
A mix of both	0.0% (0)
5. Have continued competency requirements changed? (n = 27)	
Yes	37.0% (10)
No	63.0% (17)
5b. Will this change remain... (n = 9)	
Temporary	10.0% (1)
Permanent	20.0% (2)
A mix of both	60.0% (6)

## Practice

A similarly small number ( $n = 5$ ) of representatives indicated their jurisdiction expanded the role of the nurse during the pandemic (Table 3). Actions included authorizing generalist and pediatrics nurses to prescribe COVID-19 vaccines to adult patients and authorizing unlicensed nursing students and recent (prelicensure) graduates to practice under certain conditions. Some jurisdictions ( $n = 4$ ) also enacted changes to allow internationally educated nurses to practice within their jurisdictions. Changes outlined included strengthening bridge education opportunities, adjusting language proficiency requirements, and allowing nurses from independent territories and international jurisdictions to treat COVID-19 patients. Two-thirds of the representatives ( $n = 2$ ) indicated these jurisdictional changes would be temporary in nature.

By contrast, a larger portion of representatives (37.0%,  $n = 10$ ) indicated that there were changes to continued competency requirements within their jurisdiction. Primarily, most representatives highlighted the shift to online courses to assist nurses in fulfilling their continuing competency requirements. Additionally, many jurisdictions added courses related to “proper PPE [personal protective equipment] usage,” “critical care,” and “infectious diseases.” As one representative indicated, “COVID-19 helped us to emphasise the need to develop competencies in emergencies.” Nonetheless, of those respondents who indicated that continued competency changes were enacted in their jurisdictions, most (60.0%,  $n = 6$ ) believed those changes would only be retained in part moving forward.

## Education

Many representatives (53.8%,  $n = 14$ ) reported that their jurisdictions made changes to nursing education to ensure students would graduate on time (Table 4). Participants indicated the delivery of nursing education was adjusted to accommodate student learning during the pandemic. For example, one representative comments, “Increased simulation, virtual reality due to decreased clinical placements; the college has allowed the use of more simulated learning hours as credit; [virtual education modality].”

Aligned with respondents’ earlier comments, most representatives (76.9%,  $n = 20$ ) reaffirmed that their jurisdiction had observed changes to nursing programs’ didactic or lecture-based curricula, with an expectation (75.0%,  $n = 15$ ) that changes would be a mix of temporary and permanent. Thematically, most changes involved shifting lectures to an online learning platform. Comments on this matter were as follows:

- “Education method was promoted from ‘face-to-face’ to ‘e-learning’”
- Learning was offered online through virtual classes/distance learning
- “Lecture-based education was done virtually/online platform.”

Similarly, a large proportion of representatives (75.0%,  $n = 15$ ) indicated that traditional in-person clinical experiences had been disrupted by the pandemic. To address the interruption,



representatives reported that a variety of actions were adopted, including increasing simulation-based experiences (65.0%,  $n = 13$ ), increasing the use of virtual simulation (45.0%,  $n = 9$ ), and waiving clinical experiences entirely (20.0%,  $n = 4$ ). Respondents were fairly divided as to whether they believed these changes would be temporary (55.6%,  $n = 10$ ) or a mix of temporary and permanent (44.4%,  $n = 8$ ).

### Workforce and Discipline

Only one respondent reported that their jurisdiction allowed student nurses to graduate early and enter the profession (Table 5). By contrast, it was far more common to allow retired nurses to re-enter practice (61.5%,  $n = 16$ ). Otherwise, 34.6% ( $n = 9$ ) of respondents indicated that regulators in their jurisdiction modified regulations related to licensure or registration to further expand the nursing workforce. Most of the changes outlined involved expediting the registration process, as noted by two respondents:

- “Expedited processing and ability to issue provisional licensure while waiting for official documentation to arrive—the subject matter of which was confirmed verbally with regulatory bodies from which the applicants are coming.”
- “We expanded and altered our registration categories.”

In terms of discipline, most respondents (61.5%,  $n = 16$ ) reported their jurisdiction received a similar number of complaints about nurses during the pandemic as they did before the pandemic. Of the small portion of jurisdictions that received more complaints relative to pre-pandemic levels, all jurisdictions indicated that the complaints originated from nurses from within their jurisdiction. Additionally, only a small proportion of respondents (7.7%,  $n = 2$ ) indicated that their jurisdiction had adjusted their disciplinary processes during the pandemic. Reported changes centered on allowing interviews for hearings and investigations to be conducted via video-conference and attempts to minimize the spread of misinformation.

