Working Conditions and Patient Safety: Safe Staffing in Maine's Hospitals

> "As many as 98,000 hospitalized Americans die each year – not as a result of their illness or disease, but as a result of errors in their care…Greater numbers of patient deaths are associated with fewer nurses to provide care." (Institute of Medicine/National Academy of Sciences, 2004)[1]

> "Nurses are facing chaos, vast human need, lack of resources to give proper care, unresponsive bureaucracy, and a highly stressful work environment. Today's nurses feel embattled, assaulted, and *literally* on the firing line." (Thomas, 2009)[2]

Introduction

A growing body of research is now documenting how serious problems in the work environments of nursing care in American hospitals are posing a threat to patient safety, as well as contributing to shortages of nurses working in hospital settings and in greater job stress and burnout among nurses. A major factor in this picture, according to a major report by the National Institute of Medicine, is the issue of chronic understaffing among direct care nurses.[3] As another recent study has emphasized:

> [C]urrently, work environment issues dominate problems associated with nursing care. There is a well-known shortage of nurses across the United States that creates poor and high-stress environments for nurses, which adversely affects patient safety. Nurse dissatisfaction with the workplace has also been directly related to having significant negative implications for patient safety. This multifaceted problem must be addressed at all levels in a systems manner to improve the nursing work environments to promote quality and safety in health care.[4]

Several major reports and studies in nursing policy show clearly that the problems of nurse staffing levels, hospital nursing shortages, overwork, and adverse patient outcomes are interrelated.[5] Many of these problems can be addressed through a number of strategies, such as California's efforts to improve nursing work environments and patient safety through mandated minimum staffing (nurse to patient) ratios for nurses, implemented in 2004,[6] and other critical steps to transform health care organizations.

As the single largest group of health care professionals, nurses play a central role in maintaining patient health and safety in hospitals and other direct care settings, through their role of providing direct care, 24 hours a day. Anyone who has been treated in a hospital setting for a serious illness, surgery or medical crisis can attest to the critical importance of available, skilled and compassionate nursing care for their well-being and recovery. Nurses are also critical in preventing and intercepting medical errors, which cause death or serious injury for tens of thousands of hospitalized patients each year.[7]

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[1] Institute of Medicine, Ann Page, ed.; *Keeping Patients Safe: Transforming the Work Environments of Nurses*. Wash., DC: National Academies Press; 2004; Executive Summary, p. 1-3.
[2] Sandra P. Thomas, PhD, RN, FAAN; *Transforming Nurses' Stress and Anger: Steps Toward Healing*. NY: Springer Publishing Company, 2009 (3rd Ed.); p. viii.
[3] Institute of Medicine, *Keeping Patients Safe*, *ibid*.; p. 1-5.
[4] Laura Lin, RN, MBA JD and Bryan A. Liang, MD, PhD, JD; "Addressing the Nursing Work Environment to Promote Patient Safety"; *Nursing Forum*, Vol. 42: No. 1 (January-March), 2007; p. 25.
[5] Mark W. Stanton & Margaret Rutherford; "Hospital Nurse Staffing and Quality of Care"; Agency for Healthcare Research and Quality (AHRQ), 2004. *Research in Action,* Issue 14. ARHQ Pub. No. 04-0029.
[6] Linda H. Aiken, Douglas M. Sloane, Jeannie P. Cimiotti, Sean P. Clarke, Linda Flynn, Jean Ann Seago, Joanne Spetz, and Herbert L. Smith; "Implications of the California Nurse Staffing Mandate for Other States"; *HSR: Health Services Research*; Vol. 45: No. 4; August, 2010; pp. 904-921.
[7] Lin and Liang, *ibid*.; p. 20.

Nursing Care in Crisis: Background

The U.S. health care system is extremely complex and problematic. The ongoing problems of high and rising costs, unequal access, and great disparities in health care are continuing to plague the U.S.,[8] along with growing problems in the workplace environments of nurses. In addition, the long-term implications of shortages of nurses working in hospitals are extremely troubling to nursing policy researchers, especially given both the aging of the nursing workforce, and the aging of the U.S. population.[9] Several studies suggest, however, that nursing shortages in recent years are not due primarily to the lack of trained nurses, but result from nurses leaving the profession because of stressful and unsafe conditions, exhaustion, burnout, and extreme job dissatisfaction.[10]

The crisis in nursing and health care is deeply rooted in the larger history of nursing as a profession, and is also shaped by recent transformations in the U.S. health care system. As a historically female occupation, nurses have been seen and treated as subordinate to doctors, rather than as professionals with substantial expertise in health care. Gordon describes how nurses have been forced over time to develop a complex system of deference to physicians, so that they would not be seen as infringing on the "medical turf" of doctors, while hiding the depth of their own "medical and technical mastery" and skills.[11] In short, both historically and at present, nurses have had to struggle to attain respect and autonomy as a profession, and their autonomy has been continuously contested by both physicians and health care/hospital administration.

Hospital management in the U.S., with the growth of managed care since the 1990's and rising health care costs, has engaged in "aggressive cost cutting" by understaffing, using cheaper and less skilled labor, etc.[12] Insurance companies and managed care administrators have also cut back on the length of hospital stays, resulting in sicker patients leaving the hospital, but often needing further nursing care.[13]

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[8] Despite having the most expensive health care system in the world, the U.S. ranks very poorly compared to other industrialized countries on "measures of health system performance in five areas: quality, efficiency, access to care, equity and the ability to lead long, healthy, productive lives." While the Affordable Care Act "has the potential" to improve access to care and equity, according to the Commonwealth Fund, nonetheless recent Census data suggest that nearly 50 million people in the U.S. were uninsured as of 2010. http://www.commonwealthfund.org/News/News-Releases/2010/Jun/US-Ranks-Last-Among-Seven-Countries.aspx; U.S. Census report: http://aspe.hhs.gov/health/reports/2011/CPSHealthIns2011/ib.shtml

[9] "Nursing Shortage" Fact Sheet, American Association of Colleges of Nursing; 4/2/2012. http://www.aacn.nche.edu/media-relations/fact-sheets/nursing-shortage (accessed 5/11/12.) This fact sheet states: "a shortage of registered nurses is projected to spread across the country between 2009 and 2030. In this state-by-state analysis, the authors forecast the RN shortage to be most intense in the South and the West." (p. 1) The nursing shortage is not consistent everywhere, however; and the economic downturn since 2008 may have affected this picture, at least temporarily.

[10] Gordon Lafer, "Hospital Speedups and the Fiction of a Nursing Shortage"; *Labor Studies Journal*, Vol. 30: No. 1; Spring 2005; p. 27-46; and Suzanne Gordon, *Nursing Against the Odds*. NY, NY: Cornell Univ. Press, 2005; pp. 4-5. The crisis in nurse staffing, in the U.S. and globally, is also discussed by Rebecca J. Erickson, "The Emotional Demands of Nursing", in Geri L. Dickson & Linda Flynn, eds.; *Nursing Policy Research: Turning Evidence-Based Research into Health Policy;* NY, NY: Springer Publishing Co.; 2009; pp. 155-157.

[11] Gordon, *ibid.*; pp. 23-24 & 55-75. She adds that "nurses have continued to play a central role in the development and use of the technology of medical cure and treatment," but despite their developing skills in "data collection and interpretation, physicians maintained the fiction that they did neither." (p. 71)

[12] Sean P. Clarke and Nancy E. Donaldson, Chapter 25: "Nurse Staffing and Patient Care Quality and Safety," in R.G. Hughes, ed.; *Patient Safety and Quality: An Evidence-Based Handbook for Nurses*. Rockville, MD: Agency for Healthcare Research and Quality (ARHQ), 2008; p. 1.

[13] Michele Klein-Fedyshin, Michelle L. Burda, Barbara A. Epstein, & Barbara Lawrence; "Collaborating to Enhance Patient Education and Recovery;" *Journal of the Medical Library Association*; Vol. 93: No. 4; 2005; pp. 440-445. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1250319/ This issue has also been voiced locally. In a

Both the historical struggles in the nursing profession, and more recent trends in the structure and organization of health care, have clearly contributed to the critical issues of stressful work environments for nursing. Qualitative[14] and quantitative[15] research studies also show that working conditions for nurses, such as supervisory support, organizational constraints, and workload, including staffing ratios,[16] are strongly related to work morale and job satisfaction among nurses. Many of the problems described in national studies of nursing are also echoed by nurses in Maine. For example, local-area nurses have testified that short staffing, job stress, overwork, and low worker morale are negatively affecting the quality of patient care in Maine.[17]

The issues raised in these major research studies, with connections to Maine, include:

1) **Chronic understaffing of nurses in hospitals**, with high nursing workloads and staffing ratios that pose a threat to patient safety, has been analyzed in much recent nursing research.[18] For example, the federal Agency for Healthcare Research and Quality *(*AHRQ) has funded numerous research projects on staffing ratios, health quality and patient outcomes. These studies have consistently documented the negative impacts of high nurse/patient staffing ratios on "adverse outcomes" among patients.

