

# Minimum Nurse Staffing Requirements in Pennsylvania: Patient and Nurse Outcomes, and Hospital Cost Savings

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## BACKGROUND

- Minimum nurse staffing requirements ensure that nurses care for a safe patient-to-nurse staffing ratio and have been implemented in CA and OR
- The Pennsylvania Patient Safety Act is a minimum nurse staffing requirement that passed through the House in 2023 but stalled in the Senate and now has to be re-introduced

## OBJECTIVE

- To determine whether variation in nurse workloads is associated with adverse consequences for patients, nurses, and hospital costs in Pennsylvania

## METHODS

- **Observational cross-sectional study** of 547,689 medical and surgical patients and 2,782 nurses in 132 Pennsylvania hospitals
- **Patient outcomes data:** 2022-2023 PHC4 discharge data; 2023 HCAHPS star ratings
- **Nurse staffing and outcomes data:** 2023 Penn Nurses4All survey of nurses in PA
- **Multilevel logistic and negative binomial regression models** evaluated effects of nurse staffing on patient outcomes (30-day mortality, readmissions, length of stay), nurse outcomes (burnout, dissatisfaction, intent to leave), and patient satisfaction (HCAHPS star ratings)
- Cost savings projected using publicly available data on nurse turnover (\$61,110/nurse) and inpatient hospital costs (\$3,081/day in PA)

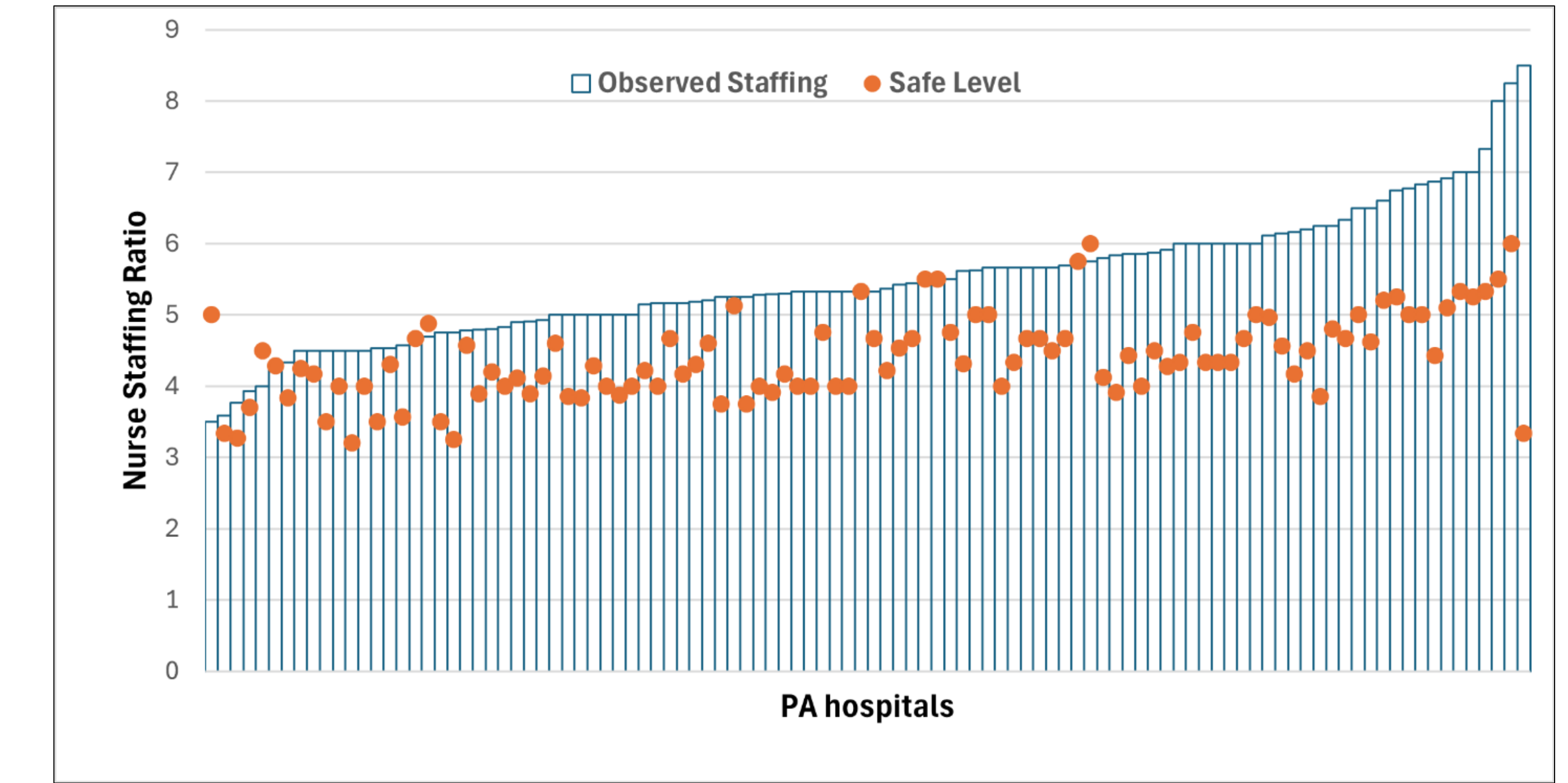
# Safe nurse staffing ratios pay for themselves through better patient outcomes and avoided nurse turnover