### Telehealth

A minority (30.8%,  $n = 8$ ) of respondents indicated their jurisdiction made regulatory or policy adjustments to support telehealth-facilitated nursing care (Table 6). Respondents indicated these changes included the following:

- “Greater clarity about the scope of practice, consent, and client education.”
- “We added a telehealth registration category for licensure.”
- “We issued Emergency Practicing Licenses to nurses in other provinces to provide virtual care.”
- “We have made [a] provision for a special limited license registration at a lower cost allowing nurses to provide telehealth services to residents in our jurisdiction for a limited number of days per license period.”
- “Information sharing between us as receiving jurisdiction and regulatory authority in donating jurisdiction is maintained to ensure continuity of regulatory authority and patient safety protection.”

TABLE 4

### Survey Responses: Education

Survey Item	% (n)
6. Changes to nursing education to ensure on-time graduation? ( $n = 26$ )	
Yes	53.8% (14)
No	46.2% (12)
7. Have there been changes to lecture-based education? ( $n = 26$ )	
Yes	76.9% (20)
No	23.1% (6)
7b. Will the changes to lecture-based education be... ( $n = 20$ )	
Temporary	15.0% (3)
Permanent	10.0% (2)
A mix of both temporary and permanent	75.0% (15)
8. Have traditional clinical experiences been disrupted as a result of the pandemic? ( $n = 20$ )	
Yes	75.0% (15)
No	25.0% (5)
8a. What was done to replace these experiences? <sup>a</sup> ( $n = 20$ )	
Increased simulation-based experiences	65.0% (13)
Increased use of virtual simulation	45.0% (9)
Clinical experiences were waived	20.0% (4)
Other	10.0% (2)
None	5.0% (1)
8b. Do you expect these changes to nursing students' clinical education to remain... ( $n = 18$ )	
Temporary	55.6% (10)
Permanent	0.0% (0)
A mix of both temporary and permanent	44.4% (8)
<sup>a</sup> Select all that apply.	

A roughly similar proportion of respondents (38.5%,  $n = 10$ ) indicated that patients in their jurisdiction received care from nurses located outside of their jurisdiction facilitated through telehealth. Interestingly, though, the relationship proved asymmetrical in that only 15.4% ( $n = 4$ ) of representatives reported that nurses in their jurisdiction provided care to international patients using similar modalities.

### Discussion

Globally, nurses were on the front lines of the healthcare crisis caused by the COVID-19 pandemic; they faced unimaginable challenges on a number of fronts, including maintaining the existing workforce under the strain of the pandemic (Jackson et al., 2020) and a diminished ability to offer nursing education using traditional learning modalities (Yancey, 2020). In response, nursing regulators adopted a variety of innovative regulatory actions to ensure public safety, support the nursing workforce, and continue deliver-

TABLE 5	
<b>Survey Responses: Workforce and Discipline</b>	
Survey Item	% (n)
<i>Workforce</i>	
9. Were student nurses allowed to graduate early to enter the workforce? (n = 26)	
Yes	3.8% (1)
No	96.2% (25)
10. Were retired nurses allowed to re-enter the workforce? (n = 26)	
Yes	61.5% (16)
No	34.5% (10)
11. Were other changes made to licensure, registration, or regulation in order to expand the nursing workforce? (n = 26)	
Yes	34.6% (9)
No	65.4% (17)
<i>Discipline</i>	
12. Did you receive fewer or more complaints about nurses during the pandemic? (n = 26)	
Many fewer complaints	11.5% (3)
Fewer complaints	15.4% (4)
About the same number of complaints	61.5% (16)
More complaints	11.5% (3)
Many more complaints	(0)
12b. If you received more complaints, did they originate with... (n = 3)	
Nurses within your jurisdiction	100.0% (3)
Nurses outside of your jurisdiction	0
13. Have there been changes made to the disciplinary process? (n = 26)	
Yes	7.7% (2)
No	92.3% (24)

ing quality nursing education. The pandemic also provided a platform to challenge long-standing norms and modernize the nursing workforce by expanding telehealth-facilitated care and improving nurse mobility.

Most respondents indicated that changes were made to nursing education during the pandemic. More than half (53.8%, n = 14) of all representatives indicated that changes were made to nursing education to ensure students graduated on time. Furthermore, both lecture-based (76.9%, n = 20) and clinical experiences (75.0%, n = 15) were adjusted to support students' educational needs. Representatives pointed to an increase in both simulation-based experiences (65.0%, n = 13) and virtual simulation (45.0%, n = 9). These adjustments parallel the shift to remote learning from didactic lecture courses and the shift to simulation-based experiences from traditional in-person clinical experiences observed

