
SITUATION CRITICAL: CLOSING THE NURSE SUPPLY GAP IN NEW JERSEY

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TRANSMITTAL LETTER

On behalf of the board and staff of the New Jersey Collaborating Center for Nursing (see appendices A & B), we are pleased to present this required report to the New Jersey Governor and Legislators. This report, similar to the 2006 report, focuses on improving the healthcare for New Jerseyans by featuring evidence-based recommendations to ensure safe and quality care by nurses in the State

These evidence-based recommendations center on increasing the supply of New Jersey nurses to meet the burgeoning demand created by the demographics of the State population and the nursing workforce. These recommendations are formed from research by the Center research team and other highly regarded researchers. In these challenging economic times, partnerships of various stakeholders may be the only way to ensure funding for the expansion of schools of nursing and related entities to prepare the necessary supply of nurses needed in the next 5 to 15 years.

Nurses are the glue that holds the healthcare system together. Not only do nurses represent the largest segment of the healthcare workforce, but nurses also are the healthcare providers that patients are most likely to encounter during some of their most vulnerable moments in life: birth, death, and all transitions in between. Over time, cycles of nurse shortages and abundances have plagued the profession. However, unlike the others, the current shortage is predicted to last longer than in the past and to be the most severe shortage in nursing history.

In this report, we present five evidence-based nurse supply recommendations that individually and together will make a vast difference to New Jersey residents, if acted upon in the near future. In order to retain nurses in the workplace, for the short run, changes must be made in the environment. Of the five proposed strategies, three focus on improvements in the workplace to retain experienced nurses in the workplace. An adequate supply of new entrants into the workforce is also necessary; therefore, two of the five recommendations focus on increasing the educational capacity in New Jersey to increase the long-run supply of nurses.

In order to avert a critical healthcare situation, the five strategies recommended here have current research as their foundation to increase the supply of nurses in New Jersey. Many researchers have reported their findings of the impact of nursing care on patient outcomes and quality of care. With the growing focus of the Centers for Medicare and Medicaid Services, and other payers of healthcare, on payment for performance, careful consideration of our recommendations could avert a critical condition. The current goal of healthcare reform to provide accessible and affordable healthcare for all Americans relies upon the preparation of an adequate supply of well-educated nurses, as well as nurse leaders, in the reform.

The New Jersey Collaborating Center for Nursing, professional nursing organizations, consumer advocacy groups, schools of nursing, private philanthropic foundations, unions, healthcare stakeholders, and clinicians across the State are concerned about

the growing gap between nurse supply and demand in New Jersey and beyond. New partnerships are being formed, Summits have met, and nurses are reaching out to others. For example, the Robert Wood Johnson Foundation has been actively involved in expanding the educational capacity of New Jersey schools of nursing by increasing faculty supply. To support these plans to increase New Jersey educational capacity, the Foundation has reached out to the business community and consumers, as well as nurses in education and practice. What has been lacking, however, is the investment of the public sector regarding resources to maintain a workforce of nurses capable of meeting the complex healthcare demands of the increasing aging New Jersey population.

We sincerely thank the almost 25,000 New Jersey RNs who so generously gave of their valuable time to complete the extensive survey, which provided the bases for these recommendations. We trust stakeholders will take these recommendations as seriously as our participants and act to prevent the healthcare system from this critical condition.

Sincerely,



Judith Mathews
Board Chair



Gerri L. Dickson
Executive Director

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EXECUTIVE SUMMARY

Despite rising unemployment rates and a weakening economy, current, conservative estimates still predict that in the next decade the U.S. will begin to experience one of the worst shortages of registered nurses (RNs) in the nation's history. Unlike nurse shortages in the past, a rapidly aging population, a subsequent increased demand for RNs, plus an aging nursing workforce drive this nurse shortage, unparalleled in American nursing. In New Jersey, as in much of the nation, approximately one third of our current 86,080 working RNs will reach retirement age within the next decade. This will leave a gap that, without foresight and intervention, will not be filled.

Safe, accessible, and affordable healthcare for all New Jersey residents relies upon an adequate supply of nurses. Despite well-documented projections of impending nurse shortages, a comprehensive nurse workforce plan at the facility-level is not in place to prepare for this forthcoming nurse supply deficit. In this report, we examine existing evidence and present several key, evidence-based policy initiatives aimed at increasing the RN supply of nurses to avert this crisis in New Jersey healthcare. Most importantly, we delineate the consequences to patients of not taking action now.

