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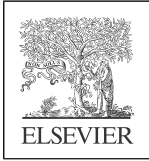
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# State responses to COVID-19: Potential benefits of continuing full practice authority for primary care nurse practitioners

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## ABSTRACT

**Background:** During the COVID-19 pandemic, federal and state governments removed the scope of practice restrictions on nurse practitioners (NPs), allowing them to deliver care to patients without restrictions.

**Purpose:** To support policy makers' efforts to grant full practice authority to NPs beyond the COVID-19 pandemic, this manuscript summarizes the existing evidence on the benefits of permanently removing state-level scope of practice barriers and outline recommendations for policy, practice, and research.

**Methods:** We have conducted a thorough review of the existing literature.

**Findings:** NP full scope of practice improves access and quality of care and leads to better patient outcomes. It also has the potential to reduce health care cost.

**Discussion:** The changes to support full practice authority enacted to address COVID-19 are temporary. NP full practice authority could be part of a longer-term plan to address healthcare inequities and deficiencies rather than merely a crisis measure.

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The COVID-19 pandemic has proven to be a shock to our healthcare system, producing a sudden growth in the need for health care services. It has exposed the vulnerabilities of our health care system, particularly a shortage of adequately trained health care providers (Lopez et al., 2021). The pandemic disproportionately affected historically marginalized groups and accentuated the health disparities and unequal access to care facing millions of Americans (Lopez et al., 2021). The pandemic has brought attention to the fragile primary care system and its inability to meet the demand for health care services. Due largely to population growth, aging, and, to a smaller extent, expanded health insurance years, the demand for primary care clinicians is projected to rise by nearly 20% the next five to 10 years (Duchovny et al., 2017), yet the country is struggling to train adequate number of clinicians. The timeline for the country's recovery from the COVID-19 pandemic is unclear and likely to further deepen inequities, and further stress the primary care system.

Nursing has a lengthy history of social and practice change emanating from crises like epidemics, wars, and disasters. Florence Nightingale's enormous contributions during the Crimean War ranged from sanitation to statistics (Haynes, 2020). Mary Seacole established a nursing facility for wounded soldiers during the Crimean War (Mary Seacole Trust, n.d.). Sojourner Truth, a former slave, worked as a Civil War nurse and became an advocate for formal nursing education (DeWitty, 2017). Clara Barton and Susie King Taylor were also nurses in the Civil War who founded the American Red Cross (Lindquister, 2019). Lillian Wald was an advocate for immigrant health (Wald, 1908). Many others such as Mary Breckinridge, founder of the Frontier Nursing Service, began their careers by answering the overwhelming need for nurses during the 1918 influenza epidemic (American Association for the History of Nursing n.d.; Barry, 2004; Keeling, 2010; Wood, 2017). These nurses all stepped out as advocates for health care delivery models to improve access and quality of care during times of social change or crisis, before statutory regulations were able to keep pace. Because of their pioneering contributions and visionary stance, laws were changed.

Nurse practitioners (NPs) are a group of nurses pivotal in meeting the growing demand for primary care services. They represent the fastest growing sector of the primary care workforce, and 90% are prepared to deliver primary care services (American Association of Nurse Practitioners, 2021). Projections show that the NP workforce will increase by 93% between 2013 and 2025 (Auerbach et al., 2020). NPs also disproportionately care for vulnerable populations, especially racial

minorities and those living in rural communities (Poghosyan & Carthon Brooks, 2017; Xue et al., 2019). Yet, many barriers impact the ability of primary care NPs to maximally contribute to improving access and quality of health care services before, during, and after the COVID crisis.

One of the particular challenges affecting this workforce are the restrictive scope of practice (SOP) regulations in many U.S. states. Currently, the SOP laws are not consistent across the states. Before the COVID, only 23 states and the District of Columbia supported full practice authority for NPs, allowing NPs to care for their patients to the fullest extent of their education and licensure (American Association of Nurse Practitioners, 2021). Other states impose restrictions on NP practice such as requiring physician collaboration or supervision for care delivery. At the start of the pandemic, many federal and state governments quickly responded to population health needs by enacting regulation and legislation aimed to enable nurses to respond effectively to the COVID-19 crisis. Policy-makers removed restrictions on NP SOP practice. On March 30, 2020 the Centers for Medicare and Medicaid Services authorized an emergency declaration to allow NPs to practice to the full extent of their license (Centers for Medicare & Medicaid, 2020). Governors across the country including in Massachusetts, New York, Pennsylvania, and New Jersey among others issued executive orders to temporarily loosen the SOP restrictions on NPs and allow full practice authority for NPs. These changes happened so rapidly that the American Association of Nurse Practitioners (AANP) was compelled to establish a webpage to keep clinicians abreast of the regulatory and policy changes within each state (American Association of Nurse Practitioners, 2021).

