Robert Wood Johnson Foundation Initiative on the Future of Nursing, at the Institute of Medicine

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Testimony Submitted by

The Joint Commission

The Joint Commission appreciates the opportunity to submit testimony for this very important initiative. Founded in 1951, The Joint Commission is an independent, not-for-profit organization whose mission is to continuously improve the safety and quality of care provided to the public by evaluating health care organizations and inspiring them to excel in providing safe and effective care of the highest quality and value.

While The Joint Commission has its roots in hospital accreditation, over the years it has developed evaluation programs for a diverse array of health care settings. Today, The Joint Commission evaluates and accredits more than 17,000 health care organizations and programs in the United States, including ambulatory care, behavioral health services, durable medical equipment providers and suppliers, home care, hospices, hospitals and critical access hospitals, laboratories, and long term care facilities. The Joint Commission also has a strong international presence.

Introduction

The purpose of this testimony is to lend The Joint Commission's voice to the Robert Wood Johnson Foundation's Future of Nursing Initiative, at the Institute of Medicine. This testimony was shaped by work of The Joint Commission's Nursing Advisory Council, which was established in 2003 to advise The Joint Commission on present and evolving nursing-related issues as they relate to health care quality and patient safety. The Council provides input on Joint Commission initiatives that relate to the nursing profession. Council members have a deep understanding and expertise in patient care, academia, public policy, business, labor, government and patient advocacy.

As a leader in the health care quality and patient safety arena, The Joint Commission is very concerned about the roles and responsibilities of nurses who work in the organizations it accredits. In its role as the Nation's premier accrediting organization, The Joint Commission has a long history of identifying emerging quality and safety issues and believes that the future state of nursing is inextricably linked to the strides in patient care quality and safety that are critical to the success of America's health care system, today and tomorrow.

This report will focus on three key areas of the nursing profession: clinical nursing practice, nursing education, and research. The report's recommendations are designed to address the nursing shortage; expand the role that nurses can play in the context of quality and safety issues; enhance nursing education to better prepare nurses for the demands of today's technologically sophisticated health setting; and advocate for additional nursing research that will more quickly translate knowledge into care improvements at the bedside.

The Joint Commission expresses its thanks to the Institute of Medicine and the Robert Wood Johnson Foundation for their hard work in developing strategies to address the challenges facing the nursing profession, and to create bold new models for the delivery of high quality, cost-effective care that expands access to underserved and uninsured populations.

Background

Addressing the challenging quality and safety issues pervasive in health care depends upon adequate levels of appropriately educated and prepared nurses. Because the vast majority of direct patient care is provided by nurses, the existing nursing shortage is no longer viewed as just a workforce issue -- it is an issue of quality of care. The fact that registered nurses comprise 80% of professionals in the health care system, representing 2.6 million jobs, underscores their importance and impact on a health system's delivery of patient care.[1] It is the registered nurse who is on the front lines of providing direct care to patients in hospitals, emergency settings, public health arenas, home health and other venues of care. A 2000 study by Ke-Ping Yang revealed that the number of adverse events, such as most ventilator-associated pneumonia, infections, falls, and pressure ulcers, dropped as nurse staffing levels increased.[2] Further, the lack of adequate nurse staffing has been attributed to one-fourth of all adverse events reported to The Joint Commission that result in death, injury or permanent loss of function.[3] Although hospitals report that the nursing shortage has lessened during the recent economic recession, the crisis is by no means over. About

126,000 nursing positions in the United States remain unfilled. The average age of a nurse today is 48 and continues to rise. The cohort of nurses is aging and is not being rejuvenated by enough new nurses entering the profession. Exacerbating the situation is a severe faculty shortage, which prompted nursing schools to turn away many applicants in 2009. By 2020, there will be a need for an estimated additional 285,000 nurses.[4] The nursing shortage will only get worse as the nation's 78 million "Baby Boomers" continue to age and develop more illnesses, increasing the demand for care.

Need for Reform

Merely hiring more staff nurses will not address the myriad of issues related to high quality, cost effective care delivery.[5] Nurses must be better educated to deal with a complex patient population that is aging, has increasing levels of chronic disease, and is more acutely ill when accessing health care. Appropriate opportunities are needed for nurses to develop leadership skills and have greater decision-making authority, thus allowing frontline nurses to create innovative solutions to patient care issues. As nurses are involved in all aspects of patient care, from prevention to treatment and end-of-life care, they possess a unique knowledge base and awareness of the situations in which medical errors are most likely to occur. In a 2009 Gallup poll of 1,500 national opinion leaders, the majority of respondents said nurses should have greater influence in reforming the health care system to improve the quality and efficiency of patient care. Commissioned by the Robert Wood Johnson Foundation, the poll, titled "Nursing Leadership from Bedside to Boardroom: Opinion Leaders Perceptions," surveyed opinion leaders from a variety of industries.[6] Although the majority of respondents viewed nurses as being among the most trusted sources of health information, they also said the major obstacle that prevents nurses from having a greater influence is that they are not seen as important decision-makers.

Nurses need to develop measures that will demonstrate their economic value to a health care organization. Traditionally, quality studies have focused more on condition-specific metrics, but studies are increasingly focused on patient care outcomes, which

are strongly influenced by nursing care. A research study commissioned in 2008 by the American Nurses Association demonstrated that nursing's economic value to the health care organization can be quantified and does, in fact, contribute positively to the bottom line, while promoting safety and quality patient care.[7, 8]

Meanwhile, health care systems must develop retention programs to stem the tide of nurses who leave clinical practice for better paying jobs, a less stressful environment, or different hours. And, a more diverse workforce is needed to reflect the changing demographics of our population. In considering the future needs for nurses, one must also recognize that the delivery of health care continues to be affected by pressures to lower costs, downsize staffing levels and incorporate advances in technology; these pressures are profoundly changing the way that health care is delivered. Improvement of the work setting, workflow processes, and the skilled use of cutting-edge technology is necessary to enhance care, reduce waste and increase efficiency.

Additionally, an outdated educational system must also be transformed to develop a future nursing workforce that is better prepared to address the realities of today's sophisticated health care environment.[9] More funding is needed for research in this and other areas of nursing, which can then be directly translated into improving care. With these realities as background, nursing has an opportunity to help shape innovative approaches for patient-centered care across the continuum in the next decades of the 21st Century.

Recommendations

The Joint Commission's testimony contains recommendations organized around three core areas to address the evolving nursing crisis while forging pathways to improved quality of care and the efficient delivery of patient care.

- Ensuring Safety and Quality in the Clinical Setting. Create a culture of safety that focuses on increasing staff retention, expanding leadership opportunities for nurses, improving the work environment and incorporating new technology to reduce the incidence of errors, while bringing more ethnically diverse nursing staff to the clinical practice setting.

- Redesigning Nursing Education. Bolster the nursing educational infrastructure to increase the pipeline of better educated nurses who are clinically and culturally competent.

- Redirecting Research Funding. Encouraging an investment in research that will lead to improvements in providing high quality and safe patient care.

In this testimony, we would like to offer several recommendations in each category that should be of interest to those who influence, develop or implement policies that will lead resolution of these issues and a more effective use of nurses in the future.

I. Ensuring Safety and Quality Care in the Clinical Practice Setting

As stated in The Joint Commission's 2002 public policy paper on the nursing crisis, the health care system is "the most complex setting of care, the greatest consumer of resources, the site where new advances in care and their associated risks are most commonly introduced, and the best example both of the problems underlying the nursing shortage and of the solutions most likely to bring about its resolution."[10] Health care systems, notably hospitals, employ more than 60% of all nurses in the United States.[11] It is appropriate, then, to focus our analysis of the nursing clinical practice as it takes place in this environment.

Recommendation #1. Implementation of the National Quality Forum nurse-sensitive measures at hospitals and other health care agencies across the nation is strongly

encouraged. Successful implementation of these measures on a national scale requires the availability of a single source of standardized technical specifications. More research must be done regarding the correlations between nurse staffing levels and the staffing mix (registered nurses, licensed practical nurses and nurse assistants) in hospitals and long-term care facilities and quality of patient care outcomes.

Health care systems have made positive strides in quality care improvements since 2002. Accredited hospitals in the United States have demonstrated continued improvement in the quality of care over a seven-year period (2002-2008).[12] Among the 3,000 hospitals that submitted data for Improving America's Hospitals: The Joint Commission's Report on Quality and Safety 2009, improvement was shown in 12 key quality measures. These measures reflect the best evidence-based treatments – practices demonstrated by scientific evidence to lead to the best outcomes, according to "composite" quality performance results for heart attack, heart failure and ventilator-associated pneumonia care compiled over the past seven years. The magnitude of national improvement on these measures ranged from 4.9% to 58.8%. In this report, hospital performance also improved on 13 other measures.[13] Nurses played a key role in many of these improvements as they are the health professionals most likely to provide clinical services such as screenings, assessments, education, and to administer medication.

However, many issues remain. Studies have shown, for example, that there is a direct correlation between the appropriate number and mix of nurses and preventable adverse events which affect patient outcomes (particularly among intensive care and surgical patients) and increase the length of stays in the hospital.[14] When nursing care is poor or absent, there is a greater overall incidence of adverse events, the most common of which are patient falls**,** pressure ulcers, urinary tract infections, and developing ventilator-associated pneumonia. Falls in hospitals are particularly serious among elderly patients. According to studies done in the 1980s, 25% to 84% of all adverse events in health care organizations were related to falls.[15] Although the number of falls among elderly patients in hospitals subsequently dropped after risk assessment tools for falls prevention were implemented, they continue to be a serious problem. Falls may

result in various adverse outcomes, which require additional interventions and lengthen the hospital stay, ultimately driving up the cost of care.[16]

Studies have also found a correlation between the number of falls and the registered nurse proportion of nursing hours.[17] An observational study conducted between 1998 and 2002 collected data from a large Midwestern medical center to determine whether increasing the number of nursing staff might actually result in hospital cost savings overall. The study sought to examine the effect of increasing nursing surveillance of patients who were at high risk of falling. Data for 10,187 patients, age 60 and older, were collected. Forty-nine percent received surveillance fewer than 12 times a day. The other 51% received surveillance more than 12 times a day. While the latter group cost a median of $191 more per hospitalization than the group that received less surveillance, it also reported fewer falls. The group receiving more surveillance experienced 157 falls whereas the group with less surveillance had 324 falls. It estimated that the hospital ultimately saved over $17,000 by averting hospitalization relating to fall injuries.[18]

Meanwhile, research has also shown that pressure ulcers – skin lesions caused by pressure which can damage tissue – frequently occur in hospitals and add billions to the cost of health care.[19] Pressure ulcers occur when patients who are confined to a bed are not turned enough, a responsibility that typically falls to the registered nurse, licensed practical nurse or nursing assistant. The frequency of pressure ulcers among patients in acute care is estimated at between 10.1% and 15%. The frequency of pressure ulcers acquired in hospitals dropped by 34% to 50% after prevention strategies were implemented.[20] Estimates of pressure ulcer formation are conservative, based on shorter inpatient lengths of stay.

The importance of providing appropriate nurse staffing levels and nurse assistance levels has also been addressed by the National Quality Forum (NQF). In 2004, the NQF established a set of 15 national voluntary consensus standards for nursing-sensitive care, including evidence-based performance measures, a framework for measuring nursing-sensitive care, and related research recommendations.[21] The

measures include interventions to prevent pressure ulcers, falls and adverse events associated with the use of ventilators and catheters. They examined nursing contributions in the healthcare setting from three aspects: patient-centered outcome measures, nurse-centered interventions, and system-centered measures. In 2007, The Joint Commission received funding from the Robert Wood Johnson Foundation to test the implementation of the measures. Over the course of 24 months, 54 test sites were set up at large and small hospitals across the United States and an electronic tool for data entry and transmission was developed. The Joint Commission convened a Technical Advisory Panel and engaged its Nursing Advisory Committee in the review process. The revised measures were recently submitted to the National Quality Forum. The technical specifications for the remaining 12 endorsed measures, as revised post-testing, have been posted to The Joint Commission's web site.

The identification of this initial nursing-sensitive measure set by the NQF is a significant first step towards national standardized measurement of nursing resource structures as well as outcomes and processes sensitive to the impact of nursing care. Quantifying the effect that nurses and nursing interventions have on the quality of care processes, and on patient outcomes, has become increasingly important to demonstrate the economic value of nursing care, support evidence-based staffing plans, understand the impact of nursing shortages and optimize care outcomes.[22]

Recommendation #2. Encourage healthcare care organizations' senior leadership to appoint nurse executives to positions that have a voice in strategic decision-making processes. Nurse leaders need to be actively involved in the acquisition and implementation of technology systems and quality improvement processes.

Nurses need to have a significant leadership role in designing patient-care delivery models to improve efficiency and effectiveness within the health care system. Their unique preparation and decision-making skills put them in leadership roles at the senior, middle and front-line positions of health care organizations. Yet too often, nurses, the vast majority of whom are women, continue to face challenges within the hospital hierarchy. Women are still under-represented in the very top echelons of leadership in

hospitals and medical centers, and continue to experience a gender bias in the types of leadership positions they hold within health care organizations. This fact has contributed to the exodus of many talented nurse leaders for more lucrative careers in senior executive positions in other types of organizations.

Additionally, many women who have attained leadership positions in health care organizations are still limited in their ability to influence innovative solutions to patient care issues. A 2002 survey by the National Organization of Nursing Executives shows that since the restructuring of health system staffs in the late 1990s, 55% of senior nursing officers now report directly to the CEO, versus 60% who reported to the CEO in 2000.[23] More senior nursing officers now report to their organization's Chief Operating Officer instead, reducing the decision-making authority they once held. In the survey, senior nursing officers also cite the lack of respect that the profession of nursing receives. The tenure of senior nursing officers in health care organizations has decreased from 7.2 years in 2000 to 5.6 years in 2002.[24] Ironically, literature pertaining to a "culture of safety" in healthcare settings calls for employees to not only participate in change, but to actively take charge in designing new solutions. When nurses are not permitted to use their full range of expertise, it limits their ability to innovate and develop methods to improve patient care.

Recommendation #3. Senior leadership must be committed to creating a culture of safety, which creates an atmosphere of trust, respect, communication and accountability, and through this, encourages participation and elimination of barriers to success. There must be commitment from the health care organization's Board of Directors, CEO, Chief Nursing Officers and throughout the entire organization. Interdisciplinary partnerships should be encouraged to create a team approach which can improve communication and patient care outcomes and reduce adverse events. Nurse leaders should actively participate in the design of any units that affect the role and work of the nursing staff trying to improve efficiency and quality of care.

Nurses today have many career options available to them, including corporate and government sectors; hospitals, home health, and public health; academia and research;

and nonprofit organizations and social service agencies. With these competing employers, it is imperative that health care organizations develop retention strategies to stem the tide of nurses who leave hospital employment for other positions with higher salaries, better working conditions and different hours. Negative work environments, heavy workloads, non-supportive leadership, and a shortage of staff, all reduce nurse satisfaction, and threaten quality, safety, and access to patient care when nurses flee the direct health setting for other job opportunities.

In addition to struggling to maintain adequate nurse staffing levels, many hospitals have reduced the number of nursing assistants, prompting many nurses to take on nonprofessional nursing duties. This reduces the nurses' time spent on direct patient care, lowering the quality of care. It also leads to significant job dissatisfaction. The high cost of replacing nurses, which includes recruiting, orienting and supplementing staffing levels is counterproductive in that it contributes significantly to the high cost of quality health care delivery. To creative a positive, safe environment, the work space must be clean, provide for easy workflow for the nurses, patients and their families, and supplied with adequate and easily accessible resources that enhance efficiency and effectiveness. Health care settings need to provide ergonomically-designed work stations and equipment to accommodate the needs of an aging nursing staff. This will reduce fatigue and strain, helping to reduce errors. Older nursing units were designed with long corridors of patient rooms, where nurses had to walk long distances from the nursing station and equipment supply rooms to make their rounds to see patients. This design was inefficient and required nurses to gather supplies to carry with them on rounds. More contemporary designs have the nursing stations and supply rooms conveniently located, reducing the time nurses spend walking and providing them with more time to care for patients.

To encourage retention, senior hospital leaders must create a culture of safety and a "just culture" which creates an atmosphere of trust, respect, communication and accountability, while encouraging participation, collaboration, and elimination of barriers to success.[25] A culture of safety integrates the following organizational factors: senior management's engagement in patient safety; department safety which sets norms,

recognition and support for safety efforts; and an individual level of safety, which includes encouraging an employee to admit when they have made a mistake or have gaps in knowledge, without fear of blame or embarrassment. These factors, together, encourage a health care organization to take proactive action to improve processes to ensure patient care safety. Cultures of safety lead to improved quality of care and, therefore, lower liability issues for health care organizations. When disruptive behaviors do occur, safety cultures need to be in place that allow for questioning and open communication without fear of blame. Yet cultures of blame within some hospital settings still persist; open communication within the nursing staff and across other disciplines may not exist. Too frequently, nurses are blamed when a miscommunication results in medical errors.[26]

One of the most frequent opportunities for miscommunication occurs when the care of a patient is handed off to another health professional at the end of a shift. A culture of blame rather than one of justice and accountability for action creates an atmosphere of intimidation and prevents nurses from asking authorities appropriate questions or challenging others' decisions. It also increases the occurrence of mistakes and adverse events, reducing accountability, objectivity, transparency, process improvement and patient safety.

When tension and blame can be replaced with collegiality and accountability, this increases the health professional's job satisfaction and, in turn, improves the overall care he or she provides to patients.

It is the front-line staff nurses who routinely interact directly with patients, make decisions regarding patient care and ensure that tests, treatments, and safety measures are carried out. The fact that nurses comprise the vast majority of employees in the health care system underscores their importance and impact on the delivery of patient care. Because nurses are the ones coordinating a patient's care, they have the ability to detect potential areas of risk and possess first-hand knowledge of where errors are most likely to occur. Thus, they should be looked to for their advice and counsel in creating safety solutions. This would increase their value and respect in the workplace.

Recommendation #4. Involve nurses in the design, content and development of decision support tools for inclusion into electronic health records (EHRs), which can improve safety and effectiveness of care.

New technology, such as electronic medical records, and other medical devices have the potential to significantly increase efficiency and improve patient care and safety. Using electronic medical records, a health professional can input data into the system while they are in a patient's room and be directed through "prompts" to ensure that the information is complete and accurate. Decision support information contained in EHRs can prove to be extraordinarily valuable in diagnostic and therapeutic processes of patient care; their design should include information that will be geared toward nursing interventions and care. For example, decision support can offer direction for nursing care reminders and specific needs for patient education that nurses can carry out. Including nurses in the content of EHRs and their decision support functionality can lead to better electronic systems and support and thus save time; reduce the potential for errors; improve care coordination; and achieve better outcomes. However, this technology is a major capital expense for health care organizations, many of which are already financially-challenged during the current economy.

Recommendation #5. The role of nursing needs to be redesigned so that the interests of health care administration, interdisciplinary teams, and nursing are aligned in establishing the assessment, planning, implementation and evaluation of patient care. Systems should be created that provide nurses flexibility of independence, interdependence and dependence in decision-making, as appropriate and within legislation.

During the years that the nursing shortage was developing, clinical practice standards for quality were evolving. One example is the standard by which to monitor and evaluate quality clinical decision-making in nursing. Yet implementation of some standards has been slowed by factors such as the lack of resources and a hierarchical organizational structure which does not permit nurses to make independent decisions,

when appropriate, regarding patient care. Quality improvement organizations are aware that the nursing profession is integral to advancing their priorities for quality.

Since the inception of the Magnet program in the early 1980s by the American Nurses' Credentialing Center, 375 hospitals nationwide have been recognized as Magnet hospitals for meeting specific criteria that measure the quality and strength of their nursing programs.[27] The Magnet program was created to recognize health care organizations that have a culture of patient care excellence, where the infrastructure supports excellence in patient care, safety and quality, and where there exists a high performance level in health care delivery from the senior nursing leaders to nonprofessional staff. The program also provides a means to share best practices and strategies in nursing. Magnet status is an indication of a hospital's outstanding patient outcomes; high levels of nurse satisfaction and involvement in data collection and decision-making regarding patient care; and low nursing turnover.

Recommendation #6. As health care organizations seek new ways to increase access to care while containing and reducing costs, they should be encouraged to examine the roles that nursing can play in creative alternatives to delivery that can enhance and expand care to underserved populations. Newer roles, such as the Clinical Nurse Leader concept, should be pursued to prepare registered nurses to manage and direct a multidisciplinary team of health professionals in the coordination of care of a patient. [29]

Any successful passage of health care reform will dramatically increase the demand for care and services. It will make health insurance more available and affordable to many of the some 45 million uninsured in the United States. In light of this, now is the time to re-evaluate the myriad roles nurses play, and to expand and develop new roles for providing care and delivering services. For example, advanced practice nurses (APNs) may work as a member of an interdisciplinary team and independently, within legislation. APNs use practice protocols that provide an effective method of organizing treatment for a disease and control the process of care delivery. Studies have shown

that APNs provide high quality, cost-effective care to underserved populations in many different settings, but are not utilized as fully as they could be in such settings.[28]

APNs also play an important role in supporting nurse clinicians and ensuring a seamless quality of care in complex health organizations. APNs include nurse midwives, OB-GYN nurse practitioners, pediatric nurse practitioners and family nurse practitioners who work in rural areas where there may be fewer physicians. They are required to have graduate level education and demonstrate their depth and breadth of knowledge, scholarship, and leadership in health care. APNs make diagnoses, prescribe medication, and identify outcomes that promote patient care. They may work in collaboration with other health professionals and patients' families to determine appropriate care plans. Advanced practice nurses are required by scope-of-practice laws to have a higher level of education than that of physician assistants, whose role is more dependent on the supervision of physicians than the advanced practice nurse.

Further, nurses can be essential participants in new models of care delivery. As health care organizations and practice settings band together to provide more continuity of care and post hospital discharge care—sometimes to prevent unnecessary re-hospitalizations or emergency room visits--nurses can increasingly expand the reach of providers to more community-based care that will keep patients healthier and more self-sufficient.

Recommendation #7. Legislators and public policy leaders should be called upon to support increases for minority nursing scholarships, loan forgiveness programs and tuition reimbursement programs so that health care organizations can reduce the diversity gap between healthcare professionals and patients.

An important part of the quality of care is cultural competence -- the ability to understand and manage cultural and social differences which may affect patients' perspectives, values and behaviors regarding health care. The Joint Commission has done significant work in the area of cultural competence and patient literacy and views this arena as one that needs significant attention nationally. One-third of the U.S.

population is of minority backgrounds. Nurses and other health care professionals should be educated in the area of cultural competence to reduce the potential for bias or misunderstanding of a patient's unique needs. Additionally, health care organizations must develop initiatives to broaden their minority staff, which should be reflective of the communities it serves.

Recommendation #8. It is imperative that nurses have access to high-quality continuing education programs to be prepared to treat increasingly complex patient conditions and severity of illness and to keep abreast of, and utilize new technology, such as electronic medical records, decision support tools and medical devices. Education around optimization of electronic medical records is needed for quality and safety.

In today's healthcare environment, patient hospital stays are generally four to five days, resulting in high patient turnover and more severely ill patients. This, in turn, has increased the intensity of care required for acutely ill patients and the need for more nurses and nursing assistants, which is exacerbated by the staffing shortage. This situation will only worsen as the 78 million Baby Boomers, now starting to turn 65, continue to get older. More people will be living with, and learning to manage, chronic illnesses. Meanwhile, pending federal legislation for health care reform would provide significant subsidies to help cover the insurance premium costs for millions of individuals who are currently uninsured. With the proposed health care reform, most especially if delivery reforms to increase wellness and preventive services are enacted, there will be a substantial increase in the need for nursing services and a concomitant exacerbation of nursing shortage issues. Depending upon final legislation, as many as 36 million more people could be insured, making coverage available to many who today are struggling without insurance because of pre-existing conditions and/or chronic conditions. Assuring that nurses are prepared to provide quality care to this changing population is critical.

Recommendation #9. Enhancing the image of the nursing profession to the public is vital in order to attract a new generation of nurses. There is a significant opportunity to

cultivate the interest of today's youth into nursing and recruit a large number of the 75 million young people between the ages of 12 and 29 who make up the Millennial Generation. At the same time, we should plan for the orderly transmission of organizational history, policies, procedures and practice standards from experienced nurses who are retiring to younger nurses.

As the Boomers age, so too is the current nursing workforce. From 2002-2007, the number of hospital nurses between ages 56 to 64 more than quadrupled. Hospital nurses must be able to deal with physical demands of the job, and will increasingly encounter their own health issues as they get older. The good news is that forecasts project that the number of nurses in their 30s and 40s will increase between 2012 and 2025, while the number of nurses in their 50s will decrease.[30] However, projections indicate that the number of nurses in their 60s will continue to increase. For some, the anticipated increase in interest in the profession of nursing is attributed to the public impression that nursing jobs are recession-proof; increased wages for nurses; a growing population of people in their 20s and early 30s; and the impact of efforts such as Johnson and Johnson's Campaign for Nursing's Future. It is important to acknowledge that experienced nurses often carry the history of the organization, its policies and procedures, practice standards, etc., in their heads. An area that could actually negatively impact patient safety and quality relates to organizations that do not plan for the orderly transmission of such information from those who are retiring to younger nurses.

II. Redesigning Nursing Education for the 21st Century

If nursing education is to provide an adequate pipeline of well-prepared nurses for the present and in the future, the educational system itself must be overhauled. Severe faculty shortages have prompted schools to turn away nearly 50,000 qualified undergraduate and graduate school applicants in 2008.[31] Since 2004, an estimated 200 to 300 doctorally-prepared nursing faculty have been retiring annually, a projection that is expected to continue through 2012.[32] A recent survey on vacant nursing faculty positions for the 2009-2010 academic year indicates that 56% of 554 respondents had

faculty vacancies; another 21% of respondents had no vacancies, but still needed more faculty.[33] Compounding this situation, fewer nurses are going into teaching as there are a variety of better-paying career options available. The salaries of nursing faculty across the United States are about 30% less than what clinical nurses earn. In 2004, the median salary for doctorally-prepared, instructional faculty at the associate and assistant professor levels was $77,605 and $73,333, respectively.[34] By not adequately compensating faculty, we diminish the ability to attract the best and brightest to the field of teaching.

Recommendation #10. Schools must continue to build partnerships with clinical agencies in the surrounding communities to increase the number of opportunities for students to have valuable clinical rotation experiences, and carefully match nursing students with the clinical rotation setting that is the most appropriate match for their skills and training.

Nursing schools are also facing severe shortages of classroom space, clinical rotation sites and preceptors. Clinical agencies are retrenching in the level of supervision they require, the clinical opportunities they're willing to offer students, and the number of students they re willing to accept for rotations. Asking nurses to supervise students on a clinical unit pulls nurses away from providing direct patient care, thereby increasing concerns about safety and quality of care they can provide their patients. Additionally, patients at tertiary and academic health care organizations have a higher level of acuity; to reduce the impact of student education on such units, clinical agencies require a low ratio of faculty to students. Some nursing schools have arranged with their clinical partners to match nursing students with a clinical rotation setting that best fits their skills and training. The students from these schools did their nursing clinical rotations at a single facility. As a result, the students came to know the staff, the work environment and the issues within that system, and their retention rate was higher after they were hired.[35]

Recommendation #11. Nursing schools should explore establishing partnerships with health care organizations to recruit faculty who are also current practitioners. Further

study is needed to determine the feasibility of this concept to address concerns that it could lead to the assumption of too many responsibilities by individuals.

Many schools have faculty who have not been in clinical practice for many years, lacking the relevance to enhance students' educational experience. Schools need to engage more faculty who will continue to maintain a clinical practice. To have clinical competence, faculty must have experience in the practice setting so that students learn contemporary practice.[36] At Rush University Medical Center, for example, faculty in the nursing school are practitioner-teachers who carry two appointments. They have a 12-month contract and work clinically when they re not teaching. That model provides a different kind of student experience.

Recommendation #12 Establish a nurse residency program, based upon best practices at schools that have nurse residency programs, in partnership with a health care organization. This will help ease the transition of new, entry-level nurses into the workforce and reduce the attrition rate. The nurse residency program should be one year in duration, culminating in nursing students taking the licensure examination.

Nearly one in four entry-level nurses will leave the hospital setting within the first year of graduation.[37] The transition to practice has frequently been cited by new graduates and employers as difficult. New graduates feel they are not adequately prepared to deal with the complexities of today's health care environment. Well-planned, post-hire transition programs have shown better outcomes and fewer errors than do pre-graduation clinical immersion programs. They also result in increased rates of retention. Currently, the majority of new grads leave their first position within 18 months. It is too expensive to educate them to work in the hospital. Several colleges of nursing, including the University of Kentucky and the University of Washington, have established nurse residency programs, requiring new graduates to serve for a year in a health system while receiving less pay, in preparation for the licensure exam at the end of that first year. The Kentucky Board of Nursing actually requires recent nursing school graduates to complete a year-long, supervised internship to develop new nurses' clinical competencies, in addition to successfully passing the NCLEX exam. Another example

is Hines Veterans Administration Hospital (Maywood, Illinois), which is in the process of implementing a nurse residency program designed by the American Association of Colleges of Nursing.[38]

Recommendation #13. Nursing schools should partner with health care organizations in developing contemporary curricula surrounding emerging roles for nurses, team-based education that focuses on patient safety, assessment, access, quality and measurement, and new technology. Curricula should address emerging roles and technologies in nursing practice, which include electronic medical records, telemedicine, genomics, geriatrics, chronic conditions, prevention, ambulatory care and continuum care management for chronic conditions. Students should be taught how to implement new technologies such as EHRs, and new methods of care delivery such as telemedicine. There should be a team-based approach to teaching, focusing on safety and quality improvement.

Basic nursing education should be improved and focus on how to identify and manage issues of patient safety and quality in order to build up a larger, better-trained workforce. Quality and safety must be integrated into all levels of the curriculum so that it is systematically integrated, and not randomly taught. A greater emphasis must be placed on teaching methods. Curricula are still taught in a very linear fashion, based on content rather than context across a range of areas which encourages students to develop stronger critical thinking skills.[39]

At the present time, some schools have done very well at integrating electronic health records and other new technology into their curriculum while others have not. Nationwide, nursing schools still needs a more cohesive approach and strategy in their curricula overall.[40] Quality and safety improvement should be a critical part of this curriculum redesign. A team-based learning approach for nursing and medical students that focuses on quality and safety improvement should be developed. In a health care setting, physicians and nurses will be working together so teaching them to work in teams as students can enhance communication and reduce errors.

Recommendation #14. Nursing schools should focus on developing teaching frameworks that are relevant to clinical practice and they need to assist faculty in learning to use them. Nursing schools should also involve national and state organizations in their efforts to revamp curricula and teaching methods. Schools and nursing organizations should collaborate to create and offer courses and workshops for educators that focus on sharpening their teaching skills.[44]

Teaching should also be focused around concepts rather than content. Currently, undergraduate students are taught around a disease model of care, where they do not see the relevance or application of what they have learned in other settings. When teaching is focused around concepts, for example perfusion instead of a heart attack, students learn what happens in perfusion, when it is working properly and when it is not, and how it can be applied across a broader area of learning.[41] The Carnegie Foundation for the Advancement of Teaching's newly-published book, Educating Nurses: A Call for Radical Transformation, echoes this concept. The book's authors call for a shift "1) from a focus on decontextualized knowledge to an emphasis on teaching for a sense of salience, situated cognition, and action in clinical situations, 2) from a sharp separation of classroom and clinical teaching to integrative teaching in all settings, 3) from an emphasis on critical thinking to an emphasis on clinical reasoning and multiple ways of thinking that include critical thinking, and 4) from an emphasis on socialization and role taking to an emphasis on formation."[42] They conclude that effective teaching requires the teacher to understand effective nursing practice."[43]

Recommendation #15. Four-year nursing programs should work with community colleges that offer the Associate Degree in Nursing (ADN) to develop articulation agreements that facilitate the transition into the Bachelor of Science in Nursing (BSN) program. This would incent existing ADNs to return to complete their baccalaureate degree and enhance their education. Encourage the National League of Nursing and the American Association of Colleges in Nursing (AACN) to collaborate on accreditation requirements for nursing programs to facilitate the articulation agreements.[46]

At present, there are several pathways to obtain a basic nursing degree: a four-year baccalaureate program, a two-year associate's degree (ADN), a diploma from an approved nursing program. They are not all of the same quality and are not standardized. Students can obtain an associate's degree from a community college which is less expensive than attending a four-year program. Thus, the vast majority of nurses hold ADN degrees as their highest academic achievement and do not go on to obtain a bachelor of nursing science degree.[45]

Recommendation #16. Incentives should be considered for schools that resolve the capacity issues, provide curricula that focus on emerging issues, and effectively recruit minorities, especially men and Latinos, to enter the nursing profession.

The evolving population in the United States is one of color. There is a great need to have more faculty of color to reflect the population and understand unique population cultures and issues. Over 50% of children in the United States who are age five and under are Latino. There is a need for nurses who understand the "lived experience" and a "learned perspective." How people come to view their health in the first place is a cultural issue.[47]

Recommendation #17. Standardized models should be considered. Programs should be improved to focus on how to identify issues of patient safety and quality, areas that are critical in nursing.

Nurses are mandated to take continuing education courses as part of their re-licensure.[48] The pressures in today's practice environment are so extraordinary that nurses need to keep their skills current to be effective. However, there are a plethora of continuing education programs, including those now offered by for-profit organizations, which may be difficult for nurses to evaluate in terms of quality.

III. *Nursing Research*

Recommendation #18. More research is needed in the emerging areas of practice, including geriatrics, genomics, and continuum care management for chronic conditions, as well as contemporary teaching methods. Research is also needed into how to broaden the roles of nursing and to improve nursing processes to make them as efficient as possible. Importantly, knowledge gained from research needs to be quickly and effectively translated into practice.

There is an exciting amount of new research taking place, in areas such as chronic illness management, coping with illness and patient education. Yet the implementation of science research into nursing practice still lags by 14 to 17 years.[49] To improve patient care, there is a great need to translate scientific research into practice. Another challenge is that nurses need to know how to read the research, how to implement it and how to evaluate it. The hospitals that have Magnet status are required to establish their own research councils. Magnet hospitals with the most effective research councils, such as the University of Maryland and Johns Hopkins, also have research journal clubs that meet monthly to discuss how to implement the research.[50]

The need for more funding is a key concern in the area of nursing research. The body of knowledge that often emanates from research is frequently qualitative, not quantitative. If good research is to drive clinical practice, it must be quantitative in order to measure outcomes. New research studies show a correlation between nurse staffing levels and cost-effective, high quality care including shorter length of stays, thus quantifying the economic value of nurses in healthcare organizations.

Nursing can also benefit from more research into how to improve nursing processes to make them more efficient and effective. Health care delivery today is characterized by thousands of daily processes within the delivery setting. This requires attention to ensure that processes do not fail and are carried out effectively to improve patient outcomes and reduce health system costs.

Conclusion

The current nursing crisis provides a pivotal moment to advocate for dramatic changes in the nursing profession as a whole. Within the clinical practice setting, nurses must have a voice in the decision-making processes that affect the design of facilities, processes and delivery methods which in turn affect how nurses provide patient care. The development of new nurse-sensitive care measures needs to continue in order to provide quantitative evidence of the value of nurses' work. As practicing nurses take on expanding leadership roles in managing and directing patient care, it will be important to continue to encourage multidisciplinary collaborations. This can only be done in settings that promote a culture of safety, trust and respect. The current nursing shortage is providing the impetus for nursing schools to creatively develop new collaborations with other health organizations and offer more flexible methods of educating future nurses that is more meaningful and relevant. Efforts must be made to secure more funding for nursing research to address some of the pressing, new health issues confronting an aging population. With the convergence of new technology, new models for delivery of care, and new opportunities in teaching and research, nursing has an opportunity to play a significant role in positively impacting public policy and reforming health care delivery for the 21st century. This redesign will take a concerted effort by all stakeholders in which the legal, health care and educational systems work together to solve these complex and interrelated issues.

End Notes

[1] U.S. Bureau of Labor Statistics, Occupational Outlook Handbook, 2010-2011 Edition.
[2] Yang, K., "Relationships Between Nurse Staffing and Patient Outcomes," Journal of Nursing Research
Vol. II, No. 3, 2003.
[3] Joint Commission Report: "Healthcare at the Crossroads: Strategies for Addressing the Evolving Nursing Crisis," 2002.
[4] Benner, P., Sutphen, M., Leonard, V., Day, L., Educating Nurses: A Call for Radical Transformation, The Carnegie Foundation for the Advancement of Teaching, 2010.
[5] Ibid.
[6] Simmons, J., "Healthcare Leadership: Policymakers Should Listen to Nurses, Gallup Poll Says," Health Leaders Media, Jan. 21, 2010.
[7] American Nurses Association press release, "The American Nurses Association on Behalf of the Larger Nursing Community Announces the Release of a First of its Kind Study on the Economic Value of Nursing," Dec. 24, 2008.
[8] Vanhook, P., "Cost-Utility Analysis: A Method of Quantifying the Value of Registered Nurses," The Online Journal of Issues in Nursing, September 30, 2007, Vol. 12, No. 3.
[9] Benner, P., Sutphen, M., Leonard, V., Day, L., Educating Nurses: A Call for Radical Transformation, The Carnegie Foundation for the Advancement of Teaching, 2010.
[10] Joint Commission Report, "Health Care at the Crossroads: Strategies for Addressing the Evolving Nursing Crisis," 2002.
[11] U.S. Bureau of Labor Statistics, Occupational Outlook Handbook, 2010-2011 Edition.
[12] Joint Commission Report, "Improving America's Hospitals: The Joint Commission's Annual Report on Quality and Safety," 2009.
[13] Joint Commission Report, "Improving America's Hospitals: The Joint Commission's Annual Report on Quality and Safety," 2009.
[14] Dunton, N., Gajewski, B., Taunton, R., Moore, J., "Nurse Staffing and Patient Falls on Acute Care Hospital Units," Nursing Outlook, January/February 2004, Vol. 52:53-59.
[15] Ibid.
[16] Titler, M., Docterman, J , Picone, D., Everett, L., Xie, X; Kanak, M., Fei, Q, "Cost of Hospital Care for Elderly at Risk of Falling," Nursing Economic$, November-December 2005; Vol. 23:6.
[17] Ibid.
[18] Blegen MA, Vaughan T., "A Multi-site Study of Nurse Staffing and Patient Occurrences," Nursing Economics1998; 16: 196-203).
[19] "More Nursing Care Averts Costs Associated with Falls: 'Nurse surveillance' halved the number of falls at one medical center," The American Journal of Nursing, October 2008; Vol. 108: 20.
[20] Panel for the Prediction and Prevention of Pressure Ulcers in Adults: Clinical Practice Guideline Number 3: Pressure Ulcers in Adults-Prediction and Prevention. Rockville, Md.: U.S. Dept. of Health and Human Services, AHCPR pub. 92-0047.
[21] Joint Commission Report, "Joint Commission Testing and National Implementation of the National Quality Forum Endorsed Nursing-Sensitive Care Performance Measure Set Project Summary," January 2007 - December 2008.
[22] Ibid.

[23] National Organization of Nursing Executives study, Why Senior Nursing Officers Matter: A National Survey of Nursing Executives, 2003.
[24] Ibid.
[25] Valentine, N. "Magnet Recognition Program: Building Capacity for Innovations in Nursing," Academic Medicine, Vol. 82, No. 12, December 2007.
[26] Khatri, N., et al, "From a Blame Culture to a Just Culture in Health Care," Health Care Management Review, October/December 2009, Vol. 34.
[27] Valentine, N. "Magnet Recognition Program: Building Capacity for Innovations in Nursing," Academic Medicine, Vol. 82, No. 12, December 2007.
[28] American Association of Colleges of Nursing, "Expanded Roles for Advanced Practice Nurses," Press Release, May 1994.
[29] American Association of Colleges of Nursing, "Clinical Nurse Leader," Remarks Delivered by AACN President Kathleen Ann Long at the Business Meeting, October 27, 2003.
[30] Ibid.
[31] American Association of Colleges of Nursing, "Addressing the Nursing Shortage," October 2009.
[32] American Association of Colleges of Nursing Report, "Faculty Shortages in Baccalaureate and Graduate Nursing Programs: Scope of the Problem and Strategies for Expanding the Supply," 2005.
[33] American Association of Colleges of Nursing Report, "Special Survey on Vacant Faculty Positions for Academic Year 2009-2010."
[34] American Association of Colleges of Nursing Report," Faculty Shortages in Baccalaureate and Graduate Nursing Programs: Scope of the Problem and Strategies for Expanding the Supply," 2005.
[35] Interview, Mary K. Walker, PhD, RN, FAAN, Professor of Nursing, Marcella Niehoff School of Nursing, Loyola University Health System, December 2009.
[36] Ibid
[37] Pellico, LH, et al., "Moving On, Up or Out: Changing Work Needs of New RNs at Different Stages of Their Beginning Nursing Practice," Robert Wood Johnson Foundation, November 2, 2009.
[38] Interview, Mary K. Walker, PhD, RN, FAAN, Professor of Nursing, Marcella Niehoff School of Nursing, Loyola University Health System, December 2009.
[39] Ibid.
[40] Ibid.
[41] Ibid
[42] Benner, P., Sutphen, M., Leonard, V., Day, L., Educating Nurses: A Call for Radical Transformation, The Carnegie Foundation for the Advancement of Teaching, 2010.
[43] Ibid.
[44] Ibid
[45] U.S. Bureau of Labor Statistics, Occupational Outlook Handbook, 2010-2011 Edition.
[46] Benner, P., Sutphen, M., Leonard, V., Day, L., Educating Nurses: A Call for Radical Transformation, The Carnegie Foundation for the Advancement of Teaching, 2010.
[47] Ibid.
[48] Ibid.
[49] Mary K. Walker, PhD, RN, FAAN, Professor of Nursing, Marcella Niehoff School of Nursing, Loyola University Health System, December 2009.
[50] Ibid.