In order to address this projected supply shortage of nurses, we recommend that the State:

- 1. Create incentives for hospitals and other healthcare facilities in New Jersey to:**
 - **Implement strategies to retain the older nurse**
 - **Develop long-term workforce plans that estimate annual retirements and institute succession planning.**
- 2. Retain nurses in the workforce by mandating that the Department of Health and Senior Services (DHSS) develop and enforce regulations for State public laws designed to retain nurses in hospitals and nursing facilities:**
 - **P.L. 2008, c225, an Act to establish a safe patient handling program to reduce the risk of injuries to both patients and healthcare workers;**
 - **P.L. 2008, c236, an Act concerning prevention of violence against healthcare workers; and**
 - **P.L. 2005, c21, an Act concerning public disclosure of staffing levels in hospitals and nursing facilities.**
- 3. Provide the impetus for a statewide nurse manager-training program to enhance retention of existing RNs.**
- 4. Designate dedicated State funding for Schools of Nursing within the Universities' budgets so that nursing departments can increase significantly their educational capacity and, subsequently, enrollments and graduations.**
- 5. Invest, with partners, in the creation of regional Clinical Simulation Laboratories (CSLs) to increase the nursing education capacity in the State.**

SITUATION CRITICAL: CLOSING THE NURSE SUPPLY GAP IN NEW JERSEY

I. Introduction

The New Jersey Collaborating Center for Nursing (the Center) was established by State statute (P.L. 2002, c116) on December 12, 2002 to provide evidence-based recommendations to policymakers regarding the allocation of State resources to ensure an adequate nurse workforce. Quality healthcare in New Jersey relies on a foundation of a nurse workforce that adequately meets the demand for nursing care, both in both numbers and education of nurses.

In keeping with its mandate, the Center has engaged in a variety of data collection, analyses, and dissemination activities tracking and trending the adequacy of the New Jersey nursing workforce (www.njccn.org.) In these reports, you will find data and information related to nurse recruitment and retention, student and faculty characteristics, plus enrollments, and graduations. In addition, external, competitive awards have funded research activities focusing on the impact of nurses on patient care and safety.

The most severe nursing shortage in our history is forecast for New Jersey and the nation as a whole, indeed, the nursing shortage is global. This unprecedented shortage is estimated to reach its peak within the next decade and has the capacity to cripple the healthcare system and jeopardize access to healthcare for millions of Americans.

It is vitally important to realize that the underlying causes of this shortage are radically different from nurse shortages in the past, Today this nurse supply deficit is driven primarily by an aging nursing workforce and coincides with an aging population generating increased healthcare demands; a demographic reality that does not easily respond to normal economic and market incentives.

Consequently, this report describes and explains the context of this nurse shortage, as well as presenting data and recommendations that are specific to New Jersey. Findings of published research from a variety of sources, as well as research conducted and published by the Center's research team, provide the evidence for these recommendations.

Labor economists who study the impending nurse shortage propose that it is useful to consider "short-run supply" initiatives as well as "long-run supply" initiatives to offset projected nurse shortfalls (Buerhaus, Auerbach, & Staiger, 2007). Supply refers to the number of nurses willing and able to fill the number of positions needed (the demand) to provide safe care for patients in the healthcare system, be it on national or state level.

Short-run supply initiatives include interventions designed to ensure that qualified nurses who might have left the workplace return to the nurse labor market and, for those already participating, that they continue or extend their employment. On the other hand, long-run recommendations revolve around increasing the educational capacity of schools of nursing. In keeping with this perspective, this report includes recommendations for evidence-based short-run supply initiatives as well as evidence-based long-run supply

initiatives to offset nurse shortages in New Jersey. By ensuring an adequate number of well-prepared nurses to meet the demand for nursing care in the State, a 21st century healthcare system that offers safe and quality care to New Jersey residents can become a reality.

II. The New Jersey Nursing Shortage: *The Evidence for Recommendation #1*

National forecasts, such as those of the Health Resources and Services Administration (HRSA) predict a national shortage of registered nurses that will reach unprecedented proportions - 1 million RN full-time-equivalent (FTE) positions short by 2020 (Biviano, Tise, Fritz, & Spencer, 2004). At the same time, the HRSA forecasts indicate a 49% shortfall, (42,400 RN FTEs) in New Jersey compared to the 36% vacancy rate at the national level.

Recent changes in the economy have prompted a range of revisions in the national projected RN supply deficit; however, none of the revised projections offers hope of achieving an adequate nursing workforce by 2020. The most conservative deficit projections published to date estimate that, due to higher unemployment rates within the general population, the U.S. will be short only 285,000 RNs by 2020 (Buerhaus, Staiger, & Auerbach, 2008). Yet the authors quickly explain that this smaller projected **deficit of only 285,000 RNs is still three times larger than any RN deficit experienced in the U.S. over the last 50 years.** According to Buerhaus and his colleagues, evidence indicates that nurses over 50 have returned to work and helped to fill the 2002 gap, these more recent data suggest that the real shortage will peak by 2025.

However, locally, the Center has produced an update of our New Jersey Nurse Demand Forecasting Model that has a conservative, but still severe, projected nurse deficit for New Jersey. Our model, unlike the HRSA models, uses the number of RNs employed in the State, rather than the FTEs filled. However, either method produces severe shortage projections for New Jersey. Our demand model forecasts an increased need for an additional 5,820 RNs (total workforce 91,900 RNs) in just 5 years. Our research also indicates that the average age of an employed New Jersey nurse is 49.7 years; therefore, we can reasonably expect 15% or 12,914 RNs in the New Jersey workforce to retire by 2014. As a result, New Jersey would need 12,914 replacement RNs, as well as 5,820 additional RNs to meet the increased demand. Considering that New Jersey's schools of nursing, at their peak capacity, produce about 2,300 new graduates per year it is highly unlikely that the supply pipeline will fill the demand for 18,734 RNs in just 5 years. It would take almost a doubling of our school's annual graduates to address this gap between supply and demand.