However, the state level SOP changes that were enacted to address COVID-19 are temporary, and some of the executive orders have begun to expire, and these changes to support the full practice authority of NPs are being reversed. Table 1 lists the status as of July 2021 (American Association of Nurse Practitioners, 2020). As a result of expired executive orders Americans will once again face additional challenges to access timely, high-quality health care services delivered by NPs. One of the priority recommendations in the Institute of Medicine's (IOM), now the National Academy of Science, Engineering and Medicine's, 2011 report, *The Future of Nursing: Leading Change, Advancing Health*, was to remove SOP barriers for Advanced Practice Registered Nurses (APRNs) to allow them to practice to the fullest extent of their education and licensure (Institute of Medicine, 2011). The new 2021 report by National Academy of Science,

**Table 1 – State Practice Agreements: COVID-19 Emergency Response**

Scope of Practice Status	State	Waived/Suspended Requirements
Full practice authority	Alaska, Arizona, Colorado, Connecticut, Hawaii, Idaho, Iowa, Maine, Maryland, Minnesota, Montana, Nevada, New Hampshire, New Mexico, North Dakota, Oregon, Rhode Island, South Dakota, Vermont, Washington, Wyoming	Maine: Full licensing requirements for APRNs, RNs and LPNs (expired June 30, 21)
		Nebraska: Professional license renewal requirements deferred
Temporary waiver of select practice agreement requirements	Alabama	<ul style="list-style-type: none"> <li>• Limit on number of NPs physician may supervise</li> <li>• Reporting/recordkeeping</li> <li>• Requirement to submit evidence of current collaborative practice for license renewal</li> <li>• Limit on number of NPs physician may supervise</li> <li>• Requirement to maintain multiple practice agreements for additional practice locations</li> <li>• Physician supervision for APRNs with 2 years' experience</li> <li>• Collaborating physician review of 10% of charts every 14 days</li> <li>• Collaborating physician continuous presence for at least one month and within 75 miles</li> <li>• Quality improvement process meetings</li> <li>• Supervisory arrangement updates when reassigned to new area of facility</li> <li>• APRN requirement to practice within specific clinical specialty</li> <li>• Requirement for prescriptive authority collaborative agreement</li> <li>• Written practice agreement with physician</li> <li>• Separate NP licensing between North Carolina and Georgia</li> <li>• Documentation requirement for supervisory arrangements</li> <li>• Collaborative agreement with physician for medication prescribing</li> </ul>
	Arkansas	
	California	
	Indiana	
	Massachusetts**	
	Missouri	
	North Carolina	
	Pennsylvania	
	South Carolina	
	Texas	
West Virginia		
Temporary suspension of all practice agreement requirements	Kentucky	<ul style="list-style-type: none"> <li>• Practice agreement with physician to prescribe controlled substances</li> <li>• Collaborative practice agreement</li> <li>• Practice agreement or collaborative relationship with physician or dentist</li> <li>• Physician chart review</li> <li>• Physician name on prescriptions</li> <li>• Physician authorization to dispense narcotic drugs</li> <li>• Collaborative practice agreement</li> <li>• Written practice agreement for NPs with more than two years' experience</li> </ul>
	Louisiana	
	Wisconsin	
	New Jersey	
Executive order expired	New York	<ul style="list-style-type: none"> <li>• Collaborative agreement requirement; some requirements for licensure; expired May 2020</li> <li>• Physician collaboration on prescriptions, physician chart review, supervising physician to visit remote sites every 30 days; expired May 2020</li> </ul>
	Kansas	
	Tennessee	

(continued)

