

Fact Sheet 2006



THE COSTS AND BENEFITS OF SAFE STAFFING RATIOS

The United States is experiencing a severe shortage of nurses that will intensify as baby boomers age and the need for health care grows. While registered nurses are expected to experience the second largest job growth among all occupations between 2004 and 2014, a study by Peter Hart and Associates found one in five quitting patient care. Most are leaving because of inadequate staffing. There are insufficient nurses to do what needs to be done on any given shift and those who are on duty are exhausted and stressed.^{1,2}

Adequate nurse staffing is key to patient care and nurse retention, while inadequate staffing endangers patients and drives nurses from their profession. Some hospitals have had success in retaining their nurses by raising nurse-to-patient ratios, involving nurses in decision-making and providing nurses with opportunities to further their education. Turnover dropped from 15.3% in 2000 to 10.3% in 2002 at New York Presbyterian Hospital, a hospital which now has a safe staffing clause in its contract.³ Not coincidentally, a November 2003 study by the Institute of Medicine of the National Academy of Sciences calls for better nurse-to-patient ratios, limits on mandatory overtime, and nurse involvement at every level to protect patients.⁴

Understaffing Endangers Patients' Lives

- The Institute of Medicine concluded that the environment in which nurses work is a breeding ground for medical errors which will continue to threaten patient safety until substantially reformed. The study finds increased infections, bleeding, and cardiac and respiratory failure associated with inadequate nurse staffing.⁵
- A 2002 report by the Joint Commission on Accreditation of Healthcare Organizations stated that the lack of nurses contributed to nearly a quarter of the unanticipated problems that result in death or injury to hospital patients.⁶
- A 2002 study by Linda Aiken, PhD, RN, and others, found that for each additional patient over four in a nurse's workload, the risk of death increases by 7% for surgical patients. Patients in hospitals with the lowest nurse-to-patient 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.⁷
- Another recent study found that patients at hospitals with staffing ratios of four patients to one nurse or higher suffered from cardiac arrest or shock 9.4% more often than patients at hospitals with ratios of 2.5 patients to one nurse or lower. They also had 9% more urinary tract infections, 5% more gastro-intestinal episodes, and 6.5% more cases of pneumonia acquired in the hospital. Surgery patients in short-staffed hospitals were 6% more likely to die from complications like shock or sepsis.⁸

While the most important results related to inadequate nurse staffing are unanticipated patient complications and deaths, other costs include longer hospital stays, higher rates of occupational injury and stress among nurses, more turnover among nurses, and more liability for hospitals. In 1999, the Institute of Medicine (IOM) estimated that preventable medical errors cost the economy from \$17 to \$29 billion annually, of which half are health care costs.⁹

Understaffing Results in Longer Hospital Stays

- In 2001, 69% of hospital executives reported that the shortage of nurses had resulted in higher costs to deliver care.¹⁰
- A 2001 Harvard School of Public Health study cites a 3–6% shorter length of stay for patients in hospitals with a high percentage of RNs.¹¹
- The Institute for Health and Socio-Economic Policy projects annual savings of about \$2 billion a year for California hospitals just from the shorter patient stays that result from better RN staffing. The findings are based on an examination of 21.7 million patient discharges in California from 1993–1998 and hospital charges per patient day.¹²

High Nurse Turnover Is Expensive

Nearly 90% of nurses say that better staffing ratios would improve recruitment and retention of nurses.¹³

Nursefinders, Inc., which conducts a quarterly nurse staffing survey, estimates the average cost per RN turnover at \$65,000 in 2005. Given their survey findings that many healthcare facilities may lose 25 to 60 percent of their nurses in 2005 alone, the financial impact of this turnover on affected facilities could range from \$1.6 million to nearly \$4 million a year.¹⁴