Nevertheless, economists suggest that the impending RN supply deficit will not respond significantly to economic and other market conditions as it did in previous nursing shortages, because this shortage is **fundamentally different** from nurse shortages experienced in the past. **Simply stated, this 21st century RN shortage is driven by an aging population.** It is the large, aging population in the nation and the State that is driving the increased demand for healthcare services and, subsequently, driving the increased demand for nurses. Ironically, however, it is also the aging nurse population that is concurrently driving the RN supply deficit (Nooney & Lacey, 2007). Subsequently, the impending nurse shortage is unprecedented not only in size, but in cause – **it is the**

product of an unparalleled demographic shift in the age distribution among citizens and nurses, alike.

By 2025, the numbers of New Jersey residents that are 65 years of age and older will increase more than 39%, so that one in seven New Jersey adults will be a senior citizen (NJ Future Facts, 2004). When examining the age distribution of RNs licensed in the State, the contribution to the impending New Jersey shortage becomes very clear. The average age of RNs currently licensed and working in New Jersey is 49.7 years; a total of 54.4% of New Jersey RNs are currently between the ages of 46 and 60. Of particular concern, a total of 29% of all non-retired RNs licensed in the State are currently 55 years of age or older, which means that about **30% of the current New Jersey nursing workforce will reach retirement age within the next decade** (Flynn, 2007).

Consequently, it is imperative to design and implement evidence-based initiatives to ensure that the size and skill of the nursing workforce in New Jersey is adequate to meet the needs of an aging, chronically ill populace and the demands of the emerging 21st century healthcare system. The current goal of healthcare reform to provide accessible and affordable healthcare for all Americans cannot and will not be achieved without the preparation of an adequate supply of well-educated nurses to provide care, as well as nurse leaders participating in the reform.

III. The New Jersey Nursing Shortage: *Recommendation #1 for Policymakers*

Based on the evidence, the first recommendation targets initiatives that would delay retirements among “Baby Boomer” nurses (those born between 1946 and 1964) and prolong their participation in the labor market. Although statewide efforts have been focused on educating more nurses, the assimilation of new nurses into the workforce requires the skill and guidance of the experienced nurse. Recognizing the importance of retaining the older nurse, the Robert Wood Johnson Foundation published their seminal study *Wisdom at Work* (2006), in which they outline several retention strategies geared for retaining the older nurse including:

- Flexible work options including flexible hours, assignments, and job structure
- Phased retirements that allow older nurses to collect full retirement benefits while continuing to work part-time prior to full retirement
- College classes and/or continuing education for nurses over 60 years of age
- Ergonomic equipment such as mechanical ceiling lifts to assist with patient lifting
- Creation of expanded and redesigned work roles for older nurses
- Knowledge transfer programs that formally pair a retiring nurse with a less experienced nurse during a phased program of mentorship and succession planning

Clearly, how healthcare employers view the older nurse must begin with a paradigm shift valuing the older, but wiser and experienced, nurse. Older Americans are healthier, living longer, and working longer than previous generations; older nurses represent an untapped resource that with minor accommodations can significantly augment the nursing workforce (Robert Wood Johnson Foundation, 2006).

Strategies aimed at retaining the older nurse would not only address short-run supply issues but also would save, or strategically spread across time, costs incurred to replace them. Hospitals estimate that the cost of replacing one RN is equal to 1.3 times the nurse's average yearly salary, totaling \$6.4 million annually for one medium-size hospital, and a staggering \$12.3 billion per year in hospitals nationwide (Robert Wood Johnson Foundation, 2006; VHA, 2000). Creation of a workforce plan will assist healthcare facilities to predict and spread retirement and replacement costs, as well as to support the development of a phased retirement program in which retiring RNs train and mentor their replacements.

Facilities could be ranked by the State and reports published according to the plan put into place to stage retirements of cohorts of RNs. Using age-related data of the workforce, would allow the older experienced nurses to provide mentorship to the vast number of new graduates that will fill the ranks. Recognizing the savings in labor costs would add to the incentives for hospitals that have implemented a plan to stage retirements.