**Table 1 – (Continued)**

Scope of Practice Status	State	Waived/Suspended Requirements
	Oklahoma	• Limit on number of NPs physician may supervise
	Michigan	• Supervision and delegation requirements; expired July 2021
Currently no action on this issue	Delaware, Florida, Georgia, Illinois, Mississippi, Ohio, Utah	

Note: Adapted from <https://www.aanp.org/advocacy/state/covid-19-state-emergency-response-temporarily-suspended-and-waived-practice-agreement-requirements>. ©2021 by American Association of Nurse Practitioners

\*\*Full practice authority as of January 1, 2021

Engineering, and Medicine further reinforced the need to remove SOP barriers in light of the great health disparities we see in the U.S. ([National Academies of Science, Engineering and Medicine, 2021](#)). Granting NPs full practice authority could be part of a longer-term plan to address healthcare inequities and deficiencies rather than merely a crisis measure during the pandemic. Nurses are likely to be an important healthcare workforce to help the nation recover from COVID-19 and make health system changes necessary to address inequities that the crisis exposed. To support policy makers' efforts to grant full practice authority to NPs beyond the COVID-19 pandemic, this manuscript will summarize the existing evidence on the benefits of permanently removing state-level SOP barriers and outline specific recommendations for policy, practice, and research.

## Impact of NP Full Practice Authority

### Access to Health Care Services

The NP role was first developed by Loretta Ford, EdD, PNP, FAAN and Henry Silver, MD in 1965 to increase access to primary care among rural children and families by educating nurses to provide it ([Ford, 1979](#)). Today, NPs continue to have a critical role in delivering primary care services in rural and low-income areas and medically underserved urban communities that suffer from primary care shortages. Expanding NP SOP may be especially important in areas that are historically underserved. For example, more than 58 million Americans reside in geographic areas that are considered primary care Health Professional Shortage Areas (HPSAs). In these areas, the healthcare needs of the population far exceed what can be offered by the available number of healthcare providers ([U.S. Department of Health & Human Services, 2021](#)). The clinical consequences of living in HPSAs include a higher risk of under-diagnosis and suboptimal management of chronic diseases ([Durant et al., 2012](#)). However, in states where full practice authority laws are in place, NPs are more likely to reside within HPSAs and have their own practices there, thus improving access

to primary care for underserved populations ([DePriest et al., 2020](#)).

Studies consistently demonstrate that expanding SOP policies to support the full practice authority of NPs helps increase access to high-quality healthcare ([Buerhaus et al., 2015](#); [DesRoches et al., 2013](#); [Yang et al., 2020](#)). When supervision or collaboration is required under law, it creates unnecessary access roadblocks which NPs are forced to address to care for patients ([Xue et al., 2019](#)). These roadblocks range from extra time and effort to seek physician oversight to decreased access to care for patients in rural and underserved areas.

Likewise, NPs are an especially critical component of the primary care workforce in rural and low-income communities. NPs represent one in four providers in rural practices, and this proportion is even higher in states with full practice authority laws ([Barnes et al., 2018](#)). In one study, the average number of NPs serving rural communities increased from 25.2 to 41.3 per 100,000 population from 2010 to 2016, while the average number of physicians decreased from 59.5 to 47.8 per 100,000 during this time period ([Xue et al., 2019](#)). In the same study, among areas with the highest proportion of low-income residents, the number of NPs rose from 19.8 to 41.1 per 100,000 population compared with a slight drop in the number of physicians (from 52.9 to 52 per 100,000 population).

Projections of primary care provider shortages are generally based on traditional healthcare delivery models and do not consider the potential of an expanded primary care role for NPs, a redesign of health care, greater utilization of telehealth, and other innovations ([Institute of Medicine, 2011](#); [Institute of Medicine, 2014](#); [National Academies of Science, Engineering and Medicine, 2021](#)). To adequately meet the growing demand for primary care services and assure all Americans have access to high quality health care services will require fundamental shifts in the healthcare delivery system including expanding SOP regulations for NPs. These changes do not require simple adjustments but a transformative rethinking of how to balance the uncertainty of crises with traditional methods of projecting workforce needs. Addressing the varied SOPs of NPs so that credentialing, education, and practice are more uniform across the country will be a fundamental and



critical step for planning for both predictable and unpredictable scenarios in health care.

