

Higher nurse-to-patient standard improves staff safety

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A 2004 California law mandating specific nurse-to-patient staffing standards in acute care hospitals significantly lowered job-related injuries and illnesses for both registered nurses and licensed practical nurses, according to UC Davis research published online in the *International Archives of Occupational and Environmental Health*. The study is believed to be the first to evaluate the effect of the law on occupational health.

"We were surprised to discover such a large reduction in injuries as a result of the California [law](#)," said study lead author J. Paul Leigh, a professor of public health sciences and investigator with the Center for Healthcare Policy and Research at UC Davis. "These findings should contribute to the national debate about enacting similar laws in other states."

California is the only state in the country with mandated minimum nurse-to-patient staffing ratios. They are established based on type of service (such as pediatrics, surgery, or labor and delivery) and allow for flexibility in cases of health-care emergencies. (The ratios are available on the California Department of Public Health website.)

According to Leigh, some hospitals have argued against extending the law to other states because of the increased costs of additional nursing staff. There is also no consensus that the law has improved patient outcomes, which was its primary intent. Some studies show improvement, while others do not.

"Our study links the ratios to something just as important—the lower workers' compensation costs, improved job satisfaction and increased safety that comes with linking essential nursing staff levels to patient volumes," Leigh said.

Using data from the U.S. Bureau of Labor Statistics, Leigh and his colleagues compared occupational illness and injury rates for [nurses](#) during several years before and after implementation of the new law. They also compared injury and illness rates in California to rates for all other states combined. This approach—known as the "difference-in-differences" method—helped them account for a nationwide downward trend in workplace injuries and separate the effects of California's staffing mandates attributable to the new law.

For California, they estimated that the law resulted in an average yearly change from 176 injuries and illnesses per 10,000 registered nurses to 120 per 10,000, representing a 32 percent reduction. For licensed practical nurses, a position that involves less scope of practice than [registered nurses](#), the average yearly change went from 244 injuries per 10,000 to 161 per 10,000, representing a 34 percent reduction.

Leigh speculated that the lower rates of injuries and illnesses to nurses could come about in a number of ways as a result of improved staffing ratios. Back and shoulder injuries could be prevented, for instance, if more nurses are available to help with repositioning patients in bed. Likewise, fewer needle-stick injuries may occur if nurses conduct blood draws and other procedures in a less time-pressured manner.

The research team recommended additional research with more recent data to see if the reductions in [injury](#) and illness rates held up over time.

"Even if the improvement was a temporary or 'halo' effect of the new law, it is important to consider our results in debates about enacting

similar laws in other states," said Leigh. "Nurses are the most recognizable faces of health care. Making their jobs safer should be a priority."

More information: "California's Nurse-to-Patient Ratio Law and Occupational Injury," *International Archives of Occupational and Environmental Health*, link.springer.com/article/10.1007%2Fs00420-014-0977-y

Provided by UC Davis

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