Therefore, In order to address the short-run impact of shortages of nurses, we suggest the following to keep nurses in the workforce”:

Recommendation #1: Aging of the nurse workforce

Create incentives for hospitals and other healthcare facilitates in New Jersey to:

- **Implement strategies to retain the older nurse**
- **Develop long-term workforce plans that estimate annual retirements and institute succession planning.**

IV. Why New Jersey Nurses Are Leaving Their Jobs: *The Evidence for Recommendations #2 and #3*

Another key strategy to increase the short-run supply of nurses is to reduce job dissatisfaction and attrition among existing RNs. This approach is particularly important given that economic analyses indicate that RNs' decisions to participate in the nurse labor market may be as heavily influenced by non-economic factors such as working conditions and job satisfaction, as by traditional economic factors of unemployment rates and wages (Buerhaus, Auerbach, & Staiger, 2007). Unfortunately, job dissatisfaction and attrition among RNs is not unique to New Jersey, but instead, has become a national phenomenon that **threatens continuity of patient care, jeopardizes patient safety, adds to the cost of healthcare, and contributes to the nursing shortage.**

A review of published research, conducted of large samples of nurses from all regions of the nation, identifies the six most important contributors to job dissatisfaction and attrition among RNs:

- 1) **Demanding workloads with high patient-to-RN ratios:** (Aiken, Clarke, & Sloane, 2002; Aiken, et al., 2008; Aiken, et al., 2002; Brewer & Kovner, 2008; Cox, et al., 2006, Flynn, Thomas-Hawkins, & Clarke, 2008, Lacey, et al., 2007).
- 2) **An inexperienced or unsupportive front line manager** (Adams & Bond, 2000; Aiken, Clarke, & Sloane, 2002; Flynn, 2005; Kovner, et al., 2006; Loke, 2001; Moss & Rowles, 1997).
- 3) **Inflexible work schedules that increase family-work conflict** (Dickerson, et al., 2007; Grzywacz, et al., 2006; Kovner, et al., 2006; Brewer & Kovner, 2008).
- 4) **Unsupportive work environments** (Aiken, Clarke, & Sloane, 2002; Aiken, et al., 2008; Flynn, 2007; Gordon, 2005; Josephson, et al., 2008).
- 5) **High rates of occupational injuries** (Brewer & Kovner, 2008; Hart, 2006; Huang, Shaw, & Chen, 2004; Letvak & Buck, 2008; Rinds, 2007, Zontek, 2006).
- 6) **Occupational burnout** (Aiken, et al., 2008; Aiken, et al., 2002; Erickson, 2008; Flynn, Thomas-Hawkins, & Clarke, 2008; Irvine & Evans, 1995).

To determine the extent to which these six factors are present in New Jersey, the New Jersey Collaborating Center for Nursing completed the largest study of nurses ever conducted in the State. In 2006, the Center fielded a comprehensive survey of **50% of all RNs licensed in New Jersey, mailing surveys to the homes of more than 44,000 RNs** working and living in the State.

The survey was well received by the New Jersey nursing workforce in that 25% of all actively licensed RNs completed and returned the survey, **producing responses from 22,406 RNs**. In short, **descriptions from one in four New Jersey RNs are included in the findings**. Due to the large numbers of New Jersey RNs that received and completed a survey, we believe the results presented in this report accurately represent the New Jersey nursing workforce (Flynn, 2007).

A summary of these findings indicates that:

- **24% of the nurses, or approximately 1 in every 4 New Jersey RNs, expressed dissatisfied with their job. This percentage is markedly higher than the 13.8% of dissatisfied RNs nationwide (HRSA, 2004) and is a concern to healthcare stakeholders in the State**
- **12% of New Jersey RNs were planning to resign from their employing healthcare facility within the year**

Regarding the prevalence of “nurse dissatisfiers” as reported in the literature, 9,854 RNs working as direct care nurses in New Jersey hospitals, nursing homes, and home health agencies identified the following troublesome areas:

1) High patient-to-RN ratios and heavy workloads were issues for them

- 40% reported that the number of patients assigned to them each shift had increased over the last year
- 53% reported that there were not enough RNs on staff to provide quality patient care

Further, these direct care nurses responded to the following statements regarding their perceptions of their patient workloads. Over 42% of the staff nurses responded that there were regularly unable to take even a 30-minute lunch break during their busy days. Most importantly, 36.4% of the New Jersey staff nurses reported that their workload causes them to miss important changes in their patients' conditions. A third believed their workload was unreasonable and, further, could cause them to look for a new position (see table 1).

Table 1. Nurses Workloads

N = 9,854 New Jersey RNs	% of RNs
“Can't take 30-minute lunch break during work day”	42.4%
“My workload causes me to miss important changes in my patients' conditions”	36.4%
“Most days my workload is not reasonable”	35.8%
“My current workload will cause me to look for a new position”	32.5%

2) Unsupportive nurse managers

Another area of concern identified in the survey findings is the nurses' perceptions of their nurse manager as being unsupportive. Table 2 below indicates the percentages of nurses agreeing with the following survey statements.

Table 2. Nurse Perceptions of Their Managers.

N = 9,854 New Jersey RNs	% of RNs
“Nurse manager is not a good manager”	43%
“Nurse managers will not back them up in a conflict even if they think they are right”	42%
“Nursing supervisors in the facility are not supportive of nurses”	40%
“Staff RNs do not receive recognition for a job well done”	44%

2) Inflexible work schedules

Although in some areas, staff nurses together can determine their work schedules for their group, however, as indicated below, not all New Jersey nurses had control over their schedules.

