Nurse-Patient Ratios and the Future of the Nursing Profession

By Stephen Jackson, M.D., Editor

Much of this editorial has been garnered from an excellent review article by Robert Steinbrook, M.D., entitled "Nursing in the Crossfire" (See reference #3).

In 2002, two articles relating registered nurse (RN) staffing levels to the quality of care in hospitals were published in respected medical journals. One study used 1997 administrative data from 800 hospitals in 11 states covering five million medical discharges and one million surgical discharges.[1] A higher proportion of hours of RN care per day and/or a greater absolute number of hours of RN care per day were associated with a shorter length of stay, and also with lower rates of urinary tract infections, upper gastrointestinal bleeding, pneumonia, shock and cardiac arrest—as well as better rates of "rescue" from these pathophysiological states. The other relevant article (one of the authors was anesthesiologist Jeffrey Silber who also had authored the most credible study demonstrating the importance of anesthesiologists' supervision of nurse anesthetists) studied 168 hospitals and determined a direct relationship between the level of nurse staffing and patient safety, outcomes and the satisfaction of hospital nursing professionals.[2] They found that each additional patient per nurse was associated with (1) a 7% increase in both surgical patient mortality and deaths following complications; and (2) an increase of 20% in nurse burnout and job dissatisfaction. This study was the one upon which the California legislature, prodded and lobbied by nursing unions, based its landmark nurse-patient ratio law.

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This California Legislature's mandate for specific nurse-patient ratios for hospitals was motivated by its concern that an increasing nursing shortage would diminish quality of medical care. It also feared that low nurse retention was related to burdensome workloads and high levels of job-related dissatisfaction. Of course, the hospital association (California Healthcare Association—CHA) and the nurse union (California Nurse Association—CNA) favored widely divergent minimum ratios. The final numbers (see pages 70-72) were proposed in September 2002, finalized a year later by the Department of Health Services (DHS), and went into effect January 1 this year. The ratios are minimums, and it would be naïve to suppose that hospitals would

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increase levels of staffing when patient acuity demanded such. Although California was the first, at least 28 other states are considering similar legislation while awaiting reports of our outcomes.

The CHA claims that they cannot find enough qualified RNs to hire, citing that 87% of able-bodied RNs in California already are working, whereas the CNA states that there is a bevy of 30,000 more RNs available to work. The facts are that there is a shortage of working nurses and that many are maintaining their licenses but not practicing nursing. The CHA complains that forcing the hiring of RNs to cover food and bathroom breaks, and maintaining the daytime ratios during the nighttime when patients are asleep, is costly and unnecessary. They claim that this regulatory mandate for ratios to be complied with "at all times" in non-critical patient care areas is unnecessary, and that there should be leeway to staff more flexibly, based on patient acuity and needs. Moreover, CHA maintains that ratio compliance may cause a closure of hospital beds (even hospitals), force critically ill patients into a holding pattern in already overcrowded emergency departments, and cause critically ill patients to be diverted to more distant facilities, some of which might be less capable of caring for specific illnesses (stroke or cardiac centers).

Hospitals plan to file reports of every compliance violation to the DHS, while the nurses unions are vigorously pursuing legislation that will fine hospitals for every such infraction.

The CNA claims that the RN shortages are falsely inflated by CHA. The CHA claims that they may be forced to demand that RNs do more of the work currently handled by LVNs and nurse assistants, and that the costs of the ratios will raise their cost of doing business and weaken their ability to attract RNs salary-wise. The DHS has estimated that 5,000 additional nurses would be needed to satisfy the new nurse-patient ratios. The estimated cost of compliance in 2004 is touted to be about $500 million.

Nurses, on the other hand, stick to their claims that the reason for the ratios remain valid, namely that they will bring RNs back into practice and improve quality of care, and that there are enough RNs to fill the ratio demands without closing nursing units or emergency rooms. The CNA demands that hospitals should be forced to comply with the "letter of the law." The CHA counters with their interpretation of "licensed nurses" as meaning both RNs and LVNs, and that the DHS specifically permits up to a 50-50 mix of RNs and LVNs, a mix that CHA claims does not compromise quality of patient care.

The Future of the Nursing Profession

Let's now look at the nursing profession and whether it is, indeed, in an embattled condition. RNs working in hospitals have long believed that they are understaffed to provide appropriate patient care, and that this is the reason that they are prone to leave for non-hospital nursing positions. Students who traditionally had entered nursing increasingly are choosing other fields–even medicine–where they believe working conditions and reimbursement are better.