- Organizations with high annual RN turnover rates (22–44%) had 36% higher costs per discharge than hospitals with turnover rates of 12% or less. Hospitals with low turnover had lowered risk adjusted scores as well as lower severity-adjusted length of stay compared to hospitals with 22% or higher turnover rates.¹⁵
- Hospitals with low RN turnover (4–12%) averaged a 23% return on assets compared to a 17% return for those with high turnover rates.¹⁶
- Over 40% of hospitals offer bonuses to new hires according to the American Hospital Association. Most offer packages of between \$1,000 and \$5,000, but some offer even more compensation.¹⁷ This policy does nothing to reward and retain experienced nurses and can certainly create resentment.
- Nearly 60% of hospitals hire nurses from temporary agencies or traveling nurse companies.¹⁸ Nationally, hospitals spent \$7.2 billion on temps and travelers in 2000.¹⁹ Temps and traveling nurses earn as much as \$100 an hour, while staff nurses typically earn less than \$25 per hour, which affects morale among the nurses who stay.²⁰
- Hospitals also recruit nurses from other countries, which removes badly needed healthcare providers from poor countries, while also depressing nurses' wages here.

These solutions do nothing to address the underlying reason why so many qualified nurses leave the profession. Better nurse-to-patient ratios would, however. The Nursefinders survey finds

57% and 56% of nurses, respectively, citing work-related stress and patient care loads/staffing as having a major impact on turnover, above the impact of compensation.²¹

What Will Safe Staffing Ratios Cost Hospitals?

- A University of California at Davis study estimates it will cost California hospitals \$1.1 billion annually to implement a ratio of four patients to one nurse in medical/surgical units, the standard approved by the SEIU Nursing Alliance, United Nurses' Associations of California, and Kaiser Permanente.

Berliner, *et. al.*, criticized the UC Davis study on several methodological grounds, pointing to assumptions which inflate the estimate by 35% to 40%, as well as data collection issues, placing the estimate below \$500 million.²² The assumptions include failing to distinguish between for-profit and non-profit hospitals, although for-profit hospitals have the leanest staffing ratios and can best afford to implement improved staffing ratios; assuming that nurses cannot be transferred from a unit where there is a surplus of staff to a unit which is short; assuming that only full-time nurses would be hired, when 35% of nurses in California work part-time; and defining the cost of hiring a new nurse at the average nurse salary, when it is plausible that many will be entry-level or part-time.²³

- Although the validity of the UC Davis study is questionable, even if the estimate of \$1.1 billion is accurate, the cost is only a 2.3% increase for California's \$40 billion industry divided among 500 hospitals.²⁴ Moreover, inadequate nurse staffing is costly; safe staffing ratios allow hospitals to save on costs associated with patient complications and liability, nurse turnover, temp agency fees, and recruiting.
- A 2002 report by Blue Cross Blue Shield Association found that California hospitals could save over \$331 million if all hospitals performed at the level of the best hospitals in the state in terms of these quality indicators: adverse events, wound infection, pneumonia after surgery, and urinary tract infections.²⁵ These indicators are well-established measures of nurse staffing quality.

If Berliner and colleagues' estimate of \$500 million as the cost of safe staffing levels is accurate, the direct costs of complying with the California safe staffing law would be almost completely offset by the benefits of improved nurse staffing quality.

A 2005 national study in the journal *Medical Care* found that reducing nurse-to-patient ratios was cost-effective in improving patient outcomes. The authors found that the cost of a life saved by improving nurse-to-patient ratios is considerably less than by using other basic safety measures, such as routine cervical cancer screening or thrombolytic therapy for heart attack patients. These cost estimates don't even include the additional savings from reduced length of hospital stays which are associated with lower staffing ratios; the study estimates these savings may offset fully half of the added labor costs.²⁶

More States are Pursuing Safe Staffing Legislation

In January 2004 California became the first state to implement mandatory nurse-to-patient ratios. State labor and nurses' organizations fought successfully to keep the legislation in its original form (requiring one nurse per six patients starting in January 2004, increasing to one nurse per five patients by January 2005), despite an attempt by California Governor Arnold Schwarzenegger to block the second increase.²⁷ Preliminary studies on the effect of this

legislation indicate that staffing levels have increased significantly in California hospitals, and that contrary to concerns, hospitals did not seek to meet the new requirements by increasing their use of LVNs. More studies will be needed to determine the effect on patient outcomes.²⁸

