Research Showing How a Law Setting Safe Patient Limits Has Improved Patient Care for California Hospitals

Implications of the California Nurse Staffing Mandate for Other States

Linda H. Aiken, Ph.D., et al., Health Services Research, August 2010

- The researchers surveyed 22,336 RNs in California and two comparable states, Pennsylvania and New Jersey, with striking results, including: if they matched California limits in medical and surgical units, New Jersey hospitals would have 13.9 percent fewer patient deaths and Pennsylvania 10.6 percent fewer deaths. "Because all hospitalized patients are likely to benefit from improved nurse staffing, not just general surgery patients, the potential number of lives that could be saved by improving nurse staffing in hospitals nationally is likely to be many thousands a year," according to Linda Aiken, the study's lead author. California RNs report having significantly more time to spend with patients, and their hospitals are far more likely to have enough RNs on staff to provide quality patient care. Fewer California RNs say their workload caused them to miss changes in patient conditions than New Jersey or Pennsylvania RNs. In California, where hospitals have better compliance with the staffing limits, RNs cite fewer complaints from patients and families and the nurses have more confidence that patients can manage their own care after discharge. California RNs are substantially more likely to stay in their jobs because of the staffing limits, and less likely to report burnout than nurses in New Jersey or Pennsylvania. Two years after implementation of the California staffing law—which mandates minimum staffing levels by hospital unit—"nurse workloads in California were significantly lower" than Pennsylvania and New Jersey. "**Most California nurses, bedside nurses as well as managers, believe the ratio legislation achieved its goals of reducing nurse workloads, improving recruitment and retention of nurses, and having a favorable impact on quality of care," the authors write.**

Effect of Mandated Nurse–Patient Ratios on Patient Wait Time and Care Time in the Emergency Department

Theodore C. Chan MD; James P. Killeen MD; Gary M. Vilke MD; Jean B. Marshall RN; Edward M. Castillo PhD, Society of for Academic Emergency Medicine, 2010

A study of California EDs funded in part by the Emergency Nurses Association found: "Following implementation of state-mandated nurse–patient ratio levels, ED throughput measures of wait time and ED care time were shorter when the ED nurse staffing was within mandated levels, after controlling for ED census and patient acuity **"Our study results indicate that efforts to staff EDs within mandated nurse-to-patient levels do have a beneficial effect on patient care."**

Better Nurse Staffing and Nurse Work Environments Associated With Increased Survival of In-Hospital Cardiac Arrest Patients

McHugh, Matthew D., PhD, JD, MPH, RN, FAAN; Monica F. Rochman RN, PhD; Douglas M. Sloane, PhD; Robert A. Berg, MD; Mary E. Mancini, RN, PhD, NE-BC, FAHA, FAAN; Vinay N. Nadkarni, MD, MS; Raina M. Merchant, MD, MSHP; Linda Aiken, PhD, FAAN, RN; and American Heart Association's Get With The Guidelines-Resuscitation Investigators. 2016. Medical Care Vol 54[1]:74-80. www.lww-medicalcare.com

- **This major study published in the journal Medical Care (January, 2016) shows that patients who suffer a heart attack while in the hospital are more likely to survive in those facilities where nurses have safe patient assignments and higher RN staffing levels.** The authors found that for every patient added to a nurse's workload, the likelihood of a patient surviving cardiac arrest decreases by five percent per patient. Moreover, patients cared for in hospitals with poor work environments (where nurses had less autonomy over their practice and resources and weaker relationships and communication with physicians) had a 16% lower likelihood of survival after a heart attack in the hospital. The study included over 11,000 patients over a two-year period in 75 hospitals in 4 states across the country (Pennsylvania, New Jersey,

Florida and California) and focused on only those hospitals with an incidence of more than 10 cardiac arrest events during the time period under study. The authors also noted that due to improved staffing standards now generally in place in ICU environments, patients' odds of survival have stabilized, in contrast to medical-surgical environments where staffing varies substantially across hospitals and so more demonstrably affects survival rates. This study is the latest in a series of studies showing a direct link between nurses' workload and patient safety and underscores the need for legislation pending in the Massachusetts legislature, The Patient Safety Act, which would ensure a safe standard of care and safe patient assignments for all patients and all nurses in Massachusetts hospitals.

Predictors of 30-Day Readmission for Pneumonia

Flanagan J[1], Stamp KD, Gregas M, Shindul-Rothschild J., J Nurs Adm. 2016 Feb;46(2):69-74

- This study examined variances in outcome measures associated with 30-day pneumonia readmissions from 577 nonfederal general hospitals in Massachusetts, California, and New York from 4 sources: number of hospital-acquired conditions, patient perception of care, quality outcome measures, and demographic data to explain variances associated with 30-day pneumonia readmission rates. Patients readmitted within 30 days for pneumonia increases the length of hospital stay by 7 to 9 days, increases crude mortality rate 30% to 70%, and costs $40,000 or greater per patient. Results: Three factors increased pneumonia readmission rates: poor nurse-patient communication, poor staff responsiveness to patient needs, and iatrogenic pneumothorax. **Conversely, factors lowering pneumonia readmission rates included patients hospitalized in California, where there is higher RN staffing, and higher proportions of nursing staff to total hospital personnel.** Conclusion: Findings suggest lower nurse staffing, poor nurse-patient communication, and nurse responsiveness to patient needs contribute to increased pneumonia readmission rates.

Predictors of Excess Heart Failure Readmissions: Implications for Nursing Practice

Stamp, Kelly D. PhD, ANP-C; Flanagan, Jane PhD, ANP-BC; Gregas, Matt PhD; Shindul-Rothschild, Judith PhD, RNPC, Journal of Nursing Care Quality: April/June 2014 - Volume 29 - Issue 2 - p 115–123

- This study for the first time provided concrete, peer-reviewed data comparing standards of nursing care and patient outcomes for hospitals in Massachusetts, where there is no limit on nurses' patient assignments, and California, where such a law has been in place for nearly 14 years. **The study provides conclusive evidence that Massachusetts hospital nurses are caring for significantly more patients than their counterparts in California and that patients in Massachusetts are receiving over three hours less care per day from registered nurses than patients on the West Coast (just over six hours of care for patients in our hospitals vs. over nine hours of care per day in California). As a result, the study found an association between nurse staffing in Massachusetts and a higher rate of readmissions for heart failure. The authors point out that heart failure is most common and the most expensive condition for which patients are admitted to hospitals, and the number one cause of death in America.**

Contradicting Fears, California's Nurse-to-Patient Mandate Did Not Reduce the Skill Level of Nursing Workforce in Hospitals

Matthew D. McHugh, Lesly A. Kelly, Douglas M. Sloane, and Linda H. Aiken, Health Affairs July 2011

- The study provides important data about the impact on RN staffing and patient care following the implementation of the California staffing law in 2004. The study found that California hospitals have significantly increased the number of registered nurses compared to other states, while dramatically increasing patient access to professional RN care, a factor long associated with positive patient outcomes in a broad range of care barometers. In the study, the authors highlight the cost benefits for hospitals under

new health reform initiatives. **"The costs associated with increasing the number of nurses employed in hospitals may be offset by the costs of avoided poor outcomes and adverse events," the author states. "The potential for offsets and savings may be increased as value-based purchasing programs are implemented in response to the Affordable Care Act of 2010.** For example, higher nurse staffing levels have been associated with fewer of the hospital-acquired conditions and infections that the Centers for Medicare and Medicaid Services no longer pays for, unless the complication was present when the patient was first admitted to the hospital.

Nurse Satisfaction and the Implementation of Minimum Nurse Staffing Regulations

Joanne Spetz, Ph.D, Policy, Politics & Nursing Practice, April 3, 2008

- A statewide survey of nurses in California found that nurses perceived a significant improvement in their working conditions and were more satisfied with their jobs in the two years following implementation of the landmark California staffing law in 2004. According to the researchers, "Nurse satisfaction with many aspects of work increased significantly between 2004 and 2006. The largest changes in satisfaction, in percentage terms, were with adequacy of staff (a 12.95 % increase), providing patient education (+7.3%), clerical support (6.9%) and satisfaction with the job overall (5.9%)." The authors concluded: "A large body of research links job satisfaction, heavy workload, job stress, effective management and career development opportunities with turnover rates. It is possible that the improvements in RN satisfaction documented here will facilitate higher quality of care. High nurse turnover has a negative effect on the quality of care delivered to patients. If minimum staffing regulations improve nurse satisfaction, reduce job stress, and relieve workload, nurse turnover may indeed decline, further improving the quality of hospital care."

Hospital Nurse Staffing and Patient Mortality, Nurse Burnout, and Job Dissatisfaction

Linda Aiken Ph.D., R.N., Journal of the American Medical Association, October 22, 2002

- This was a groundbreaking study conducted in anticipation of implementation of the law setting safe patient limits in California to determine if legislating patient limits for nurses was a viable means of improving patient care and reducing nurse burnout. It found for each additional patient over four assigned to an RN, the risk of death increases by 7% for all patients. Patients in hospitals with a 1:8 nurse-to-patient ratio have a 31% greater risk of dying than patients in hospitals with 1:4 nurse-to-patient limits**. "Our findings offer insights into how more generous registered nurse staffing might affect patient outcomes and inform current debates in many states regarding the merits of legislative actions to influence staffing levels** .Our findings have important implications for 2 pressing issues: patient safety and the hospital nurse shortage. Our results document sizable and significant effects of registered nurse staffing on preventable deaths. The association of nurse staffing levels with the rescue of patients with life-threatening conditions suggests that nurses contribute importantly to surveillance, early detection, and timely interventions that save lives. The benefits of improved registered nurse staffing also extend to the larger numbers of hospitalized patients who are not at high risk for mortality but nevertheless are vulnerable to a wide range of unfavorable outcomes. **Our results suggest that the California hospital nurse staffing legislation represents a credible approach to reducing mortality and increasing nurse retention in hospital practice…**Improving nurse staffing levels may reduce alarming turnover rates in hospitals by reducing burnout and job dissatisfaction, major precursors of job resignation. When taken together, the impacts of staffing on patient and nurse outcomes suggest that by investing in registered nurse staffing, hospitals may avert both preventable mortality and low nurse retention in hospital practice.