Similarly, a 2007 overview of numerous studies on nurse staffing by the AHRQ found that:

> Higher registered nurse staffing was associated with less hospital-related mortality, failure to rescue, cardiac arrest, hospital acquired pneumonia, and other adverse events. The effect of increased registered nurse staffing on patients safety was strong and consistent in intensive care units and in surgical patients. Greater registered nurse hours spent on direct patient care were associated with decreased risk of hospital-related death and shorter lengths of stay. … More overtime hours were associated with an increase in hospital related mortality, nosocomial infections, shock, and bloodstream infections. [19]

The U.S. Department of Health and Human Services also "found a compelling relationship between nurse staffing and five adverse outcomes in patients – urinary tract infections, pneumonia, shock, upper gastrointestinal bleeding, and length of stay – showing a higher number of registered nurses was associated with up to a 12% reduction in the rates of adverse outcomes."[20]

2011 public hearing on nursing work, local nurses testified that patients are now often sent home sooner, sicker and in need of extensive nursing care, which family members are now expected to provide. It is up to nurses to provide this instruction before the patient is released, a task which adds to their stress and time demands. April 25, 2011; Worker Rights Board of Eastern Maine; "Public Forum on Staffing and Health Care Quality."

[14] Thomas, *ibid.*

[15] Carol S. Brewer & Christine Tassone Kovner; "Work Satisfaction Among Staff Nurses in Acute Care Hospitals;" in Geri L. Dickson & Linda Flynn, eds.; *Nursing Policy Research: Turning Evidence-Based Research into Health Policy*; NY, NY: Springer Publishing Co.; 2009. pp. 127-141.

[16] Linda H. Aiken, Sean P. Clarke, Douglas M. Sloane, Julie Sochalski, & Jeffrey H. Silber; "Hospital Nurse Staffing and Patient Mortality, Nurse Burnout, and Job Dissatisfaction;" *Journal of the American Medical Association*; October 23/30, 2002 – Vol. 288: No.16; pp. 1987-1993.

[17] Worker Rights Board of Eastern Maine, Public Forum, *ibid.*

[18] See, for example: Pascale Carayon & Ayse P. Gurses, "Nursing Workload and Patient Safety – A Human Factors Engineering Perspective;" Chapter 30 in R.G. Hughes, ed.; *Patient Safety and Quality: An Evidence-Based Handbook for Nurses*. Rockville, MD: Agency for Healthcare Research and Quality (ARHQ), 2008.

[19] Robert L. Kane, Tatyana Shamliyan, Christine Mueller, Sue Duval, & Timothy J. Wilt; *Nurse Staffing and Quality of Patient Care*. Evidence Report/Technology Assessments, No. 151. Prepared for Agency for Healthcare Research and Quality (AHRQ), Rockville, MD; March, 2007; Pub. No. 07-E005; p. 6. http://www.ncbi.nlm.nih.gov/pubmed/17764206

[20] Lin & Liang, *ibid.*; p. 26.

Ultimately, chronic understaffing also adds immeasurably to the job stress and exhaustion of nurses. One nurse quoted by researcher Sandra Thomas testified that she felt like a "robot," and was totally overwhelmed trying to meet the needs of patients. She added, "I jumped from one room to the next trying to meet these patients' needs. I couldn't do this for this number of patients."[21]

2) **Speedup, long shifts, mandatory overtime and patient safety:** Long work hours for nurses are a "serious threat" to patient safety, according to the Institute of Medicine study on patient safety and work environments of nurses.[22] Much evidence documents the attempts of hospital employers to cut costs by long work shifts and mandatory overtime, and the resulting increased risks to patient safety. One study based on the logbooks of 393 hospital staff nurses found that "participants usually worked longer than scheduled and that approximately 40 percent of the 5,317 work shifts they logged exceeded twelve hours. The risks of making an error were significantly increased when work shifts were longer than twelve hours, when nurses worked overtime, or when they worked more than forty hours per week."[23]

A more recent study reports: "Mandatory overtime is bitterly resented. Employers of RNs began this practice in the late 1990's; by 2002 two-thirds of nurses were being required to work some mandatory or unplanned overtime every month…Nurses are told they will be fired if they refuse to do so."[24]

Similar problems were also described in the 2011 Worker Rights Board nurses forum cited earlier. For example, several nurses working in acute care settings stated that understaffing or "short staffing" of RN's was often accompanied by **long work shifts** (often 12-hour shifts or more), **inflexible work schedules**, and **mandatory overtime**. They expressed concern about the possibility of making errors affecting patient safety, as well as the effects on their fatigue, health, job stress, and burnout. Nurses also testified that at least one major hospital in Maine has eliminated or greatly reduced transition shifts and resource nurses, and has moved to a schedule of two 12-hour shifts, with no overlap. In many cases, they reported, nursing staff do not have time for lunches or breaks, which are legally mandated in labor standards laws. Nurses may even suffer from dehydration due to lack of fluids on the job.[25]

3) **Lack of autonomy, monitoring of professional nurses by management, and authoritarian, petty and abusive supervision:** The hallmark of any profession is having substantial autonomy in the workplace, expert training, credentials and being treated with respect for one's expertise and training. Unfortunately, the experiences and anecdotes among nursing professionals are rife with examples of authoritarian, controlling and even abusive supervision, indicating a visible contempt for their status as nursing employees. One recent trend in management control, according to local nurses, is increased monitoring of nurses' locations at all times, using location devices in their nametags. The nurses at the public forum (cited earlier) described humiliating and disrespectful treatment by supervisors, adding greatly to their job stress and anger. Similarly, the study by Sandra Thomas states that "uncivil or demeaning treatment provokes much anger within the nursing profession," adding that many nurses report being unjustly "patronized, chastised, and scolded" by doctors and supervisors, and even peers.[26]

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[21] Thomas, *ibid.;* p. 6.
[22] Institute of Medicine, *Keeping Patients Safe*, 2004, *ibid*., p. 6-7.
[23] Ann E. Rogers, Wei-Ting Hwang, Linda D. Scott, Linda H. Aiken and David F. Dinges**; "**The Working Hours Of Hospital Staff Nurses And Patient Safety;" *Health Affairs*, Vol. 23: No.4; 2004; p. 202. http://content.healthaffairs.org/content/23/4/202.long
[24] Thomas, *ibid.;* p. 7.
[25] Worker Rights Board of Eastern Maine, Public Forum, *ibid*. One nurse at this public forum testified that a nursing coworker had recently fainted while on the job. After being taken to the hospital's emergency room, doctors determined that she was dehydrated, and after hydration treatment, she was returned to work on her shift. Several days later, she received a large hospital bill, for her treatment in the ER of her employer.
[26] Thomas, *ibid.;* p. 8.

4) **The reduced time spent by nurses in direct patient care** was also described by local-area nurses as problematic and stressful. This issue, caused in part by the increased time demands of computer documentation in patient care charting, also exacerbates understaffing problems. The increased use of computer technology and need for documentation further complicate nursing, and takes up valuable work time, especially as nurses are expected to enter data themselves during or after their work shift.

5) **Greater acuity or more serious illness among patients** is a major issue impacting nursing care, based on a review of nursing research,[27] and was also described by nurses in the 2011 local forum on nursing work. This adds to the stress levels of nurses, and magnifies the problems of understaffing. The growing numbers of uninsured people, cutbacks in insurance coverage, and the rise in chronic health conditions such as Type II diabetes may also be contributing to sicker patients. Nurses must spend additional time in patient and family education and training before they are discharged, because patients are being sent home earlier, with the implementation of cost-cutting measures under managed care.[28]

6) The various challenges and problems in nursing described above are strongly related to **job dissatisfaction, burnout, job stress, and low morale** among nurses. Ultimately this leads to high rates of employee turnover, reduced productivity, and a continued exodus of nurses leaving the profession, or at least leaving direct care jobs in acute care settings. Nurses testify that this high level of job stress and burnout also impacts on patient safety and the quality of patient care.[29]

Strategies and Policies to Address Nursing Care Issues

There are a number of strategies recommended by experts and nursing researchers to help ameliorate the growing crisis in nursing care. In particular, there is widespread consensus in nursing policy studies on the importance of adequate staffing, as a core foundation to help ensure patient safety.[30] The major Institute of Medicine report, "Keeping Patients Safe," offers several comprehensive recommendations focusing on the importance of transforming the work environment of nurses to ensure the well-being of patients.[31] Some recommendations in this and other policy studies include:

1) Recognizing the importance of "best practices" in nursing, such as **adequate staffing ratios**, which are linked to more positive patient outcomes, based on many studies, such as a recent study by Needleman, et. al. (2011) showing an association between understaffing and patient mortality.[32] The Institute of Medicine nursing study (cited above) recommends that "hospitals and nursing homes should employ nurse staffing practices that identify needed nurse staffing for each patient care unit per shift."[33]

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[27] See the discussion of higher patient acuity in Stanton and Rutherford, *ibid*.; p. 2. As one nursing policy brief has stated, **"**Patient acuity has been rising rapidly, due to the declining average length of stay and to new technology that allows rapid assessment, treatment and discharge. Hospitals are becoming large intensive care units and sicker patients are creating an increasing demand for experienced highly skilled nurses. As the population ages this demand will far outreach the supply of trained professional nurses."
American Association of Critical Care Nurses, "Nursing Shortage Backgrounder;" revised 3/02; p. 3. www.aacn.org/WD/PressRoom/Docs/nursingshortage.doc

[28] Gordon, 2005, *ibid*. p. 4.

[29] Gordon, 2005, *ibid*. p. 4-10.

[30] Carayon & Gurses (*ibid*.) also discuss how nursing "work systems" in hospitals may be analyzed and redesigned. (pp. 7-8)

[31] Institute of Medicine, *Keeping Patients Safe*, 2004, *ibid*., p. 3-20.

[32] See the ARHQ summary of studies at: http://psnet.ahrq.gov/collectionBrowse.aspx?taxonomyID=653 particularly: J. Needleman, P. Buerhaus, V.S. Pankratz, C.L. Leibson, S.R. Stevens, & M. Harris; "Nurse staffing and inpatient hospital mortality"; *New England Journal of Medicine*; 2011; vol. 364: pp. 1037-1045.

[33] Institute of Medicine, *Keeping Patients Safe*, 2004, *ibid*., p. 10. The report also recommends that direct-care nursing staff should be involved in "determining and evaluating the approaches used to determine appropriate

2) Working to implement statewide "best practices" requirements, such as mandated safe staffing ratios in nursing, through legislation, as in California. A recent study by Aiken, et. al., has documented that when comparing nurse and patient outcomes in California and in two other states without mandated staffing ratios, lower ratios were associated with lower patient mortality, reduced burnout and job dissatisfaction among nurses, and better quality of care, as reported in surveys of nurses.[34]

3) Restructuring the organizational culture and structure of hospitals to recognize and respect the professional status and expertise of nurses on a collegial level with other health professionals, and allowing nurses to have an equal voice in the governance and management of hospitals.

4) Address issues such as mandatory overtime, double shifts, staffing ratios, and other nursing issues affecting patient safety through collective bargaining language in unionized hospitals, with "good faith" bargaining. These should be universally recognized by hospital management, medical staff, and nursing staff as critical issues for the entire hospital organization AND for improved patient outcomes. The Institute of Medicine report recommends that such an expanded understanding of patient safety must become central to a hospital's organizational culture.[35]

5) Encourage union organizing and collective bargaining in hospitals where nursing staff are not yet unionized. Unionization and the process of collective bargaining between management and employees allow for the development of effective bilateral decision making.

6) Build collaborative efforts between nurses and hospital administration to implement "best practices" through the process of applying for "Magnet Hospital" status, through the American Nurses Credentialing Center,[36] and develop mechanisms for oversight and implementation that will reflect the autonomous voices of nurses.

Conclusion

The research evidence clearly demonstrates that stressful and negative work environments for nurses are not only widespread, but linked to higher mortality among patients. Inadequate staffing, nurse overwork and fatigue, greater patient acuity, lack of respect, and high job stress threaten patient safety, and contribute to a greater shortage of hospital nurses as they leave the profession in frustration. New evidence shows that "best practices" such as mandatory staffing ratios can help. Finally, respecting and working with nurses as knowledgeable colleagues with expertise in health care, rather than treating them as subordinates, will help to protect the safety and well-being of patients, and the quality of our health care system as a whole.

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unit staffing levels for each shift", including a provision for "elasticity" or slack within each shift's scheduling as needed to allow for "unpredicted variations in patient volume and acuity and resulting workload." (p. 10).

[34] Aiken, et. al.; 2010; *ibid*.

[35] Institute of Medicine*, ibid.;* p. 14. The report also discusses the importance of allowing nurses to participate in executive decision making, and the need to work on creating a foundation for building mutual trust. (p. 8).

[36] American Nurses Credentialing Center; http://www.nursecredentialing.org/Magnet.aspx