### Cost of Health Care Services

Numerous studies have documented the cost effectiveness of healthcare services provided by NPs (Buerhaus, 2018). According to a recent systematic review of 11 studies, NPs in ambulatory care were cost-effective and had equivalent or better patient outcomes compared to other providers (Martin-Misener et al., 2015). A recent large-scale study using Veteran Affairs data found that the use of NPs and physician assistants as primary care providers for complex patients with diabetes was associated with less use of acute care services and lower total costs compared to physicians (Morgan et al., 2019). Likewise, a recent national study of Medicare beneficiaries by Perloff, DesRoches, & Buerhaus compared costs of care provided to Medicare beneficiaries managed by NPs to care managed by primary care physicians across inpatient and office-based settings. They found a pattern of lower costs for NP care in both settings, about seven percent lower for inpatient and about 26% lower for outpatient settings (Perloff et al., 2016). These findings suggest that expanding the role of NPs as primary care providers could result in savings to the Medicare program. Increased access to NP care can expand the primary care workforce and help address the increasing care needs of our aging population. Other studies have shown that granting NPs full practice authority led to reductions in costs in some settings but certainly did not lead to systematic increases in costs (Poghosyan et al., 2019; Yang et al., 2020).

### Quality of Care and Outcomes

The NP workforce is capable of delivering high quality care and improving patient outcomes particularly among patients with chronic diseases. Systematic reviews conducted in the early 1990s demonstrated that outcomes of patients cared for by NPs were comparable to or better than those cared for by physicians (Brown & Grimes, 1995). Multiple studies since then have evaluated the outcomes of NP care in several health care settings. These included an evaluation of chronic disease management by NPs for nursing home residents (Bakerjian, 2008); the efficiency of NP-provided care in emergency departments (Carter & Chochinov, 2007); pediatric inpatient asthma management (Borgmeyer et al., 2008); hospitalization avoidance in patients with diabetes (Kuo et al., 2015); hypertension management (Wright et al., 2011), and overall primary care management (Liu et al., 2020). The results across the studies were consistent regarding the high quality of care delivered by NPs to diverse groups of patients across multiple settings. Comprehensive reviews of the literature also have made similar conclusions that the NP workforce is capable of delivering high-quality, safe care (Horrocks et al., 2002; Newhouse et al., 2011).

The evidence consistently demonstrates that NP-led primary care is of high quality, efficient, and comparable to physician-led primary care. A substantial body of research suggests that removing practice restrictions on NPs and granting NPs full practice authority has the potential to improve access to care without compromising quality or increasing costs (Ortiz et al., 2018; Perloff et al., 2019; Yang et al., 2020). Thus, the SOP restrictions on NP practice are unnecessary and removing them has the potential to improve quality of care and patient outcomes.

### Policy Recommendations

The regulatory and policy changes that have occurred as a result of COVID-19 pandemic provide a pathway forward for promoting full practice authority for primary care NPs across the U.S. These changes are occurring during the COVID-19 pandemic when most clinicians are facing daunting challenges in establishing and maintaining safe clinical care. Post-COVID-19, we will need to optimally use all health care resources to ensure fair and equitable access to all healthcare but especially primary care. Supporting full practice authority of NPs was brought forth by executive orders and will likely revert to pre-COVID-19 regulations when the orders expire. Now is an important moment to make these changes permanent through legislative action.

The Academy of Nursing has a strong record of providing effective nursing leadership to advance health policy and nursing practice to serve the health care needs of the public. The pandemic has brought with it emergency legislation expanding the SOP that governs the NP role and vast changes to how NPs provide care (Diez-Sampedro et al., 2020). As such, COVID-19 presents an opportunity for the Academy to continue this work by collaborating with other nursing organizations to support continued expansion of NP SOP to help address our nation's growing healthcare needs.

Furthermore, the Academy should engage other national associations (e.g., insurers, hospital and primary care associations) where strategic alliances can be cultivated to promote full practice authority for NPs. A policy advocacy strategy should include priority engagement with the Centers for Medicare and Medicaid services, which has been a useful approach for advancing policy focused on expanding APRN privileges for elderly and disabled patients. Advocating for changes in CMS policies so that the most vulnerable in a pandemic or other crisis will have readier access to needed care.