As our population ages and demands more nursing services, the need for nurses will increase. At 2.7 million in number, RNs comprise the largest single health care profession. In 2002, about 82% were employed (30% part-time), and 60% of them worked in hospitals. About 95% were women, 72% married, and 87% Caucasian. Their average age was 45. Between 1983 and 2000, the staffing levels of RNs in hospitals actually increased by 37%, and that of LVNs decreased by 46%. Because during this period the average daily census of hospitalized patients decreased somewhat, the RN-patient ratio actually increased. Although this increase may have reflected an adjustment to the increasing level of illness of hospitalized patients, this ratio has not changed appreciably from 1994 to 2000.

Why are RNs dissatisfied? Perhaps because of stress and a flat career path. RNs appear to have been experiencing inadequate levels of staffing (including their support staff), excessive workloads, and an oft-neglected fact, a gradual disconnection from the patient. This dehumanization and depersonalization of nursing (not unlike what has transpired in medicine) has been generated by the demands of documentation, and–with shorter patient hospital stays–an increasing percent of patient contact time involving admission and discharge. They perceive that they are not treated as professionals and peers by physicians, nor by administrators who often envision them as employees potentially replaceable by LVNs and certified nurse assistants.

Wages for RNs have not kept pace with inflation, the nationwide average salary being $47,000, but having increased only $200 from 1992 to 2000. Nurse union memberships have been on the upswing and seem to be gathering steam, especially in California where unions are especially powerful. The CNA, "a particularly aggressive and politically active group,"[3] split from the highly respected national professional nursing organization, the American Nurses Association (ANA), after criticizing the ANA for its moderate stances on issues. There also is internecine contention about mandatory overtime and/or double shifts, the nurse unions claiming that hospitals deploy them to compensate for inadequate levels of staffing. Both union contracts and state laws have begun to

address this issue, even when individual RNs may prefer to work overtime or to do so in order to take other time off.

As with other professions, RN shortages are related to the state of the economy: the better the economy, the fewer RNs working, but as the economy falters, more RNs enter the workforce. In the 1990s, as managed care surged, employment growth for RNs slowed, especially in California where a RN surplus actually caused lay-offs. Entrance-level RNs could not find employment, yet this occurred while the number of employed RNs were, in fact, increasing. Nursing school matriculations also decreased, just as happened with anesthesiology residency programs in the mid-1990s when graduating residents could not find gainful employment.

The number of employed RNs per 100,000 population varies widely among states, the nationwide average in 2000 being 782. California tallied 544 (only Nevada was lower), while Massachusetts had 1,194, and Washington, D.C., led with 1,675! The current shortage of RNs began to manifest itself in ICUs and ORs, but now is widespread throughout hospitals. In 2001, the mean nationwide vacancy rate for RN positions was 13%, representing 126,000 positions, and was highest in the West.

Can better wages and better job conditions bring more RNs back to the job market, and perhaps more importantly, encourage more people to enter nursing school? A long-term RN shortage has been predicted by the Bureau of Labor Statistics, which calls the nursing profession one of the five occupations with the greatest anticipated growth in number of jobs: during this current decade there is predicted to be one million job openings for RNs, including more than a half million new positions. The current national short-fall of 120,000 nurses is expected to increase to one million sometime in the second decade of this century. Even a 17% increase in nursing school enrollment nationally won't overcome this estimated shortage. More than a third of currently working RNs are older than 50! So, we have "a collision between the aging and shrinking RN workforce and the increasing demand driven (among other things) by the expanding population of Medicare beneficiaries."[4]

Solutions to the RN shortage would include making nursing more attractive and changing the public's perception of the opportunities and allure of the nursing profession. The crucial role that nurses play in healthcare and the complementary role between nursing and medicine should be marketed to the public.

Hospitals' hiring of more foreign nurses and the offering of ever-larger signing bonuses and other incentives are only of patchwork value. One innovative

approach that has given nurses more control and flexibility over schedules and wages has been the use of Internet online shift bidding.

Expanding enrollment in nursing programs–associate's degree as well as baccalaureate–and enticing more men and minorities into them are important elements of any comprehensive solution. Federal and state financial support for needy students would be facilitative. One impediment to expanding nursing school enrollment is the severe shortage of faculty. This can be remedied by enhanced funding for an expanded number of these positions and recruitment of nurses for them. Historically, nurses enter teaching later in life than do other healthcare professionals, much of this financially related.

Nurses remain the single largest budget item for hospitals. Managed care's camouflaged strategy of continuous quality decrement (continuous small decreases in quality that would be promulgated until it was determined that harm–or in some cases, too much harm–had occurred) may have infiltrated the "bottom line" policies of hospitals. Why wouldn't nursing ratios be the first place to look for savings, or even profits? Concerns with decrements in patient care and further RN overwork and dissatisfaction are not necessarily part of the largely amoral ethic of business.

