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The California Nurse Staffing Mandate: Implications for Other States

Editor's Note: In 2004, California became the first state to implement minimum nurse-to-patient staffing requirements in acute care hospitals. It remains the only state to enact such requirements, although at least 18 states have introduced nurse staffing legislation. The goals of the legislation were to reduce nurse workloads, improve recruitment and retention of nurses, and improve quality of care. This Issue Brief summarizes the first comprehensive evaluation of the California mandate in achieving these goals.

***In 2004, California
implemented a nurse staffing
mandate to reduce nurse
burnout and improve quality
of care in hospitals***

In 1999, California passed comprehensive legislation mandating patient-to-nurse ratios for its hospitals. The California Department of Health then undertook a multi-year process to determine minimum ratios based on research and other factors. Mandated ratios ranged from 2:1 in intensive care units to 6:1 in psychiatric units, and took effect in 2004.

- Previous studies showed that registered nurse staffing in California hospitals increased substantially following passage of the legislation and implementation of the regulations. Whether the increase in nurses is associated with improved outcomes is addressed by Aiken and colleagues in a recent paper with policy implications for other states.
- To evaluate the California legislation and estimate its possible impact if applied elsewhere, Aiken and colleagues compared patient-to-nurse ratios in California with similar ratios in Pennsylvania and New Jersey, two states without nurse staffing legislation, and compared associated outcomes.

***Study uses nurse surveys
and patient data from
hospitals to compare
outcomes in California,
New Jersey, and Pennsylvania***

Aiken and colleagues surveyed 22,336 nurses working in 604 adult acute care hospitals in California, Pennsylvania, and New Jersey to evaluate the impact of the state-mandated staffing requirement. The surveys were completed in 2006, two years after the start of California's mandatory staffing requirements. They also used standardized patient discharge data from state agencies to examine whether hospital nurse staffing is associated with differences in the outcomes of surgical patients.

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- Respondents included 9,257 nurses in 353 hospitals in California, 5,818 nurses in 73 hospitals in New Jersey, and 7,261 nurses in 178 hospitals in Pennsylvania.
- Outcomes included 30-day inpatient mortality rates and failure-to-rescue rates (deaths among patients who experienced complications) in over 1.1 million general surgery patients hospitalized in 2005-2006.
- The study determined whether hospital nurse staffing (measured as average patient-to-nurse ratio per shift) was associated with mortality and failure to rescue, after adjusting for important patient and hospital characteristics.

California legislation has reduced nurses' workloads and improved their work environment

Reported nurse workloads in California hospitals in 2006 were significantly lower than in New Jersey and Pennsylvania hospitals.

- Mean workloads for California nurses were close to or better than levels mandated by legislation. The following table shows the average number of patients assigned per nurse per shift, and by unit type, for the three states.

Specialty	Patient/Nurse Workload Mandated by California Legislation	Average # of Patients per shift		
		CA	NJ	PA
All staff nurses		4.1	5.4	5.4
Medical-surgical	5:1	4.8	6.8	6.5
Pediatric	4:1	3.6	4.6	4.4
Intensive care units	2:1	2.1	2.5	2.3
Telemetry	5:1	4.5	5.9	5.7
Oncology	5:1	4.6	6.3	5.7
Psychiatric	6:1	5.7	7	7.9
Labor/delivery	3:1	2.4	2.6	2.8

- Data on workloads from California nurses show a substantial degree of compliance with the benchmark staffing levels mandated by legislation. In comparison, significantly lower proportions of nurses in other states report workloads at these benchmark levels. For example, while 88% of medical-surgical nurses in California reported caring for 5 patients or less on their last shift, the same was true of only 19% and 33% of their counterparts in New Jersey and Pennsylvania, respectively.
- Lower workloads in California translate into better evaluations of their work environments. For example, 73% of hospital nurses in California report that their workloads were reasonable compared to 59% in New Jersey and 61% in Pennsylvania. Similarly, 58% in California report that there were enough nurses to provide quality care, compared to 41% in New Jersey and 44% in Pennsylvania.

Less job dissatisfaction and burnout associated with better staffing across states

The effects of better nurse staffing can be seen by comparing hospitals with different staffing ratios. Hospitals with a higher percentage of nurses with workloads that meet California benchmark standards have lower reports of unfavorable nurse and patient outcomes.

- The odds on nurses reporting high burnout and job dissatisfaction were 50% higher in the poorly staffed hospitals than in the better staffed hospitals. Similarly, the odds on nurses reporting that their work environments were poor or fair and that the quality of care in their hospitals was poor or fair were 60% and 80% higher in the poorly staffed hospitals.
- Nurses in the poorly staffed hospitals also had 60% higher odds of reporting that their workload caused them to look for a new position.

Better nurse staffing in California linked to lower patient mortality and lower failure-to-rescue

Aiken and colleagues compared outcomes from common surgeries in the three states. Nurses in California care for an average of one fewer patient per shift, and these lower ratios have sizable associations with surgical mortality.

- After adjusting for extensive patient and hospital characteristics, the investigators found that better nurse staffing was associated with a decreased risk of 30-day mortality and failure-to-rescue. The effect of adding an additional patient to hospital nurse workloads increased the odds of a patient dying by 13% in California, 10% in New Jersey, and 6% in Pennsylvania. The effects of increased workloads on failure-to-rescue were similar.
- The investigators then estimated how many fewer deaths would have occurred in New Jersey and Pennsylvania from 2005-2006 if those hospitals had the same nurse staffing ratios as California. The findings suggest 222 fewer surgical deaths, (a 13.9% reduction) in New Jersey, and 264 fewer surgical deaths, (a 10.6% reduction) in Pennsylvania.
- Thus, in the two states alone, 486 lives might have been saved among general surgery patients in a two-year period if the hospitals adopted California nurse staffing levels.

POLICY IMPLICATIONS

Most California nurses believe the legislation achieved its goals of reducing nurse workloads and improving quality of care. The results indicate that outcomes are better for nurses and patients in hospitals that meet California nurse staffing standards, whether or not the hospitals are located in California.

- Overall, nurses in California care for an average of one fewer patient than nurses in New Jersey and Pennsylvania. In medical and surgical units, where nurse recruitment and retention have long been difficult nationally, nurses in California on average care for two fewer patients than nurses in New Jersey and 1.7 fewer patients than nurses in Pennsylvania. Although this study cannot draw cause-and-effect conclusions, it strongly suggests that better nurse staffing is associated with better nurse and patient outcomes.

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POLICY IMPLICATIONS

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- From a policy perspective, these findings are revealing. They may help inform other states that are currently debating nurse ratio legislation, such as Massachusetts and Minnesota, or other strategies for improving nurse staffing. There are multiple strategies for improving nurse staffing; state-mandated nurse ratios is just one.
- Hospitals outside of California should consider increasing their nursing staffs to meet these benchmark standards. As pay-for-performance measures are discussed, insurers might consider increasing reimbursements to hospitals that improve nurse staffing as a quality improvement initiative.

This Issue Brief is based on the following article: L.H. Aiken, D.M. Sloane, J.P. Cimiotti, S.P. Clarke, L. Flynn, J.A. Seago, J. Spetz, H.L. Smith. Implications of the California Nurse Staffing Mandate for Other States. Health Services Research, published online on April 9, 2010, available at: <http://dx.doi.org/10.1111/j.1475-6773.2010.01114.x>

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