Read the publication in *Medical Care*



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Figure 1. Actual Patient-to-Nurse Staffing Ratios are Higher than what Nurses Say they Can Safely Care for in Pennsylvania Hospitals



## PATIENT AND NURSE OUTCOMES

Nurse staffing ranged from 3–9 patients/nurse (mean 5.9)

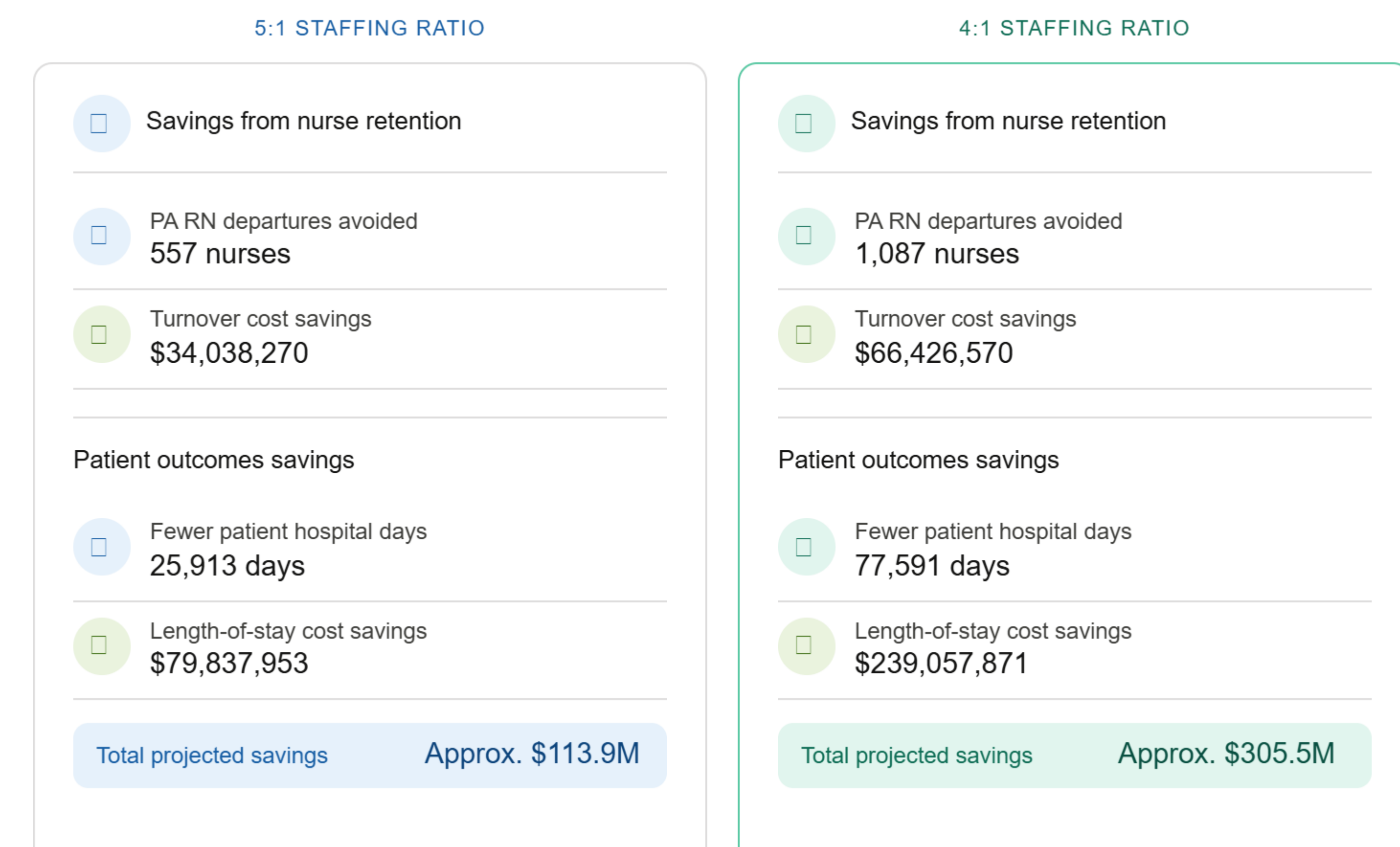
### Each additional patient per nurse was associated with: Patient Outcomes

- 30-day mortality: 8% higher odds (AOR 1.08, 95% CI 1.03–1.13, P < 0.001)
- Length of stay: 2% longer (IRR 1.02, 95% CI 1.00–1.04, P < 0.05)
- 30-day readmission: 4% higher odds (AOR 1.04, 95% CI 1.01–1.07, P < 0.05)
- 40% lower odds of gaining a patient satisfaction HCAHPS “star” (AOR 0.60, 95% CI 0.39-0.97, P<.05)

### Nurse Workforce Outcomes

- 33% higher odds of burnout (AOR 1.33, 95% CI 1.13-1.57, P<.05)
- 27% higher odds of intent to leave the job (AOR 1.27, 95% CI 1.03-1.57, P<.01)

Figure 2. Hospital cost savings due to avoided nurse turnover and reduced hospital patient days



## CONCLUSION

- A minimum nurse staffing policy is in the public’s interest in Pennsylvania