### Institutional Recommendations

Though local, state, and federal responses to the COVID-19 pandemic have led to changes to NP SOP

regulations, such changes are not automatically articulated into changes in actual NP practice. Research has shown that NP practice can be more constrained by individual institutions than state SOP regulations (Chapman et al., 2019; Pittman et al., 2020). A recent survey of Massachusetts NPs concluded that the temporary removal of state-level practice barriers alone during the current pandemic was insufficient to achieve full SOP for NPs possibly owing to continued employer restrictions, which varied across organizations (O'Reilly-Jacob & Perloff, 2021). Institutional policies, procedures, and privileging systems can restrict NP practice by creating additional burdens such as requiring physicians to co-sign or review visit notes or hold more supervision sessions than required by state regulations (Chapman et al., 2019).

The COVID-19 waivers for full practice authority of NPs can provide the impetus and energy to examine and change internal barriers within practices to facilitate NP practice. Health care organizations must work toward the development of work environments that support NPs working at full practice authority and to ensure that they are able to deliver high quality care (Poghosyan et al., 2016; Poghosyan et al., 2013). Practices must foster strong physician-NP relationships and ensure that NPs have proper visibility within their practices (Poghosyan et al., 2013). Previous studies have shown persistently poor relationships between NPs and administrators who often do not have clear understanding about NP competencies or roles. In addition, many practice administrators do not share organizational resources and information with NPs to support NP care delivery. To support NP full practice authority there must be improved relationships between NPs and practice administrations including open communication and improved administrator awareness about NPs' skills and competencies (Poghosyan & Liu, 2016; Poghosyan et al., 2015). Nursing leaders must invest in efforts to increase awareness among administrators about the NP role to ensure that regulations are well implemented within practices.

## Research Recommendations

While the evidence is clear about the positive impact of full practice authority for NPs on healthcare access with no adverse impact on quality or increased costs, more research is needed to continue further advocating for removing unnecessary state-level SOP restrictions. Ongoing research will be needed to track the effects of full practice authority for NPs on patient outcomes after the pandemic. Researchers should design robust longitudinal studies to demonstrate the effect of SOP changes on patient access to care, outcomes, and cost of care. The temporary expansions of SOP regulation have created a window of opportunity for nurses to conduct APRN health outcomes studies to support policy changes.

## Conclusion

Advanced practice nursing has proven itself to be one of the most flexible and versatile occupations within the primary healthcare workforce through the additional roles and responsibilities it assumes in a crisis. In the 150 years since Florence Nightingale laid the groundwork for modern nursing, the nursing profession has reinvented itself a number of times as society and technology have changed (Institute of Medicine, 2011). The removal of local, state, and federal restrictions on NP SOP represents the next chapter in nursing's evolution.

In contemporary collaborative models of practice, it is imperative that healthcare professionals practice to the fullest extent of their education and training to optimize the efficiency and quality of services for patients, especially those in underserved communities. Such full practice authority will allow to create interprofessional collaborations and care delivery models to make transformative change. The evidence is strong about the potential benefits of full practice authority for NPs in primary care. COVID-19 highlighted the opportunities to expand the scope of practice policies to grant NPs full practice authority across federal and state governments and within healthcare systems. Rather than reverting back to pre-pandemic restrictive laws, state policymakers should utilize the momentum created by the pandemic to permanently eliminate practice barriers.

## Author Contribution

Lusine, Poghosyan: Conceptualization, Methodology, Writing – Original Draft, Writing – Review & Editing, Visualization, Supervision, Project Administration

Joyce Pulcini: Conceptualization, Methodology, Writing – Original Draft

Garrett K. Chan: Conceptualization, Methodology, Writing – Original Draft

Lynne Dunphy: Conceptualization, Methodology, Writing – Original Draft

Grant R. Martsolf: Conceptualization, Methodology, Writing – Original Draft, Writing – Review & Editing

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Barbara A. Todd: Conceptualization, Methodology, Writing – Original Draft

Sandra C. Brown: Conceptualization, Methodology, Writing – Original Draft

Margaret Fitzgerald: Conceptualization, Methodology, Writing – Original Draft

Amy L. McMenamin: Writing – Review & Editing, Visualization, Project Administration

P. Ann Solari-Twadell: Conceptualization, Methodology, Writing – Original Draft



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