- **29.1%** of the 9,854 New Jersey staff nurses **reported that they did not have flexible work schedules** available in their place of employment

4) Unsupportive work environments

Further, others reported that their work environments were difficult and lacked administrative support.

- **41%** of the 9,854 New Jersey staff nurses **rated their work environment as fair/poor**

5) High rates of occupational injuries

The U.S. Bureau of Labor Statistics consistently reports that healthcare workers suffer the second highest rate of work-related injuries among all job categories in the U.S.

As indicated by nurses' reports in Table 3 below, **over half of New Jersey's staff nurses reported being injured on the job each year** – in fact, the nurses report that their workplace injuries actually occur more than once per year.

Table 3. Workplace Injuries

N = 9,854 New Jersey Direct Care RNs	% of RNs
Experience a workplace injury a few times a year	56.4%
Experience a workplace injury once a month	9.0%
Experience a workplace injury a few times a month	5.9%
Experience a workplace injury at least once per week	2.1%

6) High proportion of occupational burnout

A total of 32.3% of the sample of New Jersey staff nurses were suffering from occupational burnout, as measured by the Maslach Burnout Inventory, the standard and most frequently used measure of occupational burnout in professional workers.

The incidents of occupational burnout are disturbing in that:

- Occupational burnout is a serious psychological response to chronic stressors in the workplace that is frequently experienced by the “caring professions” including physicians, nurses, police officers, and fire fighters (Maslach, 2003; Schaufeli & Enzmann, 1998)
- Burnout can lead to major health problems including depression, myocardial infarction, hypertension, cardiovascular disease, type II diabetes, insomnia, and a host of somatic complaints (Ericson-Lidman & Standberg, 2007; Melamed, Shirom, Toker, Berliner, & Shapira, 2006; Melamed, Shirom, Toker, & Shapira, 2006; Murphy, Duxbury, & Higgins, 2006; Saleh & Shapiro, 2008; Schuitemaker, Dinart, Van der Pol, & Appels, 2004)

- Research indicates that the negative consequences of burnout can extend to the worker's family, resulting in increased family stress and impaired marital relationships (Burke & Greenglass, 2001; Figley, 1998).
- Occupational burnout has been found to be a significant predictor of job dissatisfaction and attrition (Aiken, et. al, 2002; Lake, 1998; Maslach, 2003; Flynn, Thomas-Hawkins, & Clarke, in press)

Although this proportion of burnout is consistent with that reported among nurses in other states (Aiken, et. al, 2001), it is, nonetheless, unacceptably high. Given that burnout can result in serious health risks for nurses and their families, it is a significant occupational health problem warranting the attention of employers, unions, policymakers, and the community of occupational health professionals.

In sum, what makes these findings of vital interest to the public and to policymakers, however, is that nurses are the largest segment of our healthcare system.....and their work is essential to patient safety and quality care. In these years of nursing shortages, any factor that affects nurses' decisions about their jobs also affects the patients they serve.

V. Why New Jersey Nurses are Leaving Their Jobs: *Recommendations #2 and #3 for Policymakers*

These findings are crucial in order for New Jersey residents to recognize the scope of the reported problems. For example, **40%** of New Jersey's staff nurses reported that their heavy workloads cause them to miss important changes in their patients' conditions. Over **50%** of New Jersey's staff nurses reported that there are not enough RNs on their unit to provide quality patient care; **43%** reported that their managers lack management skills; **41%** rated their work environment as fair/poor, and **32%** reported suffering from occupational burnout. (For a summary of the findings describing the "average" New Jersey nurse, please see Appendix C).

These findings dispel the myth of the "occasionally" disgruntled nurse and replace the myth with results from rigorously conducted survey research that gives us insight into nurses' working conditions, as well as a better understanding of how nurses' working conditions contribute to the nursing shortage.

What can policymakers do to address these problems? The good news is that the workplace factors contributing to nurse attrition are malleable, and can be modified in ways that not only increase nurse retention but also enhance patient safety. Although these problems have their root in the workplace, there are public policies in place that address workplace issues. What has been lacking is the mandate to develop and enforce regulations following the intent of the legislation to improve patient outcomes, while addressing workload issues of concern to nurses.

Recommendation #2: Workplace Issues

Retain nurses in the workforce by mandating that the Department of Health and Senior Services (DHSS) develop and enforce regulations for following State public laws designed to retain nurses in hospitals and nursing facilities:

- **P.L. 2008, c225, an Act to establish a safe patient handling program to reduce the risk of injuries to both patients and healthcare workers; and**
- **P.L. 2008, c236, an Act concerning prevention of violence against healthcare workers.**
- **P.L. 2005, c21, an Act concerning public disclosure of staffing levels in hospitals and nursing facilities.**

Two recently passed laws (P.L. 2008, c225 and P.L. 2008, c236) require safer handling of patients by charging each employer to develop strategies, as well as lifting equipment, to ensure the safety of patients and nurses during the transfer of patients. This step will begin the process of reducing workplace injuries to nurses. Although the law is in place, DHSS has not written the needed regulations to enforce compliance by employers of nurses. The sooner the law is enacted, the greater its effect on nurses and nurse retention in the workplace.

