

2004

# The Nursing Shortage in the United States: What Can be Done to Solve the Crisis?

Victor F. Caron  
*University of Rhode Island*

Follow this and additional works at: [http://digitalcommons.uri.edu/lrc\\_paper\\_series](http://digitalcommons.uri.edu/lrc_paper_series)

---

## Recommended Citation

Caron, Victor F., "The Nursing Shortage in the United States: What Can be Done to Solve the Crisis?" (2004). *Seminar Research Paper Series*. Paper 22.  
[http://digitalcommons.uri.edu/lrc\\_paper\\_series/22](http://digitalcommons.uri.edu/lrc_paper_series/22)[http://digitalcommons.uri.edu/lrc\\_paper\\_series/22](http://digitalcommons.uri.edu/lrc_paper_series/22)

This Seminar Paper is brought to you for free and open access by the Schmidt Labor Research Center at DigitalCommons@URI. It has been accepted for inclusion in Seminar Research Paper Series by an authorized administrator of DigitalCommons@URI. For more information, please contact [digitalcommons@etal.uri.edu](mailto:digitalcommons@etal.uri.edu).

# THE NURSING SHORTAGE IN THE UNITED STATES: WHAT CAN BE DONE TO SOLVE THE CRISIS?

VICTOR F. CARON  
University of Rhode Island

This document is a compilation of empirical, anecdotal and economic research from various authorities in the arenas of nursing and academia. The focus of this writing will be limited to the hospital setting for purposes of my personal experience as well as the interminable sources of data. The profession of nursing has always been considered by many to be one of great nobility and respect. Dating as far back to the mid 1800's, Florence Nightingale was the pre-eminent pioneer of nursing and advocate for the sick and injured. Since that era, and mindful that nursing is now in the midst of the most profound of its periodic shortages, it has evolved into a uniquely challenging livelihood, one blending a vast array of duties into a single career. Cognizant of the fact that this occupation incorporates attributes of other professions such as teaching, counseling, crisis intervention, service attendance, parenting, and mentoring, it is undeniably one of the most stressful careers in today's society. This certainly appears to align with the term "multitasking", and nursing has been accomplishing just that even well before multitasking was recognized. A typical RN in a hospital setting will render direct patient care by cleaning and turning patients, resuscitating patients, assessing vital signs, starting intravenous lines, administering medications, taking verbal telephone orders from physicians, charting and documentation, teaching, answering telephones, and transporting patients to other areas of the hospital only to cite some of the major tasks. Such has been the case for decades, which clarifies the position that nursing is by far one of the most demanding and sometimes unrewarding professions of all time. As I will elaborate on throughout this writing, the challenge of nursing, accompanied by a myriad of other causes, is merely one of the reasons that have contributed to the shortage.

## EVOLUTION OF THE NUSING SHORTAGE

Currently, the emerging shortage of RN's poses a real threat to the nation's health care system. RN's are the single largest group of health care professionals in the U.S., buttressing the entire health care delivery system (Baker, 2001). Hospitals are the major employers of registered nurses (RN's), licensed practical nurses (LPN's), and nursing assistants (NA's). Unless specifically delineated for comparative data, I will use RN's exclusively throughout this document in view of the fact that most of the national databases focus on RN's (GAO, 2001).

### Is There Actually A Nursing Shortage?

Public policies to alleviate the perceived shortages have focused almost exclusively on developing and funding programs for rapid increases in the supply of nurses from 1960 to 1993. Instead, these policies should have addressed and understood the issues leading to the actual periodic shortages, the reasons for the increased demand, and the types and educational mix of the imminent nursing workforce required and available to meet the changing demand since 1993. A recent study published in the Journal of the American Medical Association "estimates that the overall number of nurses per capita will begin to decline in 2007, and that by 2020 the number of nurses will fall nearly 20 percent below requirements" (Aiken et. al., 2002).

For several decades, RN numbers have been continually increasing in absolute numbers and in relation to the population being served. This suggests that the periodic shortages of nurses that the nation has experienced are driven more by increases in demand than by a reduction in quantity (NAS/IOM, 1996).

In 1992, more than 2.2 million persons held RN licenses. This number represents an increase of 35 percent since 1980 and a growth of nearly 50,000 per year from 1984 to 1992. In 1960, the nurse-to-population ratio was 292 per 100,000 population, increasing to 560 by 1980, and going up to 755 per 100,000 population by 1993 (unpublished estimates from HRSA/OASH, 1994). (NAS/IOM, 1996, Refer to FIGURE 1).

In 2002, the Bureau of Health Professions under the Health Resources and Services Administration (HRSA), conducted individual state surveys with reference to supply and demand of RN's. After the compilation of all the data, a national supply and demand diagram for full time equivalent (FTE) RN's across the country was published as illustrated in FIGURE 1 on page 2 (HRSA, 2002). The chart reveals that over the span of the next 18 years, the national supply of FTE RN's will remain constant between 1.9 million and 2 million (HRSA, 2002). Conversely, the national demand for FTE RN's will rise sharply to approximately 2.8 million. This finding definitely fortifies the argument that the shortage is actual and not perceived. Consequently, "shortages result if the pool of individuals willing and able to become nurses is too

small to meet demand, and/or the stock of incumbent nurses depletes faster than it can be replaced” (Bodah, 2003).

### When Did The Nursing Shortage Begin?

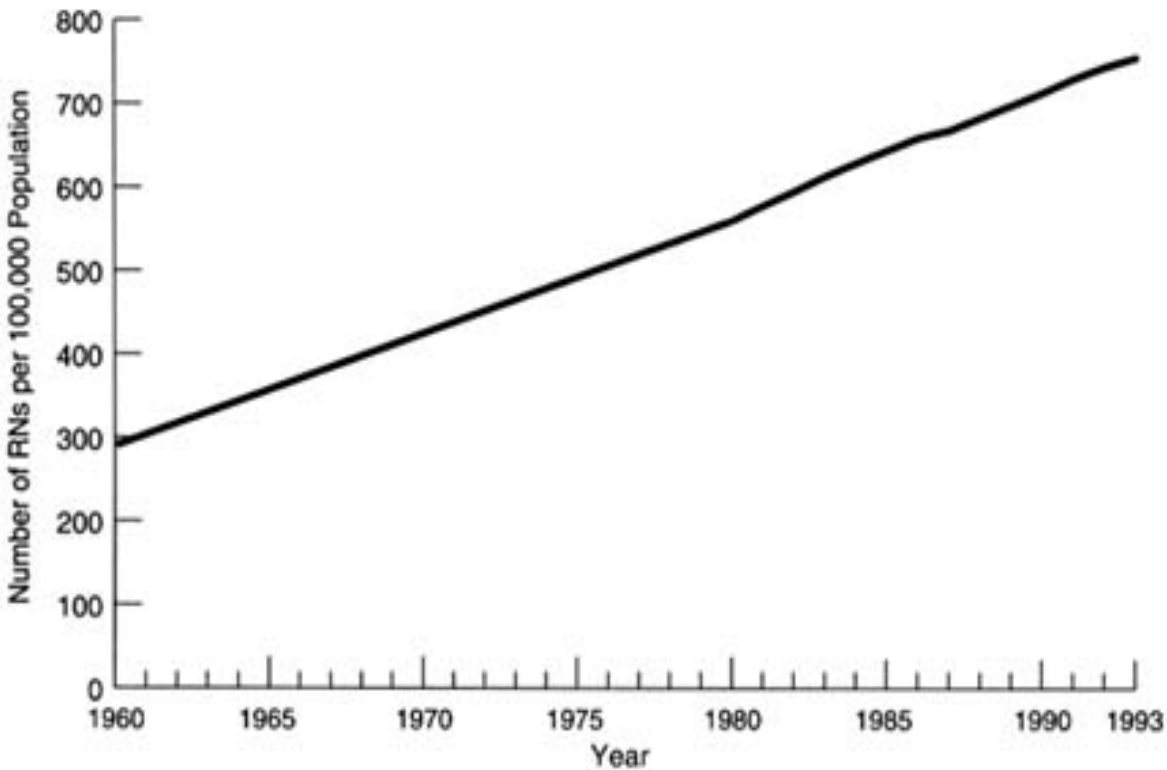
The crisis is believed to have originated in the early to mid 1990’s, when turnover rates for RN’s and

