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# Nurse practitioners' perception of temporary full practice authority during a COVID-19 surge: A qualitative study

Monica O'Reilly-Jacob[a,*], Jennifer Perloff[b], Roya Sherafat-Kazemzadeh[b], Jane Flanagan[a]

[a] Boston College, Connell School of Nursing, 140 Commonwealth Avenue, Chestnut Hill, MA, 02467, USA
[b] Brandeis University, The Heller School for Social Policy and Management, 415 South Street, Waltham, MA, 02454, USA

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ABSTRACT

*Background:* At the beginning of the COVID-19 pandemic in the United States, 22 state governors temporarily waived physician supervision of nurse practitioners to expand access to health care during the state of emergency.
*Objective:* We examined the nurse practitioner perception of the simultaneous scope of practice changes and the exigent pandemic demands during the initial COVID-19 surge in Massachusetts.
*Methods:* Qualitative descriptive design using content analysis of open-ended responses to a web-based survey of Massachusetts nurse practitioners conducted in May & June 2020.
*Results:* Survey response rate was 40.6 percent ($N = 389$). Content analysis identified four themes including: 1) State waivers enabled more control over practice and more expedited care, 2) State waiver did not change practice either because of pre-established independence or employers not changing policy, 3) Perception of nurse practitioner role as both versatile and disposable and 4) Telehealth increased access to care and created an autonomous setting.
*Conclusions:* Although findings suggest fewer barriers in some areas, the temporary removal of state-level restrictions alone is not sufficient to achieve immediate full scope of practice for nurse practitioners. There is a need for regulatory frameworks that optimize the capacity of the advanced practice nursing workforce to respond to global health emergencies. US-based policymakers and healthcare organizations should revise outdated scope of practice policies and capitalize on telehealth technology to utilize the full extent of nurse practitioners. Likewise, nursing leaders should be a voice for nurse practitioners to more effectively and safely maximize the nurse practitioner contribution during emergency responses. In countries where the role is under development, regulators can leverage these findings to establish modernized nurse practitioner scope of practice policies from the outset.


### What is already known

- Nurse practitioner practice restrictions persisted despite the state-level waiver of physician supervision in 22 US states at the beginning of the COVID-19 pandemic.
- Nurses working on the frontlines of the COVID-19 pandemic experienced perceived helplessness, lack of control and unpredictability of tasks.
- Little is known about how the simultaneous emergency scope of practice changes and pandemic demands affected frontline advanced practice nurses during a COVID-19 surge.

### What this paper adds

- The state-level waiver of physician supervision allowed some nurse practitioners to provide more expeditious care, but was minimally impactful to others with unchanged employer policies or highly autonomous pre-pandemic practice.
- During the initial surge, nurse practitioners felt both versatile in being able to respond to a range of pandemic needs, but also vulnerable to high-risk tasks, rapid deployment to unfamiliar settings, furloughs and job loss.
- Telehealth provides some nurse practitioners with greater control over their practice and increased practice autonomy.

## 1. Introduction

The COVID-19 pandemic caused the most rapid delivery system re-design and health policy implementation in recent history. In response to the public health emergency, both United States federal and state governing bodies temporarily or permanently removed nurse practitioner practice barriers in order to increase access to health care. For example, the CARES Act of 2020 perma-

* Corresponding author.
*E-mail address:* monica.oreilly@bc.edu (M. O'Reilly-Jacob).

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nently allowed nurse practitioners to certify home health care services for Medicare beneficiaries and lifted telehealth restrictions, expanding the pool of telehealth providers (Coronavirus Aid, Relief and Economic Security Act, 2020). The Centers for Medicare and Medicaid temporarily waived physician supervision of nurse practitioners in Rural Health Centers and Federally Qualified Health Centers so that nurse practitioners could practice to their fullest extent in these facilities as allowed by state law (Centers for Medicare and Medicaid Services, 2021). Governors in 22 states temporarily waived physician supervision of nurse practitioners. Such a rapid and multi-pronged liberalization of nurse practitioner scope of practice is unprecedented in the US, even though the high-quality (Laurant et al., 2018; Swan et al., 2015) and cost-effectiveness of nurse practitioner care is well documented (Kuo et al., 2015; Morgan et al., 2019; Perloff et al., 2016; Razavi et al., 2021). There is some evidence that state-level restrictions actually reduce patient access to care, rather than protect the public as originally intended (Perloff et al., 2017; Yang et al., 2020).

Legislative efforts to modernize scope of practice laws across the country have spanned several decades (Brom et al., 2018). In Massachusetts, where organized medicine is particularly strong McMichael (2017), the progress towards full practice authority has been slow and steady. Initial achievements included incremental changes in the 1990s, such as legal death pronouncements and nurse practitioner recognition as primary care providers in the Massachusetts Medicaid program. In the 2010s, three distinct full practice authority bills were filed and eventually passed in January 2021 (Massachusetts Coalition of Nurse Practitioners, 2021). Amidst this protracted legislative battle and in response to the COVID-19 state of emergency, the Massachusetts governor issued an executive order on March 26, 2020 to immediately and temporarily waive mandated physician supervision for nurse practitioners with greater than two years of experience Bharel (2020). The waiver removed prescriptive requirements, allowing nurse practitioners to prescribe without physician co-signatures or required review of pharmacological treatments (Advanced Practice Registered Nursing, Code of Massachusetts Regulations, 2020).

Given the unique nature of this nurse practitioner policy climate, we conducted a brief survey of Massachusetts nurse practitioners to understand how the scope of practice changes affected the day-to-day work of nurse practitioners during the state of emergency. The survey was conducted May to June 2020, at the state peak of COVID hospitalizations and a period of high strain on the healthcare system (Massachusetts Department of Public Health, 2021). Many studies, spanning professions and nations, describe the impact of the COVID-19 pandemic on the healthcare workforce (Al Maqbali et al., 2021; Fernandez et al., 2020; Joo and Liu, 2021; Kontoangelos et al., 2020). However, little is known about how the simultaneous scope of practice changes and demands of the pandemic affected nurse practitioners. Previously published quantitative findings of this survey indicate that only 25 percent of Massachusetts nurse practitioners felt the supervision waivers improved practice (O'Reilly-Jacob and Perloff, 2021). In a national survey conducted later in the pandemic, 72% of nurse practitioner respondents from previously restricted states, felt the waiver of chart reviews allowed for more efficient care delivery, but also felt that practice restrictions remained despite the waivers (Kleinpell et al., 2021). While these seminal studies provide early evidence on the effectiveness of the waiver, more context is needed to elucidate the mechanisms behind these statistics.

In reality, scope of practice is not simply a product of state law, but rather is shaped by a complex web of federal, state, payer and employer-imposed regulations. Closely examining the impact of the temporary removal of one layer of restrictions provides a clearer picture of how the compounded layers work together to limit nurse practitioner practice. The US patchwork of competing and overlapping regulations may serve as a cautionary tale to those involved in the international effort to grow the nurse practitioner workforce. Our findings also capture the experience of nurse practitioners working during the first months of an unprecedented, global health emergency. These results may inform future emergency preparedness efforts, specifically aimed at safely maximizing the capacity of the advanced practice nursing workforce to meet ever-changing international health needs.

This study reports on an analysis of open-ended responses, of a web-based survey conducted at the height of the initial COVID surge in Massachusetts, which aims to answer the question: *What are nurse practitioners' perception of the temporarily waived state practice restrictions on care delivery during the initial surge of the COVID-19 pandemic in Massachusetts?*

**Table 1**
Open-ended survey questions.

| Questions |
|---|
| Has your clinical practice changed as a result of the waiver? |
| Does your employer impose additional requirements? |
| Is there anything else you would like to tell us about the impact of COVID-19 on your clinical work? |

## 2. Method

We conducted a web-based survey with clinically active nurse practitioners from May 8 - June 15 2020,. This is a qualitative descriptive study of the open-ended survey responses. The invitation to the closed Qualtrics survey was emailed to the distribution list of the Massachusetts Coalition of Nurse Practitioners, which includes both members and previous members of this advocacy organization. Informed consent was located on the landing page of the Qualtrics survey and clearly defined eligibility as clinically active nurse practitioners in March 2020. Informed consent indicated the survey was 5 min in length, respondents would be assigned coded identifiers and data would be securely stored. After the initial emailed invitation, there were three email reminders sent over a 5-week period. There was no incentive to participate. While respondents were anonymous, some voluntarily provided email addresses for participation in future waves of the survey.

In addition to ten closed-ended survey questions, three open-ended questions (presented in Table 1), focused on understanding nurse practitioners' perceptions of care delivery related to the temporarily waived state practice restrictions. Given the environment of uncertainty as a result of the pandemic, these questions elicited a broad range of topics, including furloughs, telehealth and autonomy.

### 2.1. Analysis

Inductive and quantitative content analyses were applied to the data obtained from the open-ended questions (Hsieh and Shannon, 2005). Our team of four researchers progressed through this process in several steps, working in dyads. Dyad A was composed of nurse practitioner researchers and dyad B was composed of non-nurse practitioner researchers. First, dyad A independently read and coded the responses, identifying key words and phrases (i.e., meaning units) across all three questions. Dyad A met to discuss the codes, condense the codes into categories (aggregation of meaning units) and then develop the themes. Meanwhile, dyad B reviewed the raw data independently. The full team of four researchers then met to determine if there was consensus on the themes or if there was a need to further refine the themes for clarity. Ultimately, the researchers defined four core themes, two of which encompassed a pair of contrasting subthemes. In order

to clarify the magnitude of these contrasting themes, dyad B conducted a quantitative content analysis by counting meaning units representing themes and subthemes to determine frequency of response.

### 2.2. Trustworthiness

We used credibility, transferability, dependability and confirmability to establish trustworthiness and assure that our findings reflect the respondents' perspective (Lincoln and Guba, 1985). *Credibility* was assured by the peer debriefing, which occurred first with dyad A during the initial analysis and then by the full team who together fleshed out findings and reached consensus on the themes. The negative case analysis of subthemes further contributed to the credibility of the findings. *Transferability* was assured by providing a rich description of the themes and by stating the themes clearly in a way that others sharing this same experience could relate to. *Dependability* of the findings was met by this team providing a step-by-step description of the process of data collection and analysis, enabling replicability. *Confirmability* was achieved through the reflexivity of a team composition of two nurse practitioners and two non-nurse practitioners. Through discussing the findings and coming to consensus, we considered potential biases and confirmed the findings in an objective way.

### 2.3. Ethical considerations

This study was approved by the Boston College Institutional Review Board (Protocol #20.237.01). We obtained written informed consent prior to releasing survey questions.

## 3. Results

Among the 958 receiving the invitation, 413 consented, 389 eligible respondents answered closed-ended questions and 230 answered open-ended questions. We used standards from the American Association for Public Opinion Research to calculate an overall response rate of 41.2 percent (2016). Respondents were certified in family (40%), adult/gerontology (33%), acute care (7%), psychiatric mental health care (7%) and other (4%). The breakdown in clinical specialty was consistent with nurse practitioners in Massachusetts (Massachusetts Health Policy Commission, 2020). About half worked in primary care or ambulatory care settings, 16 percent in acute care and the remaining in telehealth, COVID sites, home care or post-acute care and other settings. When asked if the state-level supervision waivers improved their clinical care, 25 percent of respondents said yes, which did not vary significantly by practice setting. As reported in a previous paper, psychiatric mental health nurse practitioners were significantly more likely than other types of nurse practitioners to believe the elimination of supervision impacted their care (O'Reilly-Jacob and Perloff, 2021).

A subset of 230 nurse practitioners responded to open-ended questions on the survey, providing comments of varying length. As a result of the content analysis, four themes were identified from the comments, which are presented in Table 2. The first two themes are related to scope of practice changes; 1) State waivers enabled more control over practice and more expedited care and 2) State waiver did not change practice either because of pre-established independence or employers not changing policy. The next two themes are related to the experience of nurse practitioners working amidst the COVID surge and include 3) Perception of nurse practitioner role as both versatile and disposable and 4) Telehealth increased access to care and creates an autonomous setting. Table 2 clearly delineates the themes and relevant subthemes.

**Table 2**
Themes and Subthemes.

| Theme | Subtheme |
|---|---|
| State waiver enabled more control over practice and more expedited care | |
| State waiver did not change practice | Pre-established independence<br>Employers not changing policy |
| Perception of nurse practitioner role as both versatile and disposable | Versatility<br>Disposability |
| Telehealth increased access to care and creates an autonomous setting for some | |

### 3.1. State waiver enabled more control over practice and expedited care

A common theme is that the waivers enabled a greater sense of control over practice, which promoted expedited and more efficient care, as described by about 16 percent of all respondents. Many respondents reported no longer needing a co-signature to prescribe controlled substances (i.e., stimulants and narcotics) or to order home health, hospice or therapy services. Some nurse practitioners mentioned the financial and efficiency gains from the elimination of required physician supervision. For example, this adult-gerontology nurse practitioner commented, *'I don't have to pay an MD* [physician] *to sign anything I write, which was always ridiculous, and finally I don't have to meet him and pay him for a service that even he agrees is a complete joke' (Adult_Gerontology_Nurse_Practitioner_1).* In addition to saving money and time, removing mandated supervision acknowledged this nurse practitioner's clinical competence.

For several respondents, the impact of greater control and less bureaucracy meant faster reaction times and better patient care. This was best summed up by the psychiatric nurse practitioner who wrote: *'I'm free to make decisions. I am faster to respond to emergencies. My PATIENTS ARE DOING BETTER' (Psychiatric_Nurse_Practitioner_1).* For this nurse practitioner, the sense of improved care was immediate and seemed to be directly related to their ability to respond quickly to patient needs. Another family nurse practitioner indicated a sense of expedited treatment especially for urgent needs by the following comment: [I am] '*able to start patients on life saving medications for addictions treatment with fewer barriers*' (*Family_Nurse_Practitioner*_1). Other comments pointed to improved quality and more time available to round in nursing homes.

A more subtle benefit from nurse practitioners practicing at the top of their licenses was that physicians could also practice at their full capacity – one adult-gerontology nurse practitioner noted, *'the temporary lift of clinical supervision allowed physicians to focus on other matters more important than to meet strict guidelines imposed by Medicare and state rules' (Adult_Gerontology_Nurse_Practitioner_2).* This suggests that physicians could see how lifted requirements benefitted patients.

A somewhat unexpected consequence of expanding practice authority was nurse practitioner entrepreneurship as some started new businesses or expanded a side practice. This was noted by four nurse practitioners and best summed up by this family nurse practitioner:

> *The relief of the supervisory requirement has led me to create a business plan for an Advanced Practice Nurse owned and operated practice, without physician collaboration. I fear, however, that if this business is started, that a physician collaborator would eventually be required, when the emergency order is lifted. If NPs* [nurse practitioners] *are good enough to practice independently during a global pandemic, certainly we can perform to the high-*

*est standards of quality and our scope of practice, in provision of routine healthcare. (Family_Nurse_Practitioner_2)*

This quotation illustrates the drive to practice with greater autonomy, but also the fear of losing independence when the public health emergency ends. The standard of care also comes into question with the provocative assertion that 'good enough' care during the pandemic was also good enough for routine care.

### *3.2. State-level waiver did not change practice either because of pre-established independence or employers not changing policy*

While many felt the waivers changed practice, an equally common theme is that the scope of practice changes had no impact on nurse practitioner work, mentioned by 15.6 percent of respondents. This seemed to be attributed to two distinct subthemes; either continued organizational-level practice barriers or substantially autonomous practice prior to the pandemic such that the scope of practice change was moot. The perpetuation of employer and payer-imposed requirement of physician co-signature on orders or prescriptions was frequently mentioned and particularly true for narcotic prescriptions. One acute care nurse practitioner clarified this by stating: '*Hospital bylaws prohibit full practice authority and the computer system requires co-signatures' (Acute_Care_Nurse_Practitioner_1).* This suggests that the time it took to change policies and procedures was a barrier to changing practice for many institutions. Others reported that employers hesitated to make major changes because the expansion in authority was only granted on an emergency basis.

Many nurse practitioners reported a high degree of autonomy in their prior practice and so the waiver made no impact. One respondent described, *'I have been essentially practicing independently for many years and working remotely during the pandemic has certainly supported the fact that I am very capable of this*' *(Psychiatric_Nurse_Practitioner_2).* For this respondent, the pandemic only reinforced her confidence as an independent clinician. Others pointed out that physician supervision was not taken very seriously, such as this adult-gerontology nurse practitioner, *'In most places there is minimal, if any, supervision of NPs by MDs despite often being paid for that supervision. At most, they can be called for questions if they are around'(Adult_Gerontology_Nurse_Practitioner_3).* This idea was expanded upon by a family nurse practitioner who wrote:

*There are 4 NPs in this department and we have operated independently for many years. The 'law' is only relevant to us as it pertains to the MD's signature for prescriptive authority/guidelines….we are seasoned and collaborative as a group and intelligent enough to use the MD for 'real' purpose like collaborating on a specific complex patient. (Family_Nurse_Practitioner_3).*

In this statement, the nurse practitioner purported that co-management of complex patients is a better model than required periodic record review and gives us insight into a model of care that ignores the dictates of regulation.

### *3.3. Perception of nurse practitioner role as both versatile and disposable*

This paradoxical theme, expressed by 23 percent of respondents, captures the experience of nurse practitioners practicing within the extraordinary circumstances of the initial COVID-19 surge. There was a sense of the versatility of the nurse practitioner role in emergency response, but also disposable in their vulnerability to deployments that did not match their skillset. Many nurse practitioners wrote about being assigned to COVID-19 units or triage centers or moved to units they were unfamiliar with, such as this adult-gerontology nurse practitioner: *'Nurse practitioners who have practiced at the bedside were deployed. In my case I had not been in an intensive care unit for nearly 25 years and yet as someone almost 60 years old went back into a Covid unit' (Adult_Gerontology_Nurse_Practitioner_4)* In addition to illustrating the extreme need for clinicians in inpatient units during the pandemic, this quotation points to the lack of control many nurse practitioners felt, which is echoed by this acute care nurse practitioner: '*There was chaos with the deployment of staff, placed in a variety of settings without any consistency or communication' (Acute_Care_Nurse_Practitioner_2).*

In another situation, nurse practitioners took over a regular inpatient unit to free up residents for critical care:

*My practice group went from managing cardiology inpatients with specific diagnoses to assuming the management of the entire inpatient cardiology volume (half of which had COVID) …with the help of one attending physician. This enabled the residents to be redeployed to critical care. (Acute_Care_Nurse_Practitioner_3).*

This suggests that during the surge of the pandemic, frontline providers were given huge responsibilities, some of which they did not feel prepared for clinically. These respondents give us a sense of the chaos as clinicians were quickly moved into new capacities to handle the public health emergency. At the same time, the perceived clinical flexibility of the nurse practitioner role forced nurse practitioners to practice outside of their primary expertise. In some cases, nurse practitioners were asked to do high-risk tasks while their physician colleagues worked in lower risk settings. This is best captured by this adult-gerontology nurse practitioner:

*The MDs in our specialty group all retreated and then continued to work from home while the NPs were asked to still go in and cover office/assisted living facility and nursing home settings initially and for weeks without proper personal protective equipment (PPE). (Adult_Gerontology_Nurse_Practitioner_5).*

This speaks to the experience of some nurse practitioners who participated in direct patient care (without personal protective equipment) while physicians worked remotely. For many, it felt like they were asked to take on more dangerous tasks than their physician colleagues. A women's health nurse practitioner simply wrote, *'…as an* nurse practitioner, *I feel very disillusioned with the lack of power and control in mine and other NP's work during this crisis*' *(Women's_Health_Nurse_Practitioner_1).* Contrary to this, others mentioned being furloughed and noted *'my employer furloughed a disproportionate number of NPs' (Family_Nurse_Practitioner_4).* In summary, nurse practitioner respondents reported feeling taken for granted and/or dispensable and/or put in harm's way.

### *3.4. Telehealth as a new mode of care to increase patient access*

Many respondents (16%) reported that their care was either predominantly or exclusively provided via telehealth at the time of survey (May-June 2020). For some, this was exhausting, such as this psychiatric nurse practitioner: *'…doing telehealth is draining in ways that an in-person visit is not - exhausting at the end of the day seeing equal # of patients as if I were going into hospital' (Psychiatric_Nurse_Practitioner_3).* For others, telehealth provided a greater sense of clinical independence. This is explained by one family nurse practitioner who wrote:

*I feel I have more control over follow up scheduled telehealth visits and am able to talk to my patients more frequently and earlier than before COVID. The visits are quicker…, but I am able to focus on priorities and keep meeting with them as needed until all concerns are addressed. (Family_Nurse_Practitioner_5).*

Shorter and more frequent visits allowed this clinician to provide higher quality care.

Other nurse practitioners mentioned greater patient satisfaction with virtual visits (e.g., *'patients love it'*), increased accessibility and ease of communication. Some nurse practitioners also liked virtual visits and noted:

> *….it's harder, but I feel it's a bit more personal as we follow up with patients in a few days…I feel it's more like the beginning of my career as an NP, more about the patient, less about the relative value units (RVU) and measures. (Adult_Gerontology_Nurse_Practitioner_6).*

While many appreciated minimizing COVID exposure for themselves and their patients, a few were concerned with the limitations of telehealth. They mentioned feelings of isolation, loss of face time with patients and team members, as well as the challenges to physical assessments and diagnosis. Some relayed concerns for specific patient populations whose care may be less compatible with telehealth. One psychiatric nurse practitioner noted, *'My chronic patients are likely suffering due to their inability to take advantage of virtual treatment' (Psychiatric_Nurse_Practitioner_4).* And another psychiatric nurse practitioner noted the disparity in digital literacy and access, *'I do feel badly for elderly or other people who may need a new mental health provider and may not have internet access' (Psychiatric_Nurse_Practitioner_5).*

All in all, the vast majority hoped telehealth would continue after the end of the state of emergency. This is captured well by the following respondent: *'We are finding a silver lining with telehealth to meet the needs of our patients effectively. A work in progress changing and evolving we are' (Family_Nurse_Practitioner_6).* In addition to being positive about the future of telehealth, this clinician pointed to the need for flexibility and a willingness to adapt care to a patient's needs and environment.

### 3.5. Meta-themes

Overall, the comments seemed to fit two distinct meta themes that either described the impact of the pandemic-related changes on care (i.e., COVID care, telehealth, furloughs, deployments) or the scope of practice changes on care. Especially at this early stage of the pandemic, when uncertainty and fear touched every part of care delivery, it is understandable that all frontline workers were more reflective on how COVID upended their day-to-day lives, rather than a shift in scope of practice policy.

## 4. Discussion

The open-ended responses to this state-based survey captured a snapshot of nurse practitioners' perception of working during a public health crisis, amidst a sudden change to state scope of practice laws. The nurse practitioner perception of the waiver of physician supervision was varied, which was reflected in the major themes. About a sixth of respondents expressed that the waivers allowed for more control over practice, which enabled them to provide expedited and efficient care. An equal proportion of respondents described the impact of the waivers as minimal, either because employers did not change policies or because some nurse practitioners felt their practice was already autonomous prior to the pandemic. In terms of the paradoxical impact of the pandemic on the nurse practitioner role, respondents felt versatile in being able to respond to a range of emergency needs, but also vulnerable to high-risk tasks, rapid deployment to new settings, furloughs and job loss. Lastly, telehealth held a wide-ranging and significant impact on nurse practitioner practice during this tumultuous time, enhancing access to care, but presenting unique challenges in caring for particular populations. Overall, telehealth provided nurse practitioners greater control over practice and another layer of autonomy beyond the waiver of physician supervision.

### 4.1. The effect of the supervision waivers

In terms of the effect of the waivers, these findings contextualize the results of companion quantitative analysis (O'Reilly-Jacob and Perloff, 2021), in which only a quarter of respondents felt waivers improved their clinical work. Not surprisingly, it is hard to untangle the full impact of the scope of practice changes from the emergency needs of the pandemic. Low patient volume, furloughs, deployments to less familiar areas, frequent protocol changes and lagging organizational communication could have diluted the effect of the waivers in this early stage of implementation. These findings are consistent with a national survey, conducted later in the pandemic, where 72% of nurse practitioners in states with waivers reported continued barriers despite the scope of practice change (Kleinpell et al., 2021). The state-level policy change in Massachusetts mainly affected prescriptive authority, allowing nurse practitioners to prescribe without co-signatures and physician documentation review. Eliminating this single layer of restriction is not sufficient to allow nurse practitioners to practice at the top of their license, at least not immediately. The waivers did not change reimbursement policies, primary care provider designation by payers or organizational level protocols that are often embedded into the electronic health record systems. These are additional layers of restrictions that exist independent of state law.

For decades, efforts to modernize scope of practice laws have been relatively focused at the state level and supported by a diverse cadre of professional bodies and government agencies (Department of Veteran's Affairs, 2017; Federal Trade Commission, 2014; Massachusetts Health Policy Commission, 2020; National Governors Association, 2012; Trump Administration, 2019). But as our results suggest, practicing to the fullest extent of nurse practitioner license and training is more than just state law. These results are consistent with several other studies indicating that revising organizational policies may be more impactful to nurse practitioner practice than modernizing state scope of practice law (Pittman et al., 2020; Poghosyan et al., 2013; Yee et al., 2013). Achieving authentic full practice authority will require a revision to policies and procedures across the delivery system including organizations, payers and all levels of government.

### 4.2. Perception of versatility and disposability

In regards to the nurse practitioner perception of versatility and disposability, our paradoxical results are consistent with other studies on the nursing experience during COVID surges. Nurse practitioner versatility is highlighted in Canadian long term care facilities, where nurse practitioners stepped into new roles when the medical directors moved to remote work (McGilton et al., 2021) and at a Michigan hospital, where pediatric acute care nurse practitioners were trained and deployed to provide care in the adult COVID-19 intensive care units (Renke et al., 2020). In both studies, this role flexibility is perceived to be a positive attribute. However, the perception of nurse practitioners as disposable are similar to the clear themes of perceived helplessness, lack of control and unpredictability of tasks found in international systematic reviews on the experience of frontline nurses (Fernandez et al., 2020; Joo and Liu, 2021; Moore et al., 2021).

While the flexible skill set of nurse practitioners allowed organizations to be nimble and responsive to consistently changing pandemic needs, many nurse practitioners felt vulnerable to high-risk tasks, rapid deployment to unfamiliar areas and furlough.

This suggests that organizational understanding of the nurse practitioner role promotes clinical autonomy and job security. This is consistent with prior literature demonstrating the importance of supportive organizational structure in implementing autonomy (Poghosyan et al., 2013). Nursing leadership that is familiar with the scope of nurse practitioner practice and able to advocate for nurse practitioners on emergency response teams could facilitate implementation of full practice authority and a more positive experience for frontline nurse practitioners.

Some of the tension in this theme (ie., perceptions of both versatility and disposability) may be related to the range of experiences; some nurse practitioners were fully utilized in the roles for which they were prepared, while others were deployed into new areas beyond the scope of their training. For example, psychiatric nurse practitioners were unlikely to be deployed to unfamiliar settings (i.e., acute care), because there was an increased demand for their care, which also transitioned easily to telehealth. Many long-term care nurse practitioners were also well positioned to avoid deployment, as they were often charged with overseeing their sites as their supervising physicians worked remotely. Psychiatric and long-term care nurse practitioners seemed to be more likely to maintain alignment between their educational preparation/certification and their practice setting. They were better prepared for their specific positions and therefore more self-sufficient, even if they were exposed to similar pandemic-related stressors as their deployed colleagues. Further research is necessary to understand the relationship between nurse practitioner education-practice alignment and job satisfaction.

### 4.3. Telehealth

Telehealth presented unique challenges, such as social isolation, lack of physical assessments or care for older adults, but also allowed for greater flexibility, efficiency and autonomy. Our findings suggest that while telehealth is not ideally suited for every patient, provider or type of care, there are benefits in some situations. This is consistent with the evidence from multiple large-scale, international surveys on patient and provider attitudes towards virtual visits. Patients generally prefer telehealth over traditional visits due to convenience and efficiency (Donelan et al., 2019; Hamlin et al., 2020). While some providers voice concern with the limitations of virtual visits for new and more acute patients (Wilhite et al., 2021), the majority believe it does not negatively impact care for established and routine patients (Alhajri et al., 2021; Donelan et al., 2019).

This uniquely autonomous setting is well suited for the nursing model, which emphasizes the importance of assessing patients within the context of their environment. Additionally, telehealth offers nurse practitioners more control over their schedules, enables them to tailor their visits to best meet the needs of their patients, such as offering shorter, but more frequent follow-ups. As telehealth visits are sustaining volumes up to 38 times the pre-pandemic baseline (Bestsennyy et al., 2021) and telehealth reimbursement may remain expanded (Medicare Payment Advisory Commission, 2021), protocols and educational tools will need to be developed to ensure that high-quality telehealth is delivered appropriately.

### 4.4. Limitations

This study has some limitations. The waivers of supervision were temporary at the time of the survey and the impact may have been different under a more permanent policy change. The survey itself was designed to be brief to minimize burden on respondents. For this reason, it did not capture important factors that may impact perception of the temporary scope of practice change, such as level of experience, degree type or practice characteristics. Respondents were active and past members of a nurse practitioner advocacy organization and may be more engaged in scope of practice issues than the overall nurse practitioner population. While respondents were from a single state, their experience may be generalizable to other restricted practice states where supervision was temporarily waived. The study examined nurse practitioner perception of the waivers and did not intend to examine the effect on quality, access or cost outcomes. As mentioned previously, it is difficult to disentangle the effect of the supervision waivers from the chaos and disruption of the first months of the pandemic. However, this study captured the experience of nurse practitioners during a sudden and immediate scope of practice change at the height of the COVID-19 demand on the state's healthcare system. Experiences captured within this extraordinary time period are valuable to understand and explore.

### 4.5. Implications

Our study has implications for the implementation of full practice authority as well as the emergency preparedness of the nurse practitioner workforce, within the United States and internationally. First, in the US, the movement towards full practice authority is likely to advance in all fifty states in the coming years and careful attention to the implementation of full scope of practice will be critical to actually achieving nurse practitioner independence. Committed and persistent organizational efforts to align state and organizational scope of practice laws will be necessary, albeit disruptive. The supervisory barriers are often deeply embedded into the information technology systems of organizations and removing them may require expensive revisions to key infrastructure, such as Electronic Health Records platforms. Further research is necessary to examine the implementation lag of full practice authority, between when it is legislated at the state level and fully adopted at the organizational level.

These findings also raise questions for professional nursing organizations who developed the Advanced Practice Registered Nurse Consensus Model in an attempt to clarify and standardize the boundaries of nurse practitioner scope of practice. Nurse practitioners are currently trained according to a population focus with distinct certifications for acute and primary care. According to our results, though, many nurse practitioners were asked to practice outside of their certification in order to respond to emergency needs. The founding bodies of the Consensus Model may want to consider how the nurse practitioner workforce can best meet the evolving global health needs in both routine times and periods of crisis by offering emergency scope of practice provisions. Proactively addressing how the capacity of the nurse practitioner workforce can be safely maximized in emergencies will provide some standard to guide employers and protect nurse practitioners during the next crisis.

Finally, this study may inform efforts in other countries to establish and develop the nurse practitioner role. These roles are developing quickly. Within a decade, a formal advanced practice nursing role has grown from a presence in 23 countries (Pulcini et al., 2010) to 50 countries (World Health Organization, 2020). More than likely, this number will continue to grow as countries face declining numbers of physicians, aging populations, and look to nursing to alleviate primary care shortages (Aaron and Andrews, 2016; Behrens, 2018; Zug et al., 2016). The promise of advanced practice nursing, however, cannot be fully realized under the constraints of excessive regulation. In the United States, where advanced practice nursing began a half century ago, scope of practice laws are deeply rooted into the infrastructure and climate of organizations and are thus not quickly reversed in an emergency. The multiple regulations initially intended to protect the public ac-

tually obstruct access to high-quality, cost-effective nurse practitioner care in a time when the public needs it most.

### 4.6. Conclusion

This study captured the perspective of frontline nurse practitioners during the height of the initial COVID-19 surge in Massachusetts, a period of unprecedented change, including the emergency expansion of practice authority. Our findings emphasize the importance of ensuring a regulatory framework for advanced practice nurses that is unencumbered by unnecessary bureaucracy, echoing the World Health Organization's call to optimize nurses by ensuring they practice to the fullest extent of their license and education (World Health Organization, 2020). US-based policymakers and healthcare organizations can respond to this call by revising outdated policies. In countries where advanced practice nursing is under development, regulators have the benefit of establishing modernized policies at the outset. Allowing nurses to practice to their fullest extent in routine times, will provide countries and employers with the flexibility to maximize their health workforce as future emergencies arise.

None.

### Declaration of Competing Interest

None.

### CRediT authorship contribution statement

**Monica O'Reilly-Jacob:** Conceptualization, Methodology, Formal analysis, Writing – original draft, Writing – review & editing, Project administration. **Jennifer Perloff:** Methodology, Formal analysis, Writing – original draft, Writing – review & editing. **Roya Sherafat-Kazemzadeh:** Formal analysis, Writing – review & editing. **Jane Flanagan:** Formal analysis, Writing – original draft, Writing – review & editing.

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