Additionally, in order to prevent workplace violence against nurses, P.L. 2008, c236 was established to prevent combative behavior against nurses and other healthcare workers. This Act would also help to create a safer workplace for nurses. Regulations need to be developed to prevent more nurses from leaving the workplace.

Most importantly, although the regulations are constructed for P.L. 2005, c21, according to the unions and other organizations, they are not being enforced to ensure compliance according to the law. DHSS is now receiving nurse-to-patient ratio data, which is also available for public use. A review of the data indicates that there are disparities in the method and manner of reporting. It is reported that this potentially valuable information is often not in consistent formats to be used to draw conclusions about the impact of various nurse-to-patient ratios on patient care and patient outcomes.

Public policymakers can help to improve the workplace for RNs by making use of the valuable data required by P.L. 2005, c21. By charging the DHSS to determine the effects of nurse staffing levels on “report card” outcomes in New Jersey hospitals, realistic, achievable, and evidence-based recommendations for safe nurse staffing levels can be developed.

In sum, a large percentage of New Jersey RNs are overworked, burned out, and leaving important patient care activities left undone; 1 in 4 New Jersey RNs surveyed are dissatisfied with their job and half of those who are dissatisfied are planning to leave.

Recommendation #3: Nurses' Concerns Regarding Nurse Managers

Another major RN workplace issue revolves around the perceptions of RNs of their managers. The *State of the New Jersey Nurse Workforce* (Flynn 2007), as well as other

original research, identifies RNs concerns with the support and expertise of their first level manager. Over forty percent of New Jersey RNs reported that their front-line nursing manager was a “poor” manager who lacked management skills. Consistent with nationwide studies, the large New Jersey nurses survey found that, indeed, low competency ratings of the front-line nurse manager was a significant predictor of nurses’ intentions to resign from their jobs (Flynn, 2007).

To address this quite common workplace issue, we are suggesting that the State:

- **Provide support for a statewide nurse manager-training program, which would include incentives for managers to obtain advanced education.**

From the Flynn research, we found that the vast majority (almost 60%) of current front-line nurse managers lacked a bachelor’s degree as their minimum level of education. This means that most of the current nurse managers in the State have had little, if any, managerial training.

Competent front-line managers are essential to retaining a skilled and adequate nursing workforce in New Jersey. One way to address this serious retention issue is for provide the impetus for a statewide manager-training program for front-line nurse managers. All nurse managers would then have access to the most current information regarding management strategies. Additionally, they can share “best practices” with their peers. A profitable move for employers is retaining nurses through knowledgeable managers, which in turn can provide built-in incentives for managers to obtain advanced education.

Recognizing the impact of nurses managers on the retention of nurses, policymakers could support a statewide program that meets the mandatory continuing education contact hours. Further, regulations could be developed to require all managers to complete the training.

VI. Why New Jersey Nursing Schools Cannot Close the Gap: *The Evidence for Recommendations #4 and #5*

One obvious way in which the State could begin to close the nurse supply-demand gap is to increase the number of new graduates from New Jersey’s schools of nursing. Because it takes up to five years to educate the average nurse, the RN pipeline is considered a long-run supply initiative that will increase the number of New Jersey RNs in the future labor market. Unfortunately, there is much evidence that our schools of nursing lack the capacity to increase nursing enrollments beyond current levels. This lack of capacity is doomed to perpetuate a severe deficit in the RN supply entering the workplace.

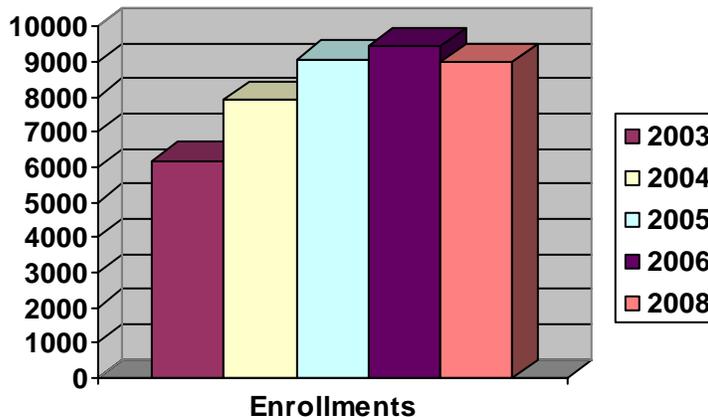
Since 2003, the New Jersey Collaborating Center for Nursing has conducted, in collaboration with the New Jersey Board of Nursing, an annual survey of New Jersey’s schools of nursing, and has disseminated the results regarding the number of enrollments, graduations, as well as characteristics of students and faculty. These data, such as numbers of enrollees, graduates, ethnicities, and ages of students, as well as faculty data, provide insight into the increasingly limited capacity of our schools of nursing, and the

difficulties they face in increasing the number of graduates. Following are a few highlights from the reports:

1. In 2003, 60% of all 33 RN-producing schools of nursing (those schools that prepare new RNs to enter the workforce) in the State reported turning away a total of 1,621 qualified nursing school applicants due to lack of financial and faculty resources. Even with turning away this large number of qualified applicants, schools in the State operated at an average of 42% above their reported capacity, placing a strain on faculty and classroom space.
2. In 2004, 67% of all 33 RN-producing schools of nursing in the State reported turning away qualified nursing school applicants due to lack of financial and faculty resources, but did not keep track of the number of qualified students denied admission. Trying to maximize enrollments, schools of nursing in the State operated at 20% above capacity.
3. In 2005, 1,416 qualified nursing school applicants were turned away due to lack of enrollment capacity in the State's schools of nursing. Fifty-three percent of the RN-producing schools maintained waiting lists for qualified but not admitted applicants with an average waiting period of 12 months. Of the 1,416 qualified applicants denied admission, however, more than 55% were not even placed on a waiting list.
4. By 2006, three new Associate Degree and three new generic Baccalaureate Degree programs of nursing in the State had opened and statewide overall enrollments compared to capacity increased by just 4%. The majority of schools were no longer keeping waiting lists nor reporting the number of qualified applicants denied admission.
5. By 2007, all schools were operating at or above capacity and qualified applicants were still turned away, primarily because of lack of faculty lines and qualified faculty. Schools of nursing filled the faculty gap with adjunct or part time faculty who teach a course or two per semester, but are not committed to other faculty responsibilities such as advising students or developing curricula.
6. In 2008, a unique partnership between a healthcare system and a university created a new BSN school that admitted 21 students in their first class.
7. In 2008, with one Diploma school in the process of phasing out, the enrollments remained stable. There also were indications that schools were no longer able to expand their capacity. More than 50% of the schools cited lack of faculty lines and lack of qualified faculty applicants as the top two reasons limiting expansion.

Despite limited resources, schools of nursing in the State managed to increase enrollments substantially between 2002 and 2006. A Department of Labor grant allowed one school to add three faculty lines. Other private or county schools had their budgets increased. However, current data for 2008 indicate a small decrease in the number of students admitted to New Jersey schools at the pre-service level (new entrants into the supply of the nurse workforce). Figure 2 presents the growth in enrollments over time, from 2003 to 2008.

Figure 2: Enrollments in New Jersey Schools of Nursing 2003 to 2008



Since 1990, the number of new RN graduates from New Jersey's schools of nursing has ranged from a high of 2,300 new nurses in 1994 and 2007/2008 to a low of just under 1,500 new nurses in 2002. Therefore, at its peak, New Jersey only produced about 1,000 new nurses per year more than at its lowest ebb. At their current capacity, New Jersey's RN-producing schools *cannot* increase enrollments to levels necessary to offset the impending nurse shortage. The number of RN graduates would need to double to over 4,000 per year each year by 2014 in order to meet the demand for nurses. To double enrollments, the State's schools of nursing would need to realize a significant increase in additional faculty lines, qualified faculty, clinical placements, classroom space, and other educational resources.

VII. Why New Jersey Nursing Schools Cannot Close the Gap: *The Recommendations #4 and #5 for Policymakers*

Despite the need to increase capacity, schools in New Jersey received budget cuts from State funding; especially hard hit were the State Universities. Through private philanthropic efforts, the Robert Wood Johnson Foundation is undertaking a project to increase the capacity of nursing schools in New Jersey. Current legislation (S626) calls for the State to join in the move to increase nurse faculty in the State. A public/private partnership can increase the funding for schools without overburdening the State.

However, the supply pipeline of student nurses remains a pressing long-term issue for both New Jersey residents and their healthcare, as well as for the nurses in the workforce. Therefore, through public/private partnerships, we recommend that the State consider designating funds specifically for nursing programs as follows:

Recommendation #4: Addressing the Long-Run Nurse Shortage

- **Designate dedicated State funding for Schools of Nursing within the University's budgets so that nursing departments can increase significantly their educational capacity and, subsequently, enrollments and graduations.**

In addition to funding to increase the capacity of schools of nursing, we recommend the exploration of other creative means for increasing the New Jersey nursing school's educational capacity, such as the recently formed partnership between the Meridian Health Care System and Georgian Court University. Other means of regional partnership can increase capacity and reduce the demand for clinical site.

