

New England Public
Policy Center

Director
Robert Tannenwald

Deputy Director
Carrie Conaway

Staff
Tom DeCoff
Brad Hershbein
Antoniya Owens
Teresa Ricoy
Darcy Rollins
Alicia Sasser
Nick Turner
Bo Zhao

The New England Public Policy Center of the Federal Reserve Bank of Boston seeks to improve the quality and accessibility of analysis on economic policy issues affecting New England.

25th Massachusetts Health Policy Forum

Nurse-to-Patient Ratios

by Brad Hershbein

This brief is based on information presented at the 25th Massachusetts Health Policy Forum, held on March 30, 2005 at the Federal Reserve Bank of Boston. For more information and a full list of contributors, please see the conference report at www.bos.frb.org/economic/neppc/conf.htm.

Two competing bills currently under consideration by the Massachusetts legislature attempt to improve patient safety and nursing conditions in Massachusetts, but they do so through different approaches. One bill, sponsored by Rep. Christine Canavan, would legislate minimum nurse-to-patient ratios in Massachusetts hospitals. The other, sponsored by Sen. Richard Moore, would attempt to increase the sup-

auxiliary personnel, and on the work environment or culture of the hospital.

- The nursing shortage in the state and nation presents challenges for hospitals in changing the number and mix of staff nurses.

- It is questionable whether research will ever be able to show the optimal nurse-to-patient ratio.

- Enforcement of any nurse staffing reform will be challenging, as the usual penalties for noncompliance, such as fines, could have a detrimental effect on access to care.

- Regardless of the path that nurse staffing reform takes, the government, hospitals, nurses, doctors, insurance companies, and patients must put aside their differences and work together to make the reform successful.

While most nursing shortages last only a year or two, the current one is in its eighth year.

ply of nurses and better track and disseminate information on patient outcomes and nurse workloads.

While there is much debate about the pros and cons of these alternatives, participants at the 25th Massachusetts Health Policy Forum generally agreed on the following points:

- The number of staff nurses and their skill play a critical role in patient outcomes across a range of conditions in the hospital setting.

- Patient outcomes depend not only on the kind and severity of patients' illnesses, but also on the mix of nurses, doctors, and

The nursing shortage

While most nursing shortages over the last 40 years lasted only a year or two, the current shortage is in its eighth year. The Bureau of Health Professions predicts the current shortage of 150,000 nurses nationwide will grow to 800,000 nurses by 2020 if current trends continue. With over 92,000 active registered nurses, Massachusetts is fortunate both to have the most RNs per capita among the states and to have seen full-time RN hires outpace patient volume within the last few years. Still, the Health Resources and Services Administration forecasts the state's unmet demand for nurses

will rise from 5,000 today to 25,000 by 2020.

There are many complex reasons behind the current nursing shortage. The most prominent include the following:

Demographics. Lower birth rates during the 1970s have meant that in the last 15 years there simply have been fewer younger people available to choose nursing as a career. At the same time, the population is aging and therefore the demand for nurses is increasing.

Other job opportunities. The women's rights movement that began in the 1970s opened up far more career possibilities for women than had existed previously. The allure of occupational choice and better wages left a smaller potential nursing pool.

Insufficient capacity in nursing education. Some 40,000 to 50,000 qualified applicants are

Research cannot determine the optimal nursing level because there is not one number that works for all circumstances.

turned away from nursing programs annually because of lack of school capacity. Schools cannot raise funds easily to expand, and tuition is relatively expensive. Further, the relatively high compensation of bedside nurses relative to the pay of nurse educators, especially in Massachusetts, makes it difficult to hire more nursing professors.

Changes in hospital care. As part of the managed care cost-cutting reforms during the 1990s, hospitals changed their admittance practices. They began hiring more unlicensed assistive personnel, whom nurses had to train and supervise, and started admitting only the sickest patients and releasing them more quickly than before, making the condition of the average hospital patient more serious.

Hospital budget constraints. In FY 2004, 42 percent of Massachusetts's hospitals operated in the red. Many hospitals rely heavily on public or charitable support and simply cannot afford to hire more nurses.

Job dissatisfaction. Recent studies show that many nurses are not happy with their work conditions and are more likely to quit than in the past because of this dissatisfaction. One nurse remarked: "Every time I'm not able to

turn a fragile post-op hip replacement patient, not able to assess the skin frequently...I go home cringing."

Would more nurses help?

Numerous studies have linked lower nurse staffing levels with patients' increased risk of pneumonia, urinary tract infection, post-operative infection, sepsis, and many other complications. Though many other factors affect a patient's health besides nurses, the weight of the evidence concerning the impact of higher nurse staffing ratios on patient outcomes is quite persuasive—some would argue, conclusive. One study estimates that switching a nurse's load from the level of the bottom quarter to that of the top quarter of hospitals nationally—a reduction of roughly one patient per nurse—can decrease hospital length of stay and lower the risk of adverse outcomes such as shock and infection by between 3 and 12 percent.

However, studies have not shown whether there would be similar improvements if nurse loads changed from eight patients per day to seven patients per day, or from four patients to three. Nor has it been tested whether hiring more nurses would, through more manageable workloads, reduce nurses' long-term stress levels so as to improve care, as the Massachusetts Nurses Association (MNA) claims. In short, current research cannot determine what the optimal nursing level should be because there is not one number that works at all times under all circumstances. The research can determine that patient outcomes can likely be improved—at least somewhat—with more nurses.

What would it cost?

An MNA survey revealed that nurse staffing levels in the state are similar to the national average of about one nurse per five patients on medical/surgical floors, with Boston-area hospitals doing slightly better. Rep. Canavan's legislation proposes a standard averaging about one nurse per four patients daily, and an MNA-authorized study projects the gross cost of implementing Canavan's proposal at around \$270 million, or 1.9 percent of net patient services revenue. An estimate from the Massachusetts Hospital Association (MHA) puts the estimate higher, at between \$250 million and \$450 million.

These estimates assume there are plenty

of nurses ready and waiting to be hired at the current going rate. However, many researchers believe that in order to bring in more nurses, a large wage hike is needed, potentially as much as 66 percent, inflation-adjusted, over the next 12 years nationally. With every 10 percent pay raise resulting in some \$180 million in additional costs for Massachusetts, the cost of the proposal could greatly increase. On the other hand, more reasonable workloads could reduce the necessary size of the wage increase by preventing nurses from leaving and encouraging more to enter—or re-enter—the profession. However, no hard evidence has either confirmed or rejected this notion.

The above cost estimates, moreover, cannot fully control for possible additional savings, such as higher quality of care, reduced rehospitalization, shorter length of stay, lower cost of worker's compensation for fatigue-induced injuries, potential for less nurse turnover, and fewer lost workdays. Conversely, they also cannot account for the cost of training an influx of new, probably less-experienced nurses to specific hospitals. The net effect on the bottom line, therefore, is unknown.

Additionally, hospitals that currently have fewer nurses per patient, those that are already operating at a deficit, and those that are not connected with major universities are all likely to face difficulty in raising nurse staffing levels. Predominantly, these hospitals are the small, community hospitals outside of major urban areas, where the cost burden could be great enough to put several on the brink of closure and end up restricting access to care for people who have few options.

Are there alternatives to ratios?

