

Evaluating the Impact of Executive Orders Lifting Restrictions on Advanced Practice Registered Nurses During the COVID-19 Pandemic

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Background: In the early stages of the COVID-19 pandemic, strains on the healthcare system forced many U.S. states to revisit long-standing statutory limitations on the care coordinated by advanced practice registered nurses (APRNs). This was done by issuing waivers via executive, legislative, or board of nursing orders. **Purpose:** To identify the impact of temporary practice waivers on APRNs' direct patient care during the COVID-19 pandemic. **Methods:** This cross-sectional study utilized a two-phased approach. First, a confidential online survey was conducted of APRNs practicing across 27 U.S. states. Second, comprehensive APRN discipline data from 2019 to 2021 were retrieved from the National Council of State Boards of Nursing's Nursys database and reviewed. Univariable and multivariable binary logistic regression models were used to determine the significance of observed trends. **Results:** A total of 16,699 APRNs responded to the survey for a response rate of 14.2%. APRNs practicing in private outpatient clinics, in rural areas, and in health provider shortage areas were more likely to report a positive effect of the practice waiver (all $p < .05$). Providers noted that the waivers allowed them more time with their current patients and expanded the geographic boundaries of their direct patient care to take on new patients. Furthermore, despite the changing profile of APRN care during the early stages of the pandemic, including a pronounced increase in telehealth usage, the current review for **Keywords:** APRN, pandemic, COVID-19, full practice authority, practice waiver, collaborative practice agreement, health provider shortage area

In the early stages of the COVID-19 pandemic, many U.S. states that had historically restricted the practice of advanced practice registered nurses (APRNs) chose to temporarily suspend collaborative practice agreement requirements either in part or in full. This was done by issuing waivers via executive, legislative, or board of nursing orders. Like these state-based supervisory arrangements, the lived reality of these waivers across impacted states largely remains unclear and likely inconsistent from one jurisdiction to another. For ins-sectional study to

ments, geographic minimum distance requirements establishing proximity to a physician or physician group, and mandatory chart

TABLE 1

Descriptive Summary of Survey Respondents

Respondent Characteristics	(%)
Age, y (N = 16,668)	50.0 (11.8)
Experience, y (N = 16,692)	10.6 (8.5)
Sex (N = 16,137)	
Female	14,118 (87.5%)
Male	2,019 (12.5%)
Race (N = 13,576)	
White	11,701 (86.2%)
Black	787 (5.8%)
Asian	426 (3.1%)
Mixed race	278 (2.1%)
Native Hawaiian/Pacific Islander	29 (0.2%)
Other	245 (1.8%)
Ethnicity (N = 13,474)	
Not Hispanic or Latino	12,899 (95.7%)
Hispanic or Latino	575 (4.3%)
Direct Patient Care (N = 16,572)	
Yes	14,602 (88.1%)
No	1,970 (11.9%)
License Type (N = 16,695)	
Certified nurse practitioner	13,376 (80.1%)
Certified registered nurse anesthetist	2,147 (12.9%)
Clinical nurse specialist	718 (4.3%)
Certified nurse midwife	454 (2.7%)
Top 5 Population Foci (N = 12,813)	
Family/across lifespan	5,424 (42.3%)

jurisdiction from 2019 through 2021. The analysis includes a baseline snapshot prior to the pandemic as well as 2 full years after the pandemic onset to determine the safety profile of APRNs adjusting their practice in light of the issuance of temporary waivers in many jurisdictions.

Analysis

A descriptive summary of the sample includes counts and proportions for categorical variables, whereas continuous variables are expressed as means and standard deviations or medians and ranges/interquartile ranges (IQRs), as appropriate. A total of 16,699 APRNs from across 27 states participated in the survey for a final response rate of 14.2%. Assuming that nonresponse is random, at the 95% confidence level, the maximum margin of error for the findings from these respondents is $\pm 0.8\%$.^{*} For the

analysis, univariable and multivariable binary logistic regression models were used to assess the impact of the temporary practice waivers. The primary dependent variable (waiver impact) for the study was dichotomized as a general yes/no outcome. A stepwise approach was used to identify issues of multicollinearity between potential predictors in a multivariable model setting. Specifically, practice environment, APRN private practice, provider shortage area, geographic setting, and the various measures aligned with telehealth practice all overlapped substantially. The final composition of the multivariable model was determined to achieve the most parsimonious and informative combination of available characteristics across all domains. Pre- and postpandemic disciplinary trends are presented graphically. All analyses were run using SAS 9.4 (Cary, NC).

^{*} The margin of error (MOE) can be calculated with the following formula: $MOE = Z \times \sqrt{p \times (1-p) / n}$

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sizable proportions indicated they were either laid off or furloughed due to the pandemic (= 459, 23.3%) or retired or otherwise left their employment because of COVID-19 (= 213 of 1,438 who were not let go, 14.8%). Despite the widespread use of temporary practice waivers, only Massachusetts has codified its temporary COVID-19 waiver into law (Mass. S.B. 2984, 2021). The results of this study attest to the safety and effectiveness of these state-based actions and, thereby, support further efforts to make permanent these long-overdue regulatory updates.

Research has consistently demonstrated that removing regulatory barriers to APRN practice improves access to care (Neff

have played an essential role in the management of the COVID-19 pandemic by providing direct patient care and improving health system resilience (Callan et al., 2021; Diez-Sampedro et al., 2020; Ladak et al., 2021; Schmitt et al., 2021). COVID-19 has had profound and unprecedented effects on APRN-coordinated care across the United States. Most respondents to this survey indicated that COVID-19 affected their direct patient care, with a plurality indicating they changed positions or volunteered in a new practice setting or clinical practice specialty area to treat COVID-19 patients. Even among those not providing direct patient care (= 1,970),

reported types of violations potentially related to the issuance of
APRN waivers in Kentucky, Louisiana, Maine, and West Virginia

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