TABLE 6	
<b>Survey Responses: Telehealth and All Other Changes</b>	
Survey Item	% (n)
<i>Telehealth</i>	
14. Have there been any changes to regulations or policies regarding telehealth for nurses? (n = 26)	
Yes	30.8% (8)
No	69.2% (18)
14b. Do you expect these changes to telehealth policies and regulations to remain... (n = 8)	
Temporary	12.5% (1)
Permanent	25.0% (2)
A mix of both temporary and permanent	62.5% (5)
15. To your knowledge, are nurses located outside of your jurisdiction providing telehealth services to patients within your jurisdiction? (n = 16)	
Yes	38.5% (10)
No	61.5% (16)
16. Do nurses in your jurisdiction provide telehealth nursing services across international borders? (n = 26)	
Yes	15.4% (4)
No	84.6% (22)
<i>All Other Changes</i>	
17. Have there been any other changes made to nursing regulation or governance not previously addressed? (n = 25)	
Yes	4.0% (1)
No	96.0% (24)

in the United States (Martin et al., 2023; Kaminski-Ozturk & Martin, 2023). It is not yet clear how these changes will ultimately impact nurses who received their education during the pandemic (Monforte-Royo & Fuster, 2020). Early research seems to suggest the pandemic-driven shifts to remote learning and simulation-based experiences may have exacerbated education inequalities, particularly in developing countries with limited internet access (Agu et al., 2021).

A small number of surveyed respondents also indicated their jurisdiction expanded the role of nurses (18.5%, n = 5) or changed licensure, registration, or regulatory processes to improve efficacy (34.6%, n = 9). Jurisdictions that expanded the role of nurses did not coalesce around a central theme; rather, they adopted diverse measures, such as allowing students to practice before becoming licensed and allowing pediatric-trained providers to administer COVID-19 vaccines to adults. In terms of changes to licensure, representatives indicated their jurisdictions had made telehealth-specific licenses more available, and some nurses were allowed to practice with verbal confirmation from their NRB before official documentation was furnished.

Furthermore, some representatives (30.8%,  $n = 8$ ) reported that their jurisdiction had made changes to telehealth regulations, which primarily reflected jurisdictions granting telehealth-specific nursing licenses. Interestingly, responses illustrated an asymmetrical relationship in which more representatives (38.5%,  $n = 10$ ) reported that patients in their jurisdiction received care from abroad relative to those who reported that nurses in their jurisdiction provided care abroad (15.4%  $n = 4$ ). Representatives may be unaware of nurses—or may not have a mechanism for nurses to report—providing care abroad, while regulations require nurses abroad to obtain licensure in the jurisdiction the patient resides within. In addition, more than half (61.5%,  $n = 16$ ) of responding jurisdictions allowed formerly retired nurses to return to the workforce. Unsurprisingly, most nurse leaders have found these retired nurses to be exceedingly competent (Martin & Kaminski-Ozturk, 2023).

Broadly, many respondents indicated that their jurisdictions implemented a myriad of changes to support the nursing workforce; however, it is unclear how these changes will affect the regulatory landscape in the future. Across all domains, respondents seemed unsure as to whether changes implemented during the pandemic would remain temporary or become a permanent element of the nursing regulatory landscape. For example, 80.0% ( $n = 4$ ) of representatives whose jurisdictions expanded the role of nurses estimated that pandemic-driven change would remain a mix of both permanent and temporary. However, in terms of education, the group was more evenly divided as to whether changes implemented in nursing education (e.g., remote learning and simulation-based experiences) would remain temporary (55.6%,  $n = 10$ ) or would become a mix of temporary and permanent (44.4%,  $n = 8$ ). Finally, despite all of the challenges the pandemic has wrought, respondents overwhelmingly (88.5%,  $n = 23$ ) reported there were few, or about the same number of, complaints about nurses in their jurisdiction during the pandemic. Although all complaints do not necessarily lend themselves to disciplinary actions, this trend aligns with previous work on the low incidence of nurse discipline (Zhong et al., 2022).

The present study serves to illuminate how regulators in diverse jurisdictions addressed the pandemic through the lens of the five domains outlined in the GRA. As the pandemic recedes into memory, more work is needed to examine which actions were most or least effective in supporting the nursing workforce and could be once again drawn upon in future health crises.

### Limitations

Although this study serves as an important initial step in examining how nurse regulators around the world addressed the challenges of the COVID-19 pandemic, the combination of a relatively low response rate and the concentration of responses do not lend themselves to a complete picture of the global regulatory response to COVID-19. Although it is possible representatives may have moved from their identified roles since the original contact information was obtained in 2014, it is also likely that jurisdictional resources may have been strained during the pandemic. Furthermore, due to

the dynamic complexity of the pandemic and the brief window of data collection, it was not possible to measure the efficacy of actions adopted by each nursing jurisdiction.

## Conclusion

The results of this study highlight the range of actions nursing regulators worldwide adopted to safeguard public health during an unprecedented health crisis. The pandemic resulted in widespread disruption of nearly every facet of the nursing profession, with educational institutions often experiencing the most significant and perhaps durable changes relative to other domains. To prepare for future public health emergencies, NRBs must understand and learn from the actions adopted by their colleagues worldwide. This article provides a preliminary account of many of the activities in which nursing regulatory bodies engaged to combat the pandemic, but more research is needed to fully evaluate the long-term implications and efficacy of these actions.

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*Conflicts of Interest:* None.