

Assessing Patient Experiences with Advanced Practice Providers and Physicians via the All of Us Research Program

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Introduction

- There is a documented shortage of physicians in the United States, with 37 of 50 states predicted to have physician shortages by 2030, with a total predicted shortage of 139,160 physicians nationwide.¹
- While it is suggested that advanced practice providers (APPs) can supplement physician shortages²⁻⁶, many physician organizations have opposed the modification of APP scope of practice legislation.⁷⁻¹¹
- Previous literature on APPs has focused on single-site or single-institution analyses, which are difficult to generalize.
- We utilize data from the *All of Us* research program to describe the patient experiences with care between APPs and physicians, as well as APP-provided care between states with more- and less-restrictive scope-of-practice legislation.
- Results from this study may help policymakers and health systems better understand the role of APPs within the healthcare team and guide future policy decisions.

Methods

- A cross-sectional study was conducted using survey data and diagnosis data collected by the *All of Us* program between May 2017 and August 2024
- Participants were separated into cohorts (APP only and physician only)
 - APP-only cohort separated further into restrictive/permissive by scope-of-practice laws^{12,13}
- Missing data was imputed ten times and analyses were pooled
- Statistical analyses included: multivariate linear regression, ordinal logistic regression, and multinomial logit analyses

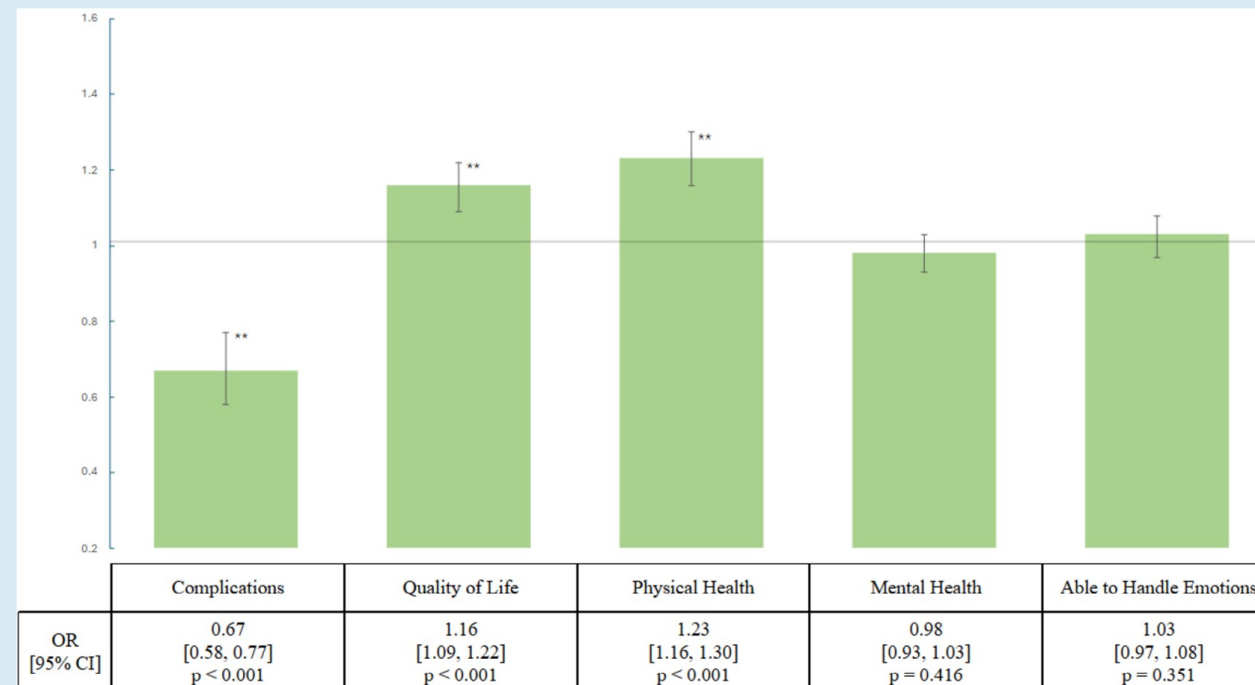


Fig 1. Complication rates and quality of life measures of APP cohort compared to physician cohort *p<0.05, **p<0.01