Meanwhile, several other states have enacted or put into motion legislation addressing safe staffing levels. For instance:

- In 2004, New Jersey passed legislation requiring hospitals to disclose staffing information. An as-yet unsuccessful bill requiring staffing ratios is expected to be reintroduced in early 2006.
- In 2005, Rhode Island enacted legislation requiring hospitals to annually submit a staffing plan.²⁹
- In 2005, Oregon updated and strengthened its 2001 legislation requiring hospitals to appoint a staffing plan committee and take other measures to ensure timely filling of vacancies.³⁰ In 2002, Texas put in place similar regulations to the original Oregon staffing plan legislation.³¹
- Many states, including Connecticut, New York, and Kansas, have introduced nurse-to-patient ratio legislation; several others have introduced staffing-plan bills, including Indiana, Hawaii, Massachusetts, Maryland, Vermont, Washington, and West Virginia.³²

Nurses Return to Nursing When Safe Staffing Ratios Are Implemented

- The California Board of Nursing reports being inundated with RN applicants from other states because of the nurse-to-patient ratio regulations that went into effect in January 2004. With a more than 60% increase in applications for licenses it now takes six or more weeks to get a temporary license and as much as three or four months to get a permanent one.³³

California has experienced more interest in nursing since the nurse ratio legislation was passed in 1999.

- The number of RNs increased by 4% from June 2001 to June 2002 and the number of certifying exam applicants rose by 18%.³⁴
- Kaiser Permanente voluntarily enacted ratios before the California law went into effect in July 2001. As a result, the Northern California branch of Kaiser hired 71% more new nurses and the number of nurses quitting declined by 47% from January to October 2002, a net increase in RNs of 570% over the previous year.³⁵
- Testimony from California RNs confirms the benefits of staffing ratios. A study by UC San Francisco's Center for Health Professions found that nurses from California express concern about staffing more than any other topic, regardless of whether they work for for-profit or non-profit healthcare organizations or whether they belong to a union. Staffing ratios have been required in critical care units in California hospitals and nurses consistently cite ratios as a draw to work in these units because they know they will be able to provide high quality care to their patients.³⁶
- A UC San Francisco study estimated that in 2004, 11,000 "travelers"—U.S.-trained nurses who bounce from hospital to hospital on short contracts—moved to California in the wake of the staffing-ratio legislation, along with 3,700 foreign-trained nurses.³⁷

The nurse crisis is a global phenomenon. In 2000, the Australian state of Victoria implemented staffing ratios as part of a strategy to recruit and retain nurses in their state and met with remarkable success.

- Six months after the ratios were fully implemented, 3,300 nurses returned to work full-time.³⁸
- A preeminent technical institute in Victoria reported that the number of graduating students planning to study nursing increased by 144%.
- One major hospital reported that its costs for temp agencies fell by 83%. Another hospital reported that its costs for temp agencies fell by 83%, while yet another major hospital now has 19 nurses on a waiting list to work in its emergency department.

¹ U.S. Department of Labor, Bureau of Labor Statistics, *BLS Releases 2004–2014 Employment Projections*, USDL 05-2276, www.bls.gov/emp.

² Peter D. Hart and Associates, *The Nurse Shortage: Perspectives from Current Direct Care Nurses and Former Direct Care Nurses*.

³ Cadrain, Diane, *HR Magazine*, December 2002.

⁴ Institute of Medicine, National Academy of Sciences, *Keeping Patients Safe: Transforming the Work Environment of Nurses*, 2003.

⁵ *Ibid.*

⁶ Joint Commission on Accreditation of Healthcare Organizations, *Healthcare at the Crossroads: Strategies for Addressing the Nursing Crisis*, August 2002.

⁷ Aiken, Linda, *Journal of the American Medical Association*, October 22, 2002.

⁸ Needleman, Jack, et al., “Nurse-Staffing Levels and Quality of Care in Hospitals,” *The New England Journal of Medicine*, May 30, 2002.

⁹ Institute of Medicine, *To Err is Human: Building a Better Health Care System*, 1999.

¹⁰ Solving the Nursing Shortage – The Scope of the Shortage, American Federation of Government Employees, 2002.

¹¹ *Nurse Staffing and Patient Outcome in Hospitals*, <http://bhpr.hrsa.gov/nursing/staffstudy.htm>.

¹² California Nurses Association, <http://www.calnurse.org/finalrat/ratioscost.pdf>.

¹³ Massachusetts Nurses Association, www.massnurses.org/news/2002/petdrive/faq.html.

¹⁴ Nursefinders, Inc., “Survey of Leading Healthcare Executives Identifies Top Factors Impacting Nurse Turnover”, <http://www.nursefinders.com/press/survey/survey2.jsp>, November 22, 2005.

¹⁵ L. Gelinus & Bohlen, C., “The Business Case for Retention”, *Journal of Clinical Systems Management*, 4 (78), 14–16, 22.

¹⁶ *Ibid.*

¹⁷ Hansen, Brian, “Nursing Shortage: Are Bad Working Conditions Causing Deaths?”, *CQ Researcher*, September 20, 2002.

¹⁸ *Ibid.*

¹⁹ California Nurses Association press release, “CNA Blasts Study on Alleged Costs of Safe Staffing, Implementing Ratios May be Cost Neutral, RNs Say”, July 26, 2001.

²⁰ Hansen, Brian, *op. cit.*

²¹ Nursefinders, Inc., *op. cit.*

²² Berliner, Howard, Christine Kovner, and Carolyn Zhu, *Nurse Staffing Ratios in California Hospitals: A Critique of the Final Report on Hospital Nursing Staff Ratios and Quality of Care*, SEIU Nurse Alliance, December 2002.

²³ *Ibid.*

²⁴ *Ibid.*

²⁵ Kane, Nancy, and Richard B. Siegrist, Jr., “Understanding Rising Hospital Inpatient Costs: Key Components of Cost and the Impact of Poor Quality”, August 2002, <http://bcbshealthissues.com/costpressconf/materials.vtml>.

²⁶ Rothberg, Michael, et. al., “Improving Nurse-to-Patient Staffing Ratios As a Cost-Effective Safety Intervention”, *Medical Care* 43(8): 785–791, August 2005.

- ²⁷ Associated Press State & Local Wire, “Schwarzenegger Drops Legal Fight Over Nurse Staffing Ratios”, November 11, 2005.
- ²⁸ Donaldson, N. et al. “Impact of California’s Nurse-Patient Ratios on Unit Level Nurse Staffing and Patient Outcomes”. *Policy, Politics & Nursing Practice*, August 2005, <http://ppn.sagepub.com>.
- ²⁹ Rhode Island Department of Health, 2005 Public Health Legislation, <http://www.health.ri.gov/publications/leg2005.php>.
- ³⁰ Chicoine, J., “Oregon Legislative Update”, <http://www.nsslaw.com/2005oregonupdate.htm>.
- ³¹ Nursing World, State Government Relations: Staffing Plans and Ratios, July 2005, <http://www.nursingworld.org/gova/state/2005/staffing.htm>.
- ³² *Ibid.*
- ³³ Robertson, Kathy, *Sacramento Business Journal*, January 19, 2004.
- ³⁴ Kemski, Ann, *Market Forces, Cost Assumptions, and Nurse Supply: Considerations in Determining Appropriate Nurse to Patient Ratios in General Acute Care Hospitals R-37-01*, SEIU Nurse Alliance, December 2002.
- ³⁵ Kaiser Permanente California press release, “Kaiser Permanente Innovations Attracting Nurses”, October 22, 2002.
- ³⁶ Kemski, Ann, *op. cit.*
- ³⁷ Los Angeles Times, “Search for Nurses in California is Feverish”, November 23, 2005.
- ³⁸ Fitzpatrick, Lisa, *The Herald Sun*, March 15, 2003.

For further information on professional workers, check out DPE’s Web site: www.dpeaflcio.org.

The Department for Professional Employees, AFL-CIO (DPE) comprises 23 AFL-CIO unions representing over four million people working in professional, technical and administrative support occupations. DPE-affiliated unions represent: teachers, college professors and school administrators; library workers; 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; professional firefighters; 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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