

# Nurse staffing ratios affect hospital readmissions for children with common conditions

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A new study shows that pediatric nurse staffing ratios are significantly associated with hospital readmission for children with common medical and surgical conditions.

The study, led by a nurse scientist at Cincinnati Children's [Hospital Medical Center](#), is believed to be the first to examine the extent to which hospital nurse staffing levels are related to pediatric readmissions. Publication of the study comes just weeks after the introduction of [federal legislation](#) that would mandate nurse staffing ratios across the country.

The study, published online in the journal *BMJ Quality and Safety in Health Care*, looked at such common medical and surgical conditions as pneumonia and appendectomy.

"Preventing unnecessary hospital readmissions is an increasingly important focus of large-scale quality improvement initiatives," says Heather Tubbs-Cooley, PhD, RN, a nurse scientist at Cincinnati Children's and the study's main author. "Reducing preventable readmissions is also a high priority for hospitals, particularly as they face the prospect of nonpayment for these services."

Dr. Tubbs-Cooley and colleagues from the University of Pennsylvania found that each one patient increase in a hospital's average staffing ratio

increased the odds of a medical patient's [readmission](#) within 15-30 days by 11 percent. The odds of readmission for [surgical patients](#) increased by 48 percent.

Children treated in hospitals meeting a contemporary staffing benchmark of no more than four patients per nurse were significantly less likely to be readmitted within 15-30 days. Nursing staffing ratios had no effect on readmissions within the first 14 days after discharge.

The study team examined the outcomes of more than 90,000 children in 225 hospitals using survey and discharge data from California, Florida, New Jersey and Pennsylvania, as well as the American Hospital Association Annual Survey from these four states. All hospitals included in the study were non-federal, acute-care facilities with at least 50 pediatric discharges a year.

"Lower patient-to-nurse ratios hold promise for reducing preventable readmissions by allowing for more effective pre-discharge monitoring of patient conditions, improving discharge preparation and through enhanced quality improvement success," says Dr. Tubbs-Cooley.

"Delivering high quality patient care requires nurses' time and attention, and better staffing conditions likely allow nurses to thoroughly complete the clinical care that children and their families need in order to have a successful discharge."

Despite the study results, she isn't ready just yet to endorse mandated staffing ratios. "We have abundant evidence that better [nurse staffing](#) levels in hospitals are associated with better patient outcomes, but we lack robust data to guide decision-making regarding optimal staffing levels for a given unit or patient population. Producing that evidence will require different designs and methods than those we have relied on in the past."

Dr. Tubbs-Cooley plans to test these research designs in further studies.

Provided by Cincinnati Children's Hospital Medical Center

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