Some nurses and hospitals have begun implementing voluntary programs in the hope of improving the quality of nursing care. Over 100 hospitals nationwide, and three in Massachusetts, have attained magnet status, a special industry accreditation that signifies that a hospital is on the cutting edge of quality care. While many others are working toward the distinction, the stiff requirements—including adherence to all regulations and laws, nurse leadership roles, collection of data on patient outcomes, and excellent record of patient care—mean that many hospitals are still far from achieving it. Another state initiative is Massachusetts Patients First, a joint MHA/MONE program in which hospitals

Massachusetts Legislation on the Table by Katherine Kranz Lewis

Research Associate, Heller School, Brandeis University

An Act Ensuring Patient Safety, proposed by Rep. Christine Canavan (D-Brockton), is the bill currently under consideration in the Massachusetts legislature. This bill would guarantee minimum registered nurse staffing levels in acute care hospitals across the state. This is a much stronger provision than in California, which has less stringent ratios and where up to 50 percent of staffing, with some exceptions, can be met with the equivalent of LPNs. Under the Massachusetts bill, the Department of Public Health would be responsible for enforcing the regulations and also for establishing a patient classification system to adjust staffing levels based upon patient needs. Such a system already exists in California, but it reportedly has not been adequately enforced or implemented.

SB 1260 is an alternative piece of legislation introduced by Sen. Richard Moore (D-Uxbridge) that would include acute and chronic disease hospitals. Facilities would be required, under this law, to create staffing formulas based upon patient and nurse characteristics. These formulas would then be made available to the public. Nurse-sensitive patient outcome measures, including patient care hours per patient day, would be selected by the Betsy Lehman Center from the National Quality Forum. The Center would both develop the annual reporting process and publicly report hospital-specific performance measures, aggregated industry trends, and best practices developed from the annual reports. The bill also includes incentives to increase the supply of nurses: \$30 million earmarked for the Clara Barton Nursing Excellence Trust Fund for student loan repayments and funding for faculty, scholarships and mentoring services; increased nursing workforce data collection and dissemination; and improved accountability from hospitals in terms of staffing levels.

For more information on the Massachusetts bills, visit www.sihp.brandeis.edu/mhpf, Forum #25.

pledge to provide proper staffing and work environments to meet patient needs and release performance measures to the public.

Some nurses, however, doubt that these innovative but voluntary approaches will be enough to solve the problem. Magnet hospitals, for example, cover relatively few patients, with most coming from already well-served, affluent, urban areas. Programs like Patients First rely heavily on trust between hospital administrators and nurses—trust that was eroded by managed care reform staff cuts and

has not yet recovered. In addition, management's past practice of limiting nurses' input on staffing decisions has left many nurses skeptical of voluntary plans.

An additional intervention includes the reporting of hospital performance measures so that patients could "shop" for hospitals with the best records on patient care. Competition would theoretically compel hospitals to meet the market-driven, publicly acceptable number of nurses. However, medical emergencies or expense can limit patients to the most convenient hospital, not necessarily the one with the best record. Further, if hospitals improve patient outcomes by means other than increasing nurses, such as technology expansion or organizational change, patients would benefit, but nurses would not necessarily see alleviated workloads.

Another popular alternative is the creation of a statewide system that would classify patients by the severity of their conditions; staffing levels would be required to increase as more severely ill patients are admitted. But it could be difficult to adjust staffing levels quickly enough if several high-need patients were admitted at the same time, and the detailed calculations required would complicate the policy's enforcement.

Each of the above initiatives is designed

with the expectation that regulating the process will lead to the desired outcome. Some argue that a better solution might be targeting the outcome itself by changing hospitals' incentives. If hospitals were rewarded for delivering better patient care with more manageable nurse workloads, either through the government or the market, then better patient care would result while still allowing hospitals the flexibility to make the achievement in the best way possible for them.

Public voice and public responsibility

The public by and large trusts health care providers to determine what's best for them. Thus, they may not take notice of the debate over which initiative is best unless their costs increase dramatically or they become concerned about the quality of their care. If this were to happen, they might press for any solution that achieves results cheaply, including those that could harm hospitals' bottom lines or make nurses' workloads even worse. Both these groups have a responsibility to care for patients to the best of their ability, and both are committed to doing so. Therefore, it is in the interest of both hospitals and nurses to work together to find a common solution.