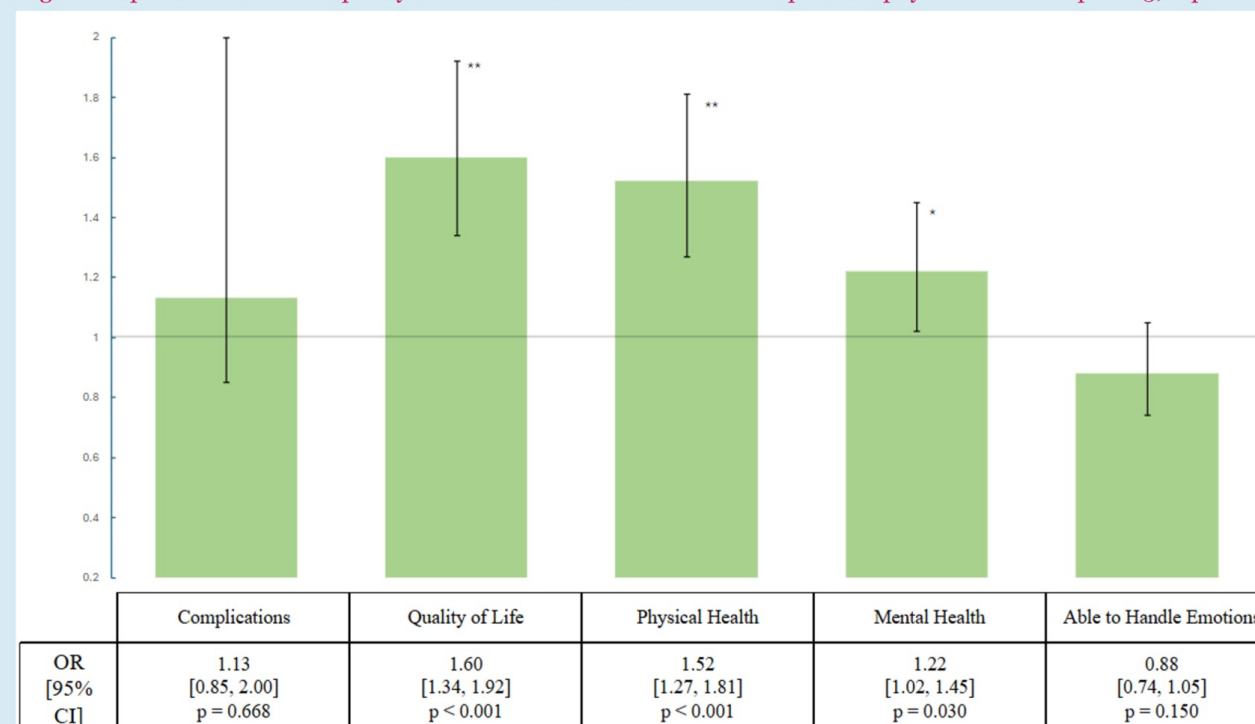


Fig 2. Complication rates and quality of life measures of less restrictive states compared to more restrictive *p<0.05, **p<0.01

Results/Discussion

- Demographics (See supplemental files) were significantly different between the APP and physician-only cohorts
 - The APP cohort was significantly less racially diverse, more likely to report lower income, less education, and more diversity in gender identity
 - May suggest that individuals who receive care from APPs are more likely to be from rural communities, which are more White, less formally educated, and earn less income.¹⁴
- No differences were identified in the incidence of documented complications arising from medical care between APPs from states with differing scope of practice legislation (Fig. 2)
 - Overall decrease in documented complications among the APP cohort compared to the physician cohort (Fig. 1)
- Patients who received care from APPs only were significantly more likely to report a higher healthcare-related quality of life (Fig. 1)
- Patients who received care from APPs in less restrictive states were significantly more likely to report a higher healthcare-related quality of life (HC-QoL), better physical health, and better mental health than those in more restrictive states (Fig. 2)
- Previous studies¹⁵⁻¹⁷ suggest that APPs can significantly decrease patient waiting times and improve access to healthcare.
 - The findings in this study suggest that expanding scope of practice laws can increase patient access to healthcare resources, reduce healthcare disparities for rural and underserved communities, and significantly affect patients' HC-QoL without increasing risk to patients.



Supplemental Files and References

Scan the QR code to view supplemental tables, references, and read a copy of the research report