810,000 by 2020 (Yett, 1970). The current shortage, therefore, is within the range of historical trends, while the projected shortfall is much larger even if one accounts for the tripling of the U.S. population between 1940 (Yett’s starting point) and 2020.

Due to its size, population, and worker density, the State of Rhode Island enjoys a better supply of

**FIGURE 1**  
Estimated active supply of registered nurses (RN) per 100,000 population, United States, 1960–1993. SOURCE: OASH, 1994

### Nursing Personnel in a Time of Change



LPN’s began to rise dramatically. “Nationally in 1998, an estimated 21 percent of all acute care hospital nurses left the position in which they were working” (NAS/IOM, 2004). For the sake of comparison only, the turnover rate in long term care settings is said to be as high as 30 percent.

In a paper delivered in 1968, Yett (1970) wrote: “For years there have been complaints of a shortage of professional nurses”. He remarked that shortages of between 50,000 and 200,000 nurses were reported in the middle decades of the twentieth century.

To date, the current nationwide shortage of nurses is approximately 110,000 and will rise to 150,000 by 2005, 275,000 by 2010, 500,000 by 2015, and

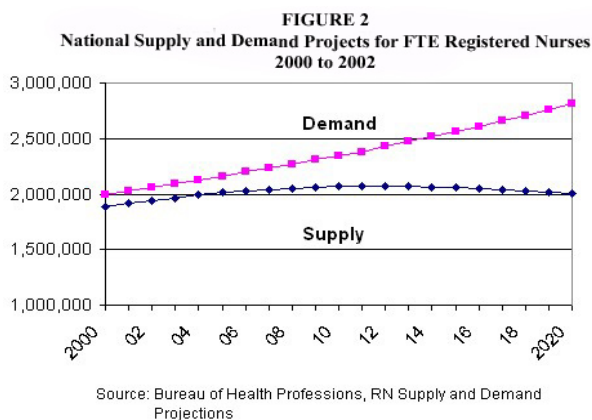
RN’s, Nurse Practitioners, Nurse Anesthetists, and Nurse Midwives per 100,000 population than the national average. However, for the sake of comparison, the supply of Licensed Practical Nurses (LPN’s) in RI falls below the national average (see HRSA, 2001 Survey of States for RI on p.4) (Matrone et.al., 2002).

### **Why Is The Elimination Of The Nursing Shortage Vital?**

The elimination of the nursing shortage is of paramount importance. It goes without saying that ignorance of the shortage will only exacerbate the situation. Various studies and data collection have shown that the shortage has forced high patient-to-

nurse staffing ratios, which further complicates the crisis by creating burnout and job dissatisfaction.

**Evidence of adverse patient outcomes.** The *Joint Commission on the Accreditation of Healthcare Organizations* (JCAHO) is the preeminent credentialing overseer of all healthcare organizations in the U.S. In 2001, JCAHO launched quarterly roundtable discussions based upon compiled statistics from its inspection database in 2000. Thirty invited roundtable participants were selected from a pool of nationally recognized professionals from areas such as nursing, medicine, surgery, psychiatry, social science, and labor relations (Bonifazi, 2003; Steefel, 2002)



**Fatigued and exhausted nurses.** Subsequently in 2002, the panel published a report entitled the *JCAHO Whitepaper*, essentially declaring that the lack of nurses contributed to nearly a quarter of the unanticipated problems that result in injury or death to hospital patients. The JCAHO report also found that the shortage of nurses might be linked to unrealistic workloads. In addition, the publication made suggested recommendations aimed at curbing the nursing shortage. (JCAHO, 2002) (Steefel, 2002).

Given the extent of methods and data sources, both the Aiken and JCAHO studies, taken together,


provide a strong evidence base that there is an association between nurse staffing and adverse patient outcomes (Needleman et.al., 2003).

In January, 2004, a study conducted by the *National Academy of Sciences Institute of Medicine* (NAS/IOM) warned that nurse fatigue was a significant threat to patient safety. The report made recommendations in many areas, noting that fatigue slowed reaction time, impaired judgment, and made nurses more prone to errors, particularly in critical care areas of hospitals such as intensive care units (ICU's), coronary care units (CCU's), and emergency departments (ED's). The IOM issued a recommendation that nurses be prohibited from working more than 12 hours in a 24-hour cycle, or more than 60 hours per week (NAS/IOM, 2004) (AP Wire, 2003).


Comparatively speaking, from the perception of national public safety, the risk of dying as a result of a medical error far surpasses the risk of dying in an airline accident. The problem remains that a great deal more public attention has been focused on improving safety in the airline industry than in the health care industry.

The likelihood of dying in a domestic jet flight is estimated at one in eight million. The media spotlights the safety of the airline and nuclear waste industries due to their inherent public exposure. The impact of anecdotal information on safety may also be less effective in health care in light of the realization that a single airline or nuclear disaster involves hundreds of victims at a time (NAS/IOM, 2000). Patient safety is often times hindered through the liability system and the threat of malpractice, which discourages the disclosure of errors.

In most health care organizations, particularly in the hospital setting, most errors and safety issues go undetected and unreported, both externally and internally (NAS/IOM, 2000).