Therefore, we respectfully ask for consideration of the following:

Recommendation #5: Expand faculty time and clinical sites

- **Form partnerships in the creation of regional Clinical Simulation Laboratories (CSLs)**

One of the scarce resources that is hindering the expansion of education capacity in the State and the nation is the lack of clinical sites and faculty for nursing students. The use of high-fidelity patient simulators is gaining widespread acceptance across the nation as a way in which nursing students' knowledge and skills can be developed without taxing healthcare facilities or causing harm or discomfort to real patients (Lashley & Nehring, 2008). The use of carefully monitored simulation models is also a mechanism that most efficiently makes use of scarce faculty resources. Unlike patient care areas, in which the student-to-faculty ratio is limited to 10 students per faculty member, a simulation laboratory would allow for a higher student-to-faculty ratio, and groups of students can be engaged in the care thus increasing educational capacity. Lastly, high-fidelity patient simulators can be programmed to present a variety of clinical scenarios, thus providing the best possible clinical education for students.

Medical schools have long used high-fidelity patient simulators to increase the quality and capacity of medical education, while nursing has lagged behind in the use of this efficient technology. Establishment of regional Clinical Simulation Laboratories, with high-fidelity patient simulators, throughout the State would give schools of nursing within neighboring geographic districts the opportunity to share this effective resource. Moreover, they would increase educational capacity, decrease the need for additional clinical placements, and reduce the costs of the nursing programs. Further, working together can enhance the willingness and ability of schools across this small state to share faculty and other educational resources.

VIII. Why Patient Safety is at Risk: *The Important Evidence*

Over the last two decades, a body of research has developed that supports the link between adequate RN staffing, fewer adverse patient events, and better patient outcomes, including fewer patient deaths. In a study of 453 nursing units across 123 hospitals, higher RN staffing was significantly associated with decreased chances of mortality (Sales, et al, 2008). Conversely, in a study of 168 hospitals Aiken, et al. (2002) found that each additional patient beyond 4 patients per nurse was associated with a 7% increase in the likelihood of patient death within 30 days of admission in surgical patients.

In an effort to summarize and draw conclusions from the myriad of existing studies, the federal Agency for Healthcare Research & Quality (AHRQ) recently commissioned a

research team headed by Dr. Robert L. Kane of the University of Minnesota, to conduct a meta-analysis of existing nurse staffing outcome studies. Combining and re-analyzing data from 24 rigorous studies, Kane, et al. (2007) found that greater RN staffing was consistently associated with a reduction in inpatient mortality, in that an increase by **1 RN FTE per patient day was associated with a 9% reduction in the likelihood of death in intensive care units, a 16% reduction in the probability of mortality among surgical inpatients, and a 6% reduction in mortality among medical inpatients.**

Next, Kane and his team conducted a meta-analysis of 48 studies focused on nurse staffing and adverse patient complications, other than mortality. Kane, et al. (2007) found that an increase of **1 RN FTE per patient day was associated with a 36% reduction in the likelihood of nosocomial (hospital induced) bloodstream infection and a 16% chance of failure-to-rescue.** Similarly, studies on medical/surgical units have found that **higher RN hours per patient day were associated with lower rates of pressure ulcers, pneumonia, postoperative infections, urinary tract infections, gastrointestinal bleeding, pressure ulcers, and patient falls** (American Nurses Association, 1997; Blegen & Vaughn, 1998; Kovner & Gergen, 1998; Needleman, et al., 2002; Sovie, et al., 2001; Unruh, 2003).

The reasons behind the well-documented link between RN staffing and patient outcomes are not difficult to understand – when there are fewer RNs taking care of patients, patients simply do not receive the monitoring and the care they need to keep them safe. But does this problem exist in New Jersey's healthcare facilities? In our comprehensive survey of New Jersey nurses, we asked the 9,864 responding direct care RNs from New Jersey's hospitals, nursing homes, and home health agencies to report any **patient care activities that were necessary but left undone** during their most recent work shift because **they did not have time to complete them.** The nurses' responses give us cause for concern:

Among the 9,864 New Jersey staff RNs surveyed:

- 31% reported that important patient teaching had been left undone
- 24% reported necessary documentation in patients' records had been left undone
- 17% reported that necessary patient monitoring had been left undone
- 14.5% reported that necessary skin care had been left undone
- 13% reported that patients' preparation for discharge had been left undone
- 11% of RNs reported that patients' medications had not been administered on time

Without serious and thoughtful strategies to address nurses' issues, the adequacy of the nursing workforce in New Jersey could become engaged in a downward spiral. The New Jersey nurses' responses of increased workloads can lead to compromised patient care and job dissatisfaction and attrition of nurses. The workplace issues addressed in this report can only add to depleting the current nurse workforce. Compounding the problem, schools of nursing in the State do not currently have the necessary capacity to increase

enrollments that would lead to the needed supply of nurses. Sadly, in the end, patient care and safety are compromised.

IX. Conclusion

A variety of factors, including (1) an aging population, (2) an aging nursing workforce, (3) increased demand for nurses, (4) expanded career options for women, (5) lack of capacity of schools of nursing to admit all those qualified, (6) overwork, job dissatisfaction and attrition within the nursing workforce, and (7) nurses' concerns over patient safety, have coalesced to create a shortfall of registered nurses in New Jersey and the nation. Although there is some debