



THE AIKEN STUDY:¹ HOSPITAL NURSE STAFFING AND PATIENT MORTALITY, NURSE BURNOUT, AND JOB DISSATISFACTION

Context: Hospitals nationally are experiencing a nursing shortage caused by the declining number of students enrolled in nursing school and the increasing difficulty of retaining nurses. U.S. nurses consistently report that hospital nurse staffing levels are inadequate to provide safe and effective care. Physicians agree, citing inadequate nurse staffing as a major impediment to the provision of high quality hospital care. A 2002 report by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) stated that the lack of nurses contributed to nearly a quarter of the unanticipated problems that result in death or injury to hospital patients.

The JCAHO report found that the shortage of nurses may be linked to unrealistic workloads. A previous study by Linda Aiken, PhD, RN and others found that 40% of hospital nurses have job burnout levels that exceed the norm for health care workers and that job dissatisfaction among hospital nurses is five times the average for all U.S. workers.^{2,3}

Objective: To determine the link between the nurse-to-patient ratio and patient mortality and failure-to-rescue (deaths among patients who experienced complications) among surgical patients, and factors related to RN retention (including the relationship between RN staffing levels and job dissatisfaction and burnout).

Methods: Cross-sectional analyses of linked data from 10,184 staff RNs, 232,342 general, orthopedic, and vascular surgery patients discharged from April 1, 1998–November 30, 1999, and administrative data from 168 nonfederal adult general hospitals in Pennsylvania.

RESULTS

Clear Link Between Staffing Levels and Patient Success

- * The study found that for each additional patient over four in a nurse's workload, the risk of death increases by seven percent for surgical patients.
- * Patients in hospitals with the highest patient-to-nurse ratio (eight patients per nurse) have a 31% greater risk of dying than those in hospitals with four patients per nurse.
- * On a national scale, staffing differences of this magnitude may result in as many as 20,000 unnecessary deaths each year.

¹ Linda H. Aiken, PhD, RN; Sean P. Clarke, PhD, RN; Douglas M. Sloane, PhD; Julie Sochalski, PhD, RN; Jeffery H. Silber, MD, PhD, *Journal of the American Medical Association*, Vol. 288, No. 16, October 23–30, 2002.

² Joint Commission on Accreditation of Healthcare Organizations, *Health Care at the Crossroads: Strategies for Addressing the Nursing Crisis*, August 2002.

³ Aiken, L.H., PhD, RN; Clarke, S.P., PhD, RN; Sloane, D.M., PhD, et al, "Nurses Reports on Hospital Care in Five Countries,," *Health Affairs*, Vol. 20, 2001.

Clear Link Between Staffing Levels and Burnout, Job Dissatisfaction and Nurse Retention

- * Higher emotional exhaustion and greater job dissatisfaction in nurses were strongly associated with higher patient-to-nurse ratios. The study found that each additional patient per nurse corresponds to a 23% increased risk of burnout, as well as a 15% increase in the risk of job dissatisfaction.
- * Forty-three percent of nurses reporting burnout and job dissatisfaction intend to leave their current position within the next 12 months; only 11% of nurses satisfied with their current positions intend to leave within the next 12 months.

CONCLUSION

- * **There is a direct relationship between nurse staffing and patient well-being.** Nurses serve as an around-the-clock surveillance system in hospitals for early detection and prompt intervention when patients' conditions deteriorate. **Substantial decreases in mortality rates (especially for patients who develop complications) could result from increasing RN staffing.** The results of the study imply that had Pennsylvania instituted a statewide nurse-to-patient ratio of 1:4, possibly 4,000 of the 232,342 patients studied may have died within 30 days of being admitted; had it been 1:8, more than 5,000 may have died.
- * **RNs working in hospitals with the highest patient-to-nurse ratio are twice as likely to be dissatisfied with their position and experience job-related burnout as those working in hospitals with the lowest patient-to-nurse ratio. By increasing RN staffing levels and thereby lowering the patient-to-nurse ratio, hospitals could reduce turnover rates by decreasing the job dissatisfaction and burnout that may lead to resignation.**
- * **The results suggest that nurse staffing legislation (e.g., the California Safe Staffing and Quality Care Act which mandates fixed minimum nurse-to-patient ratios in hospitals) represents a credible approach to reducing mortality and increasing nurse retention in hospital practice, if it can be successfully implemented.**
- * **Satisfactory nurse-to-patient ratios can save money as well as saving lives and decreasing RN turnover.** Estimates indicate that **the cost of replacing a hospital medical and surgical general unit nurse and a specialty nurse as \$42,000 and \$64,000, respectively.**⁴

The Department for Professional Employees, AFL-CIO (DPE) comprises 25 AFL-CIO unions representing four million people working in professional, technical and administrative support occupations. DPE-affiliated unions represent: teachers, college professors, librarians and school administrators; nurses, doctors and other health care professionals; engineers, scientists and IT workers; journalists and writers, broadcast technicians and communications specialists; performing and visual artists; professional athletes; psychologists, social workers and many others. DPE was chartered by the AFL-CIO in 1977 in recognition of the rapidly-growing professional and technical occupations.

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⁴ Nursing Executive Committee, *Reversing the Flight of Talent: Nursing Retention in an Era of Gathering Shortage*, Advisory Board Co., 2000.