STATE HEALTH  
WORKFORCE PROFILES  
*Highlights*



---

**Nursing**

- ✓ There were nearly 13,000 licensed registered nurses (RNs) in Rhode Island in 1996; over 11,000 were employed in nursing. There were 1,126.6 RNs per 100,000 population in Rhode Island in 1996, significantly more than the national average of 798.
- ✓ Rhode Island ranked 28th among the states in the per capita employment of Licensed Practical/Vocational Nurses (LPNs), with 244 LPNs per 100,000 population as compared to the national rate of 249.3 per 100,000. Rhode Island ranked 41st in the number of LPNs employed in 1998 with 2,410.
- ✓ There were nearly 300 nurse practitioners in Rhode Island in 1998. This was equal to 30.3 nurse practitioners per 100,000 population, slightly higher than the national average of 26.3.
- ✓ With 46 certified nurse midwives in 2000, Rhode Island had 4.6 certified nurse midwives per 100,000 population, well above the national average of 2.1. Rhode Island had one of the highest ratios of certified nurse midwives per capita in the nation.
- ✓ With more than 120 certified registered nurse anesthetists in 1997, Rhode Island had 12.3 nurse anesthetists per 100,000 population, higher than the national average of 8.6. (HRSA, 2001)

From September 10 thru September 12, 1995, *The Chicago Tribune* newspaper published a three-part series linking nursing errors to short staffing and exhaustion. Part one, “Nursing mistakes kill, injure thousands”, focused on a *Tribune* investigation that found that since 1995, at least 1,720 hospital patients had been accidentally killed, and 9,584 others injured from the actions or inaction of RN’s across the country (ANA, 2000).

Part two, “Nursing accidents unleash silent killer”, looked at how the misuse of medical infusion pumps from nurse exhaustion led to deaths, while part three, “Problem nurses escape punishment”, looked at what *The Tribune* characterized as a lack of disciplinary oversight over “impaired” nurses. An ensuing editorial on September 12, 1995, “Danger: Overwhelmed Nurses”, talked about the implication of quality nursing and stated that nurses nationwide are

often the victims of understaffing (ANA, 2000) (CNN, 2000).

**Overtime is dangerous and should never be mandated.** Most nurses in the U.S. work 8 to 12 hour shifts, with mandatory overtime common because of nursing shortages at most hospitals. In addition to interfering with decision-making, fatigue could potentially affect the physical well being of nurses. Although steps can be taken to manage some of the symptoms of fatigue, it is common knowledge that the only true treatment is sufficient sleep, which often clashes with a nurse’s acceptance of mandatory overtime (Frank, 2004).

Having no time to recover from workplace stress can lead to human error relatively easy.

“Going 18 hours without sleep impairs the cognitive ability of a nurse the same as a blood alcohol level (BAL) of 0.05”. “At 22 hours of no sleep, a

nurse's impairment can be likened to a BAL of 0.08", according to Bill Sirois, senior vice president for Circadian Technologies, a firm that helps hospitals and other businesses design creative scheduling for their staffs (Farella, 2001).

To date, it is noteworthy to mention that the latter BAL measurement of 0.08 is considered to be an illegality as well as an impairment to operate a motor vehicle in 49 states throughout the U.S. as well as in most countries in Europe. The only U.S. exception is Massachusetts, where 0.08 remains impaired but not illegal.

**FIGURE 4**

STAFFING LEVELS AND IMPACT ON QUALITY OF CARE					
PROPORTIONS RATING STAFFING LEVELS AS HAVING NEGATIVE IMPACT					
	All Nurses %	Med-Surg Nurses With More Than 6 Patients %	Med-Surg Nurses With 6 Patients Or Fewer %	Responsible For More Patients Than Should Be %	Responsible For Right Number Or Fewer Patients %
Very negative	20	22	12	23	10
Somewhat negative	39	45	40	43	31
Total Negative Impact	59	67	52	66	41

Overwhelmingly, hospital nurses support staffing ratio legislation.

Peter D. Hart Research Associates, Inc.

Incidentally, I can readily recall more than one circumstance in my career where I felt physically and emotionally depleted following a consecutive 16-hour shift, as a result of forced overtime. My place of employment in Woonsocket, RI is 58 miles from my residence in Westerly, RI., and I have fortunately caught myself on occasion practically "falling asleep at the wheel" following a mandatory overtime shift.

Then again, I had no idea that this overpowering feeling of exhaustion was likened in comparison to an illegal BAL of 0.08, particularly in light of the fact that I was driving an hour to get home. I am certain that several other people who commute in many occupations faced this experience, and unfortunately for some, their ensuing death is a very high price to pay.

Minimum and safe patient-to-nurse staffing ratios. In 2003, the American Federation of Teachers (AFT) Healthcare Division commissioned Peter D. Hart Research Associates, Inc., to organize a study among hospital nurses who currently provide direct patient care, to examine their perspectives on nurse

staffing levels in hospitals. Distinctively, the study was designed to measure average patient-to-nurse staffing ratios among hospital nurses, and to observe the extent to which hospital nurses perceive problems relating to understaffing in their hospitals.

The methodology used in the study entitled, *Patient-To-Nurse Staffing Ratios: Perspectives From Hospital Nurses*, was a national telephone survey conducted from March 27 through March 31, 2003, between 601 RN's who provided direct patient care in the surgical, medical-surgical, and emergency units of their respective facilities (Hart et.al., 2003).

The Hart study basically reinforced the Aiken study of 2002, in that it confirmed the fact that widened patient-to-nurse staffing ratios are associated with higher mortality rates, greater incidences of medical complications and errors, lower job satisfaction, and more burnout among nurses.

For example, 3 of 5 hospital nurses (59 percent) said that the staffing level at their hospital is having a negative impact on the quality of care that their patients receive (Refer to FIGURE 4).

**Safe patient-to-nurse ratio legislation.** The figure on page 18 shows that 4 of 5 (82 percent) of hospital nurses support legislation that would establish a maximum of patients that nurses can care for at one time. The study displayed that 57 percent strongly favor legislation, 25 percent somewhat favor legislation, and only 13 percent oppose legislation. (Hart et.al., 2003).

Interestingly enough, the Hart survey also revealed that if such legislation was passed, 80 percent of medical-surgical nurses agree that the maximum patient-to-nurse ratio should be 5:1 or lower. This response was equally shared among surgical nurses (84 percent) and emergency department nurses (84 percent). Intensive care unit (ICU) and coronary care unit nurses are not usually included in any patient-to-nurse studies because they customarily have in house mandates that require no more than 2:1 ratios, and more frequently 1:1.

Additionally, the legislative proposal offered by the Hart study enjoyed powerful support from nurses throughout the country, and I was fortunate enough to be randomly selected.

The Northeast showed 86 percent, the South (80 percent), the Midwest (75 percent), and the West (84 percent). Both the Aiken and Hart studies were extremely comprehensive, and in order to ascertain the total effect of their efforts, one would have to read and digest the findings of their data in great detail. It

is for this reason that I have decided to include the most striking and relevant points of their research.

In 1999, the California legislature, required the state Department of Health Services to establish minimal patient-to-nurse staffing ratios according to licensed nurse classification and hospital units. This action was prompted by concern about the effects of decreased levels of staffing by nurses on the quality

lobbied against the legislation, but merely won a postponement in the enactment of the law to January 1, 2004 in order to buy time for compliance. In short, the CNA advocated a minimal 3:1 ratio for all medical-surgical units while the CHA supported a 10:1 ratio. Consequently, the newly passed legislation finalized the minimal staffing ratios for California as featured on the table below: (Steinbrook, 2002) (ENA, 2003, 2004).