The ratio law now is in place, and it becomes our ethical responsibility to assure that the intended beneficiaries of this law, our patients (not just RNs), do not become the victims of the political standoff. As physicians, we must be vigilant in guarding against unintended consequences of the radio mandate, such as loss of access to hospital services–or even to hospitals–and diminished quality of care. As anesthesiologists, we must be knowledgeable, understanding and adaptable in coping with this crisis and its sequelae, always adhering to our ethical imperative of "placing the patient's interests foremost, faithfully caring for the patient."[5]

1. Needleman J, Buerhaus P, Mattke S, Stewart M, Zelevinsky K: Nurse-staffing levels and the quality of care in hospitals. *NEJM* 346:1715-1722, 2002.
2. Aiken L, Clarke S, Sloane D, Sochalski J, Silber J: Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *JAMA* 288:1987-1993, 2002. and accompanying editorial
2a. O'Neil E, Seago J: Meeting the challeng of nursing and the nation's health. *JAMA* 288:2040-2041, 2002.
3. Steinbrook R: Nursing in the crossfire. *NEJM* 346:1757-1766, 2002.
4. Beurhaus P, Staiger D, Auerbach D: Implications of an aging registered nurse workforce. *JAMA* 283:2948-2954.
5. Guidelines for the Ethical Practice of Anesthesiology, American Society of Anesthesiologists.

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Nurse-to-Patient Ratios in Acute Care Hospitals

Acute Care Hospital Unit	Nurse-to-Patient Ratio	Key Information
Intensive care unit	1:2 or fewer at all times	The ratio shall be one licensed nurse: 2 or fewer patients, provided that the LVNs do not exceed 50% of the required nursing staff.
Burn center (unit)		
Coronary care service		
Acute respiratory service		
Intensive care newborn nursery service		The ratio shall be one RN: 2 or fewer patients at all times
Step down unit	1:4 or fewer at all times	Step down units are for those patients who require less care than intensive care, but more care than that which is available from medical/surgical care.
Telemetry unit	1:5 or fewer at all times	As defined in regulation, telemetry does not include fetal monitoring or fetal surveillance
Operating room	1:1	• The operating room shall have at least one RN assigned to the duties of the circulating nurse, and a minimum of one additional person as scrub assistant for each patient-occupied operating room. • The scrub assistant may be a licensed nurse, an operating room technician or other person who has demonstrated current competence to the hospital as a scrub assistant, but shall not be a physician or other licensed health professional who is assisting in the performance of surgery.

Post-anesthesia recovery unit	1:2 or fewer at all times	The post-anesthesia nurse-to-patient ratio is the same, regardless of the type of anesthesia the patient received.
Specialty care unit	1:5 or fewer at all times	Services provided in these units are more specialized to meet the needs of patients with specific conditions or disease processes than those services that are required on a medical/surgical unit.
Labor & delivery	1:2 or fewer at all times	Patients in active labor.
Labor & delivery	1:4 or fewer at all times	Antepartum patients that are not in active labor.
Postpartum-perinatal service	1:4 or fewer at all times	Mother-baby couplets (eight individual patients).
Postpartum-perinatal service	1:8	In the event of multiple births, the total of mothers plus infants assigned shall never exceed eight.
Postpartum-mothers only	1:6 or fewer at all times	The licensed nurse's assignment consists of mothers only.
Labor/delivery/ postpartum-perinatal service	1:3 or fewer at all times	The licensed nurse's assignment is caring for a patient combination of one woman in active labor and a postpartum mother and infant.
Pediatric unit	1:4 or fewer at all times	Patients beyond the age of thirteen (13) shall not be admitted to or cared for in spaces approved for pediatric beds unless approved by the pediatrician in unusual circumstances and the reason documented in the patient's medical record (Title 22 70537 (d))

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Medical/surgical care units	1:6 or fewer at all times	The units may have mixed patient populations of diverse diagnoses and diverse age groups
Emergency department	1:4 or fewer at all times	There shall be nor fewer than two licensed nurses physically present when a patient is present in the emergency department.
Emergency department-triage		• The RN assigned to triage patients **shall not** be counted in the nurse-to-patient ratio. • The RN must be immediately available to triage patients when they arrive in the emergency department. • When no patients need triage, the RN may assist by performing other nursing tasks.
Emergency department-base hospital		• The RN assigned as base radio responder **shall not** be counted in the licensed nurse-to-patient ratios. • A "base hospital" shall have either a licensed physician or RN on duty to respond to the base radio 24 hours a day.
Emergency department-critical care patients	1:2 or fewer at all times	The licensed nurse-to-patient ratio shall be 1:2 or fewer critical care patients when licensed nursing staff are attending critical care patient in the emergency department.
Emergency department-critical trauma patients	1:1	• Only RNs shall be assigned to critical trauma patients in the emergency department, and • A minimum of RN-to-critical trauma patient ratio shall be maintained at all times.
Psychiatric unit	1:6 or fewer at all times	LVNs, LPTs, or a combination of both, shall not exceed 50 percent of the licensed nurses on the unit.