This legislation is also serving as a national benchmark for many other states nationwide that are considering the pursuit of similar agendas. The Massachusetts legislature presently has House bill # H.1282 – the Quality Patient Care/Safe RN Staffing legislation pending in the Joint Committee on Health Care (MNA, 2004).

The American Nurses Association (ANA) is the predominant advocacy group of our country’s 2.6 million nurses. During the past decade, constituent member organizations (CMA’s) of the ANA have implemented a nationwide state regulatory agenda centering on issues affecting RN staffing at hospitals and other health care facilities.

A unique characteristic of the ANA is the strength of its CMA legislative programs. No other nursing organization has the political influence that member nurse associations have in the state legislative arenas, nor the structure that is provided by the presence of a nurses’ association in every state (Foley, 2001). By working collaboratively on the nationwide state legislative schema, the ANA and the CMA’s have not only increased the public’s and state legislator’s awareness of the issues surrounding the nursing crisis, but have also provided the leadership in presenting bona fide legislative solutions.

In 2001, with respect to “no mandatory overtime”, legislation prohibiting such language has been introduced in the States of California, Connecticut, Hawaii, Illinois, Maine, Maryland, Minnesota, New Jersey, New York, Ohio, Oregon, Rhode Island, Washington, and West Virginia. In Rhode Island, this legislation “died in committee” during the 2002 legislative session, and has yet to be reintroduced in the current session.

Nurses also want to be free to report unsafe conditions at their respective facilities to appropriate agencies without fear of reprisal by their employers. Such “whistleblower protection” legislation has been introduced in Hawaii, Illinois, New York, Oregon, Rhode Island, and West Virginia. This law was overwhelmingly passed and enacted into law in Rhode

**FIGURE 5**  
**California RN to Patient Staffing Ratios**

<i>Type of Care</i>	<i>RN to Patients</i>
Intensive/Critical Care	1: 2
Neo-natal Intensive Care	1: 2
Operating Room	1: 1
Post-anesthesia Recovery	1: 2
Labor and Delivery	1: 2
Antepartum	1: 4
Postpartum couplets	1: 4
Postpartum women only	1: 6
Pediatrics	1: 4
Emergency Room	1: 4
ICU Patients in the ER	1: 2
Trauma Patients in the ER	1: 1
Step Down, Initial	1: 4
Step Down, 2008	1: 3
Telemetry, Initial	1: 5
Telemetry, 2008	1: 4
Medical/Surgical, Initial	1: 6
Medical/Surgical, 2008	1: 5
Other Specialty Care, Initial	1: 5
Other Specialty Care, 2008	1: 4
Psychiatric	1: 6

*Source: California Nurses Association*

of care.

In 2002, the formal legislative act known as the California Safe Staffing and Quality Care Act was passed as the first of its kind in the country, which would be enacted on July 1, 2003 (Steinbrook, 2002).

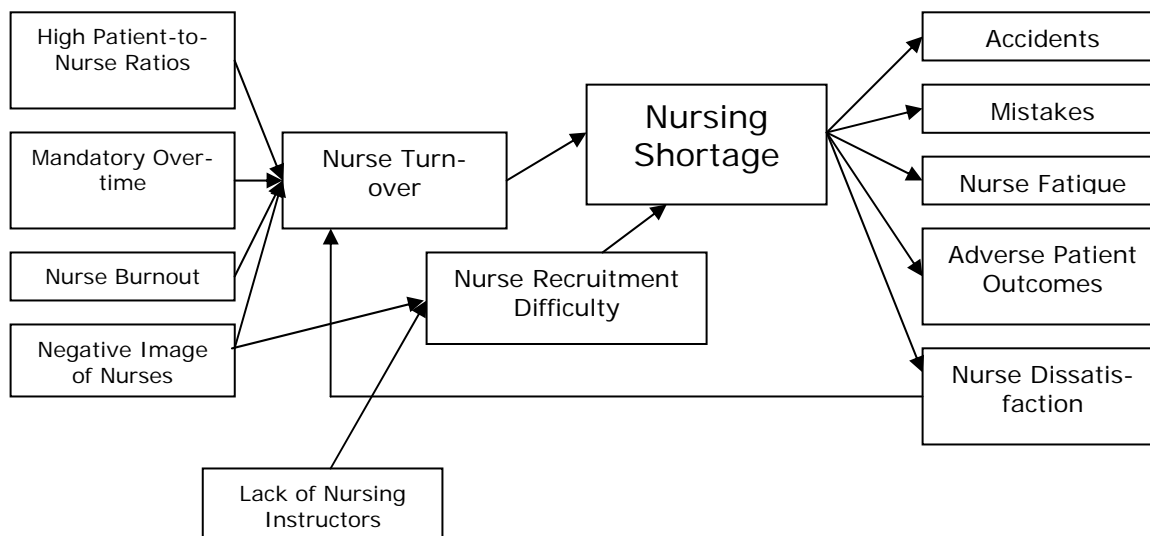
Leading up to this legislation were bitter disputes waged between the California Nurses Association (CNA), the statewide nurses union, and the California Healthcare Association (CHA), the statewide hospital representative. The (CHA) vehemently opposed and

Island during the end of the 2002 session (Foley, 2001).

But some nursing experts say that efforts to recruit nurses outside of the U.S. are leaving a bad taste in the mouths of some countries, especially those that

So, many hospitals are turning to strategies such as sign-on bonuses, radio and newspaper advertisements, job fairs, high school visitations, highway billboards, and creative scheduling to accommodate young mothers and seasoned nurses (Goodwin, 2002).

**FIGURE 6**  
Causes and Consequences of the Nursing Shortage



are already hard-pressed to keep vital health care workers to provide adequate medical care to their own citizens.

I engaged in a personal interview with Ms. Jan Mola, MSN, RN, Chief Recruitment and Retention Officer at Norwalk Hospital in Norwalk, CT. She informed me that despite exhausting numerous ways to attract more nurses to her facility, she recently recruited 46 nurses from India. These foreign-born nurse recruits are scheduled to start their employment at Norwalk Hospital on March 15, 2004 (Mola et al., 2004). Aside from India, nurses are routinely recruited from Canada and the United Kingdom, but in recent years more nurses have come from the Philippines and South Africa, where the supply of nurses is already vastly depleted. The ANA calls this recruitment strategy “short-sighted”, and discourages its practice altogether. In numerous U.S. health care institutions, foreign recruitment is now seen as a means to address the shortage. America’s health care leaders have instituted managed-care systems that are supposed to solve the problem by utilizing fewer nurses, and it seems rather apparent that neither of these approaches is working.

### THE CAUSES LEADING UP TO THE NURSING SHORTAGE

The shortage has produced a revolving cycle of mandatory overtime leading to overworked and overburdened nurses who are fatigued and more prone to committing medical errors, which is further complicated by increased patient morbidity and mortality. These cyclical events profoundly affect patient safety, endanger the reputation of all nurses, and ultimately compromise the entire national health care delivery system. The following sections describe the model presented in FIGURE 6.

#### What Are The Primary Contributing Factors To The Nursing Shortage?

In the undertaking of the bulk of my research, I discovered that high patient-to-nurse ratios resulting in nurse fatigue, burnout, job discontent, diminished patient safety, and the perception of nurses are all part of a vicious cycle that compromise the overall health care delivery system. These are primarily some of the major contributing factors to the nursing shortage.



**Job burnout, dissatisfaction, and high patient-to nurse ratios.** In 2002, Linda H. Aiken, Ph.D, RN conducted a well renowned, comprehensive study in concert with the *Journal of the American Medical Association*. The study used cross-sectional analyses of linked data from 10,184 staff RN’s, 232,343 general, orthopedic, and vascular surgery patients discharged from April 1, 1998 to November 30, 1999, and administrative data from 168 nonfederal adult

Specifically, adjustments were made for patient and hospital characteristics (size, teaching status, and technology).

“Each additional patient per nurse (over 4) was associated with a 7 percent increase in the likelihood of dying within 30 days of admission, and a 7 percent increase in the odds of failure-to-rescue”. “Therefore, patients in hospitals with the highest (8:1) patient-to-nurse ratio have a 31 percent greater risk of dying than those in hospitals with a low (4:1) patient-to-nurse ratio” (Aiken et.al., 2002, p. 1991).

According to Aiken, “nurses no longer have control over things that are required to provide good patient care”. Nonetheless, nurses are still held accountable for the health and welfare of their patients. However, once again citing Aiken’s study, most physicians acknowledge that inadequate nurse staffing levels are a major impediment to the provision of high quality hospital care. Nurses throughout the U.S. consistently report that hospital nurse staffing levels are definitely insufficient to provide safe and effective care (Aiken et.al., 2002).

When projecting all of Aiken’s Pennsylvania data on a national scale, it has been predicted that staffing differences of this magnitude could result in as many as 20,000 unnecessary deaths each year (Curtin et.al., 1999) (AP Wire, 2002).

**Perception and image of nurses.** Personally, I can attest to the reality that physicians and hospital administrators often treat RN’s as workers, and not as clinicians or peers. Whenever possible, hospital officials seek to replace RN’s with less skilled and cheaper personnel, such as LPN’s and NA’s. This is in no way meant to imply that LPN’s and NA’s are not valuable, but their presence enhances the role of the RN, and has a particular place within the health care system.

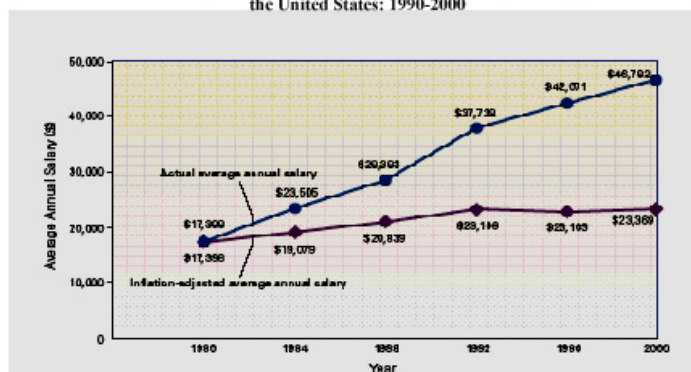
But prior to elaborating on other primary factors, I wish to further explore patient safety, as well as mandatory overtime and current patient-to-nurse ratio legislation.

**What Are the Secondary Contributing Factors to the Nursing Shortage?**

Throughout my research journey, I discovered additional essential causes that distinctly contributed to the nursing shortage. Factors like declining nursing school enrollments, inadequate recruitment and retention strategies, wages inconsistent with market demand, increased average nurse’s age over the past

FIGURE 7

Actual and Inflation-Adjusted Average Annual Salaries of Full-Time Registered Nurses in the United States: 1990-2000



Source: New England Journal of Medicine, Vol. 346, No. 22 - May 30, 2002

general hospitals in Pennsylvania (Aiken et.al., 2002).

The results of the study indicated that after adjusting for nurse and hospital characteristics (size, teaching status, and technology), “each additional patient per nurse (over 4) was associated with a 23 percent increase in the odds of burnout and a 15 percent increase in the odds of job dissatisfaction”.

The evidence of the study also pointed out that “nurses in hospitals with 8:1 patient-to-nurse ratios would be 2.29 times as likely as nurses with 4:1 patient-to-nurse ratios to show high emotional and physical exhaustion, and 1.75 times as likely to be dissatisfied with their jobs” (Aiken et.al., 2002).

Aiken’s data also indicated that, “although 43 percent of nurses who reported high burnout and were dissatisfied with their jobs intend to leave their current job within the next 12 months, only 11 percent of the nurses who are not burned out and who remained satisfied with their jobs intend to leave” (Aiken, et.al., 2002).

**Correlation of high patient-to-nurse ratios to patient safety.** Insofar as patient safety is concerned, Aiken’s study also illustrated that in hospitals with high patient-to-nurse ratios (> 4:1), surgical patients experienced higher risk-adjusted 30-day mortality and failure-to-rescue (deaths following complications).

decade, and ill-prepared graduate nurses have also played a major role in the predicament.

**Declining nursing school enrollments.** Nursing schools are reporting a decline in student enrollment that accordingly translates into fewer nurses in the educational pipeline. According to a 2003 survey by the American Association of Colleges of Nursing (AACN), enrollment in entry-level baccalaureate nursing programs (BSN's) increased by 8 percent nationwide since 2001.

Despite this increase, enrollment remains down by almost 10 percent from 1995. On average over the last five years, the number of graduates from entry-level baccalaureate nursing programs diminished by 1,030 students each year (AACN, 2003).

**Insufficient pool of nursing school instructors.** Notably, nursing school enrollments are also down because many nursing schools in the country are experiencing waiting lists at the entry-level associate in nursing (ADN) or baccalaureate (BSN) levels for as long as two to three years. In Rhode Island, for example, the Community College of RI has a two-year waiting list, and has for several years. The key reason behind this is because of the lack of availability of nursing instructors, another evolving crisis.

The fact that the shortage of nursing school faculty is restricting nursing program enrollments can be logically explained. All nursing school faculty requirements mandate at least a Master's of Science in Nursing (MSN). However, the available pool of Master's prepared nurses have come to realize that it is far more lucrative to enter the clinical sector of nursing as Nurse Practitioners, Nurse Midwives, and Nurse Anesthetists. After polling all fifty states, the AACN also discovered that annual wage disparities between nurse instructors and nurse clinicians were as much as \$30,000 per year (AACN, 2003).

**Inadequate recruitment and retention strategies.** *The Atlanta Business Chronicle* published an article in 2003 basically saying that despite a steady flow of workplace improvement plans and lucrative bonus incentives, many Georgia hospitals as well as hospitals around the country, are still facing a growing shortage of nurses. Although recruitment and retention programs have shown promise, most hospitals are finding that some efforts to dim the vacancy sign could backfire as the shortage worsens (Bryant, 2003).

In 2003, the Johnson & Johnson Company launched a national corporate media blitz entitled, *Be*

*A Nurse*, in an effort to lure more people into the profession of nursing.

Hospitals have been busy by struggling to search for new and more compelling ways to attract men and women into the profession and keeping them there, even if it means traveling to foreign lands to get them.

The one thing that is not mentioned that an economist knows will resolve the inequality between the supply and demand is to raise nurses' salaries, which is inevitably a "bone of contention" taking place presently in many unionized as well as non-unionized hospitals throughout the country.

**Increase in average nurse's age over the past decade.** Another factor that my research reflected to influence the current nursing shortage is the increase in the average nurse's age over the past 10 years. Another widespread ANA national survey (refer to graph on page 10) was undertaken in 2001, where it was found that of the 7,299 RN respondents polled, 43.4 percent ranged in age between 41 and 50 years old, and 22.5 percent were 51 to 60 years old, indicating that the majority of the respondents (65.9 percent) will likely retire within the decade (ANA, 2001) (Steeffel, 2003).

**Wages inconsistent with market demand.** Bearing in mind that nursing wages finally escalated dramatically from 1980 to 2000, they certainly have not kept up with the market demand for nurses since the shortage began a decade ago. In recent years, wages for RN's have been relatively flat as compared with the rate of inflation (refer to FIGURE 7 on page 8).

In 2000, the average annual salary of a registered nurse employed full-time was \$46,782. Between 1980 and 1992, real annual salaries for registered nurses increased by nearly \$6,000. Between 1992 and 2000, however, they increased by only about \$200 (Steinbrook, 2002).

These older nurse demographic results are reinforced by a study completed by Peter Buerhaus of Vanderbilt University School of Nursing, and published in the June 14, 2000 issue of the *Journal of the American Medical Association* (JAMA) (Buerhaus et.al., 2000). The study revealed that the bulk of the nation's nursing workforce is aging significantly, with the number of full time equivalent RN's per capita forecasted to fall 20 percent below demand by 2010, which was previously corroborated in the Aiken study stated on page 8.

**Improperly trained graduate nurses.** After informally speaking to some of my nursing colleagues over age 50, they share a common perception that

many of today’s younger nurses are not psychologically, socially, or clinically prepared, but are so theoretically. I have found that as a nursing preceptor, many young and inexperienced nurses enter the arena of nursing with false expectations. In nursing school, students are not informed of the taxing workload, the work environment, the lack of appreciation by patients, family, and other medical colleagues, the staffing, and the lack of retention incentives.

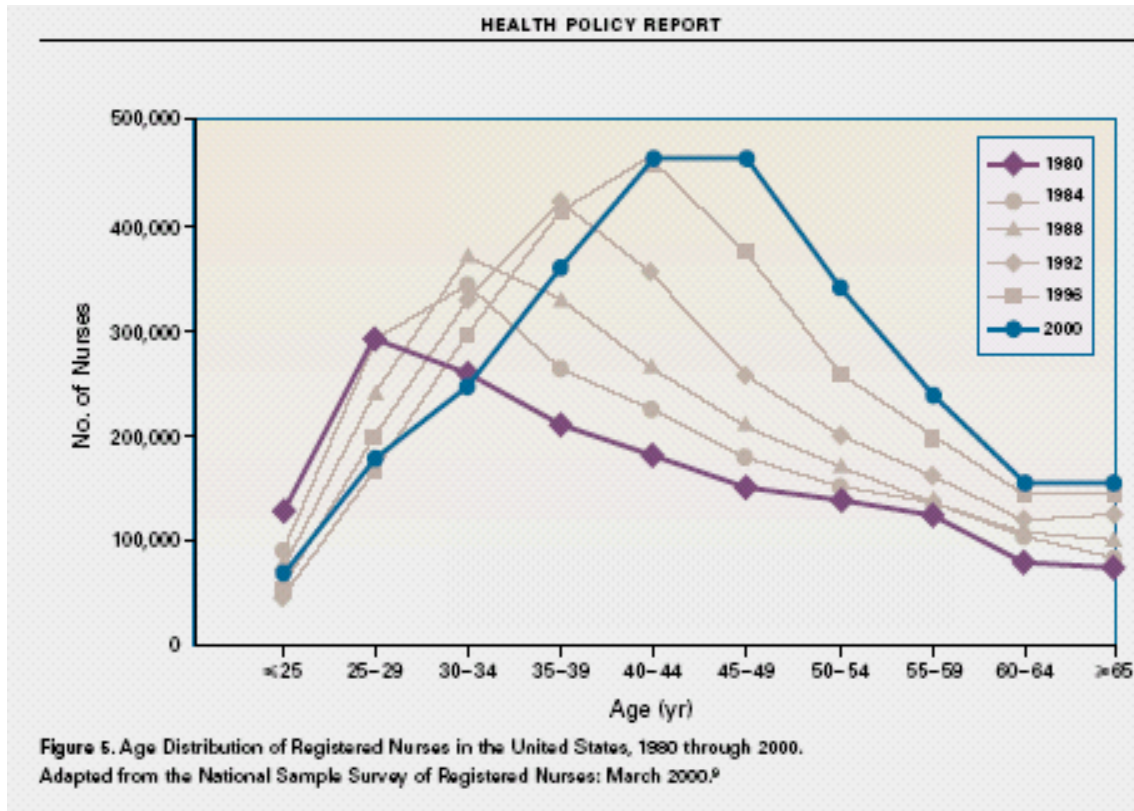
In her book entitled, *Reality Shock: Why Nurses Leave Nursing*, Marlene Kramer describes it so well by echoing, “new graduates can analyze and synthesize, but can’t catheterize”.

She also stresses throughout the book that “the phenomenon of reality shock is the work situation perceived, experienced, and shared by groups of nurses” in opposition to the social reality that they actually encounter in the profession (Kramer, 1974).

as today’s, was far more extensive in terms of actual clinical time and direct patient care.

### SUGGESTED SOLUTIONS TO ELIMINATE THE NURSING SHORTAGE

There are two sides to every debate, and in the Commonwealth of Massachusetts, House Bill 1282 is no exception. There are passionate views held by both proponents and opponents of this legislation entitled, Quality Patient Care and Safe RN Staffing Act, that would establish minimum patient-to-nurse ratios in all Massachusetts hospitals. The Massachusetts Organization of Nurse Executives (MONE) agrees that sufficient staff is needed for safe patient care, but does not feel that legislated ratio mandates is the solution to achieve that goal. MONE believes that the current system of individual hospitals deciding on their own staffing needs should remain in place. Conversely, the



In our modern nursing society, the principal theme from Kramer’s publication could not be more appropriate or closer to the truth.

Those who have read the book, inclusive of myself and many of my emergency RN colleagues, agree that our training was more immersed in reality, and that our clinical training, although not as “high tech”

Massachusetts Nursing Association, the statewide nursing union representative, holds the position that the current system is not working, antiquated, and has significantly contributed to the crisis (Borgatti, 2003).

## **What Are Some Of The Suggested Solutions To Eliminate The Nursing Shortage?**

**Pass national legislation to create minimum patient-to-nurse staffing ratios.** I believe that this will work based upon the evidence that I have observed in California, the first state in the country to pass this legislation. This is an alternative to a failed and antiquated system that can no longer be trusted to individual hospitals. A national law would eliminate a great deal of “red tape” by not requiring individual states to do so, and would assure consistency of a standard. I concur with the MNA on this issue based on my personal experience. Currently, there are two bills under consideration in the federal legislature.

**Eliminate mandatory overtime by improving recruitment and retention brainstorming strategies.** A creative solution that the Ohio Valley General Hospital in Pittsburgh, for example, is giving full \$19,500 scholarships to all students accepted into its four-year School of Nursing (BSN), plus a job at the hospital or two other affiliated institutions upon graduation. At the University of Pittsburgh Medical Center (UPMC), the administration is paying up to \$85,000 annually for a staff nurse, depending on experience and education level. Just outside of Philadelphia, Main Line Health started \$25,000 bonus payments as of June, 2001 to nurses who signed commitments last summer to remain with the system for three years (Robinet, 2002)

During a two-day conference in June, 2002, an 80-member association of RI teachers, nurses, and nursing instructors called, Colleagues in Care Rhode Island (CIC-RI) showcased recruitment strategies for nurses through a program entitled, *Tomorrow's Heroes*. As a result of this program, enrollment in RI's nursing schools in the fall semester of 2002 climbed for the first time in five years (Matrone et.al., 2002). At Mount Wachusett Community College (MWCC) in Gardner, Massachusetts, the Nursing and Health Care Academy (NHCA) was developed as a collaborative effort with local high schools.

This program was established to encourage the recruitment of high school students into the profession of nursing by allowing them to take anatomy and physiology classes at MWCC.

A pre-nursing program is also in the infancy stages at MWCC for high school students who maintain a certain GPA (Knight, 2000).

**Restructure the work environment.** The current workplace environment is often times are not a

pleasant one and morale is low due to many of the aforementioned causes of the nursing shortage. If that climate remains, management must find ways not only to welcome new people, but to invigorate the current staff by using simple steps like a manager bringing in bagels, having a “special scrub” day (e.g. Hawaiian or Caribbean scrub tops), nurse of the month presentations, etc. There are also many social events like athletic and theatre events that can build employee cohesiveness and develop common goals for an already stressed nursing staff. Administrators should make an effort to create a culture of satisfaction that can produce retention and give nurses independence and support to do their work.

### **Enhancement of salary, hours, and benefits.**

As was previously illustrated on page 8, the *New England Journal of Medicine*, wages for RN's have been relatively flat in comparison with the rate of inflation. Non-union hospitals are not bound by any collective bargaining agreements, and often offer minimal wage increases based on merit systems. Many hospitals do not even offer professional compensation for mandatory licensure, tuition, membership for non-union organizations, professional certifications (aside from licensure), or journal subscriptions by means of employee reimbursement.

These examples, together with market demand pay raises, gain sharing, and periodic incentive pay awards must be considered by all hospital administrators if the nursing crisis is to be mitigated. Flexible hours that will accommodate young mothers and older nurses (e.g. four hour shifts) are a resourceful means to keep the nursing staff satisfied. Bearing in mind that hospital nurses engage in hazardous duties with reference to contamination by blood borne pathogen exposure, they should be entitled to the finest health care package available to and at no cost to them (McDonald, 2004).

**Welcome foreign nurses.** Earlier, I mentioned Jan Mola's position on her recruitment of 46 RN's from India (Mola et.al., 2004). My particular employer has recently recruited 15 RN's from the Philippines, and the United Kingdom, South Africa, and Canada are also prime enlistment countries. All of these countries are sought out in particular due to their high commitment to quality education and readily available collection of valued RN's. Foreign-born RN's have also proven to become outstanding mentors to speak and advise in their communities, churches, and associations (Farella, 2001) (Fowler, 2003).

**Institute incentives to train and retain nursing instructors.** As discussed earlier, Master's prepared nursing instructors are paid as far less as \$30,000 annually than their clinician counterparts. Therefore, wage and benefit parity must be introduced into nursing academia in a manner to diminish nursing school waiting lists, enhance nursing school enrollments, and alleviate an evolving shortage of nursing instructors. It is rather apparent that this problem is self-perpetuating, and can no longer be ignored (McDonald, 2004).

## REFERENCES

- Aiken, L.H., et al., *Hospital Staffing and Patient Mortality, Nurse Burnout, and Job Dissatisfaction*. Journal of the American Medical Association. October 23/30, 2002. 288(16): 1987-1993.
- American Association of Colleges of Nursing (AACN), *Nursing Shortage Fact Sheet*. April 21, 2003: 1-5.
- American Nurses Association (ANA), *Chicago Tribune links short staffing, errors*, in *The Chicago Tribune*. October 6, 2000: 1-2.
- American Nurses Association (ANA), *Nurses Concerned over Working Conditions, Decline In Quality Of Care, ANA Survey Reveals*, in *Nursing World*. February 6, 2001: 1-5.
- Associated Press Wire, *Death rate rises when nurses carry big caseload*, in *The Providence Journal*. October 23, 2002: 4.
- Associated Press Wire, *Nurses Long Hours Endanger Patient Health, study says*, in *St. Petersburg Times*. November 5, 2003: 1-2.
- Baker, D., *Statement for the Committee on Energy and Commerce Subcommittee on Health on Authorizing Safety Net Public Health Programs: Nursing Shortages*, Testimony. American Nurses Association Editor, in *Nursing World*. August 1, 2001: 1-5.
- Bodah, M. and M.A. Ali, *A short note on the "non-economics" literature concerning the nursing shortage*. Appendix B, 2003: B-1 to B-13.
- Bonifazi, W., *From Grass Roots to Global: Stemming the Nursing Shortage*, in *Nursing Spectrum*. November 3, 2003. 7(22NE): 6-8.
- Borgatti, J., *Are Safe Staffing Ratios the Answer?*, in *Nursing Spectrum*. July 28, 2003. 7(15NE): 8-10.
- Bryant, J., *No cure for the nursing shortage*, in *Atlanta Business Chronicle*. August 25, 2003: 1-3.
- Buerhaus, P., D.O. Steiger, D.I. Auerbach, *Implications of an Aging Registered Nurse Workforce*, in *Journal of the American Medical Association (JAMA)*. 283(22). June 14, 2000: 2948-2954.
- CNN, *Your health: Medical errors linked to nurses*. September 15, 2000: www.cnn.com.
- Curtin, L., J. Dinemann, and C. Kovner, *Principles for Nurse Staffing: A Policy Statement*, in *Nursing World*. November 24, 1999: 1-8.
- Emergency Nurses Association (ENA), *Position Statement on Staffing and Productivity in the Emergency Care Setting*. June 8, 2003: 1-3.
- Emergency Nurses Association (ENA), *California suit filed over staffing law*, in *ENA Connection*. March 22, 2004: p.1.
- Emergency Nurses Association (ENA), *California Mandatory Nurse Staffing Ratios Finalized*, in *ENA Connection*. September 19, 2003: p.2.
- Farella, C., *Shortage Solutions Become a Capitol Idea*, in *Nursing Spectrum*. October 22, 2001. 5(21NE): 20-22.
- Farella, C., *10 Ways to Nix the Nursing Shortage: Nursing Spectrum Asked You How to Save Our Profession*, in *Nursing Spectrum*. March 5, 2001. 5(5NE): 8-11.
- Foley, M., *2001 Legislation: Nationwide State Legislation Agenda on Nurse Staffing*, in *Nursing World*. March 31, 2001: 1-2.
- Fowler, M., *Treating the Nursing Shortage*, in *Dayton Business Journal*, September 19, 2003: 1-4.

- Frank, A., *Nurses Study Shows Fatigue Leads To Errors, Recommends No More than 12-Hour Shifts*. www.merginet.com. January 11, 2004: p. 1.
- General Accounting Office (GAO), *Anecdotal evidence supports mounting nurse shortage; more data needed to quantify claims*. June 27, 2001: 1-2
- Goodwin, N.R., *Is nursing shortage a democracy crisis?*, in *The Providence Journal*. August 30, 2002: p. B-2.
- Hart, P.D., *Patient - To - Nurse Staffing Ratios: Perspectives From Hospital Nurses*. A Research Study on behalf of AFT Health Care. Omaha, Nebraska: April 6, 2003: 1-31.
- Health Resources and Services Administration (HRSA). *State Health Workforce Profiles (Highlights)*. 2003: ww.bhpr.hrsa.gov/healthworkforce/profiles/default.htm.
- Id. 2002. *Projected Supply, Demand, and Shortages of Registered Nurses: 2000-2002*: Washington, D.C. HRSA.
- Joint Commission on the Accreditation of Healthcare Organizations (JCAHO), *Health Care at the Crossroads: Strategies for Addressing the Evolving Nursing Crisis*. 2002: 1-45.
- Knight, K., *The Nursing Shortage: Offering a Local Solution to a Global Problem*, in *Nursing Spectrum*. November 27, 2000. 4(24NE): 6-7.
- Kramer, M., *Reality Shock: Why nurses leave nursing*. First ed. 1974: St. Louis, MO. The C.V. Mosby Company. 249.
- Matrone, J. and L. Francis, *Colleagues in Caring-Rhode Island*. December, 2002: Hospital Association of Rhode Island (HARI). 1-3.
- McDonald, L., President of United Nurses and Allied Professionals (UNAP) union of RI, a recorded interview. Providence, RI: March 3, 2004.
- Massachusetts Nurses Association (MNA), *Nurses take a giant step forward on ratios bill*, in *Newsletter of the MNA*. January/February, 2004: p. 2.
- Mola, J., Executive Director of Patient Care Services, and M. Gamaly, Clinical Director of Emergency Department. Norwalk Hospital, a recorded interview. Norwalk, CT: March 24, 2004.
- National Academy of Sciences, Institute of Medicine, *Nursing Staff in Hospitals and Nursing Homes: Is It Adequate?* First ed. G. Wunderlich, F. Sloan, and C. Davis. 1996: Washington, D.C. National Academy Press. 542.
- National Academy of Sciences, Institute of Medicine, *To Err Is Human: Building A Safer Health System*. Third ed. L. Kohn, J. Corrigan, and M. Donaldson. 2000: Washington, D.C.: Institute of Medicine, National Academy of Sciences National Academy Press. 287.
- National Academy of Sciences, Institute of Medicine, *Keeping Patients Safe: Transforming the Work Environment of Nurses*. First ed. A. Page. 2004: Washington, D.C.: National Academy Press. 462.
- Needleman, J. and P. Buerhaus, *Nurse staffing and patient safety: current knowledge and implications for action*. *International Journal for Quality in Health Care*, 2003. 15(4): 275-282.
- Robinet, J.-E., *Hospitals push to boost dwindling nursing ranks*, in *Pittsburgh Business Times*. June 28, 2002: 1-6.
- Steeffel, L., *JCAHO Takes a Bite Out of the Nursing Shortage*, in *Nursing Spectrum*. October 21, 2002. 6(21E): p. 16.
- Steeffel, L., *Of Time and Tactics: Roundtable Spin on Nursing Shortage*, in *Nursing Spectrum*. January 13, 2003. 7(1NE): 12-14.
- Steinbrook, R., *Nursing in the Crossfire*, in *New England Journal of Medicine*. May 30, 2002: 346(22). 1757-1766.
- Weber, S., and P.L. McCue, *Rhode Island's News and Views*, in *The Official Publication of the Rhode Island State Nurses Association (RISNA)*. May, 2004: 1(2). 1-20.

Yett, D. E., *The chronic "shortage" of nurses: a public policy dilemma*, in *Empirical Studies in Health Economics: Proceedings of the Second Conference on the Economics of Health*. H.E. Klarman (ed.). 1970: Baltimore, MD, Johns Hopkins Press. 357-389.

## ACKNOWLEDGMENTS

I wish to recognize the significant time and support afforded me by several outstanding professionals.

Initially is Ms. Linda McDonald, RN, President of the United Nurses and Allied Professionals union (UNAP), and President of UNAP Local #5098 at Rhode Island Hospital in Providence, RI. Ms. McDonald has served as a critical care nurse for over twenty-five years and as a union official for over ten years.

She participated in a one-on-one recorded interview on March 3, 2004, and certainly enlightened me as to the vast magnitude of the nursing shortage in the U.S. She also discussed her views on the present and future ramifications of the nursing shortage, and offered personal solutions for mitigation.

Secondly are Ms. Janice Mola, Executive Director of Patient Care Services/Chief Recruitment and Retention Officer, and Mrs. Marcia Gamaly, Clinical Director of the Emergency Department, both employed at Norwalk Hospital in Norwalk, CT. Ms. Mola has served in critical care nursing for over twenty-one years, and in senior management for over eight years.

Mrs. Gamaly has over 12 years experience as a critical care nurse and a nurse manager after changing careers from that of a certified public accountant. They also participated in a recorded interview on March 24, 2004, and provided valuable input from a corporate executive's as well as a critical care nurse's point of view respective to the current dilemma caused by the nursing shortage.

To Dr. Matthew Bodah of the faculty at the URI Schmidt Labor Research Center (SLRC), and Mr. Mohammad Abbas Ali, a fellow classmate and graduate research assistant at the URI SLRC. They were cordial and thoughtful in the offering of their publication entitled,

*A Short Note on The "Non-economics" Literature Concerning The Nursing Shortage.*

Also to Mary Pinch, Administrative Assistant of the SLRC, whose professional demeanor, patience, and ancillary services assisted me throughout my matriculation in the LRS curriculum.

And to Dr. Richard Scholl, Director of the SLRC, and faculty advisor for the labor relations seminar class, for his unending advice, understanding and expertise in guiding me through this project.

Finally, to my fellow classmates in the LRS 580 seminar, whose constructive criticism, camaraderie and collaborative participation contributed to the culmination of this thesis.

---

Victor F. Caron, MS, BS, RN, NREMT-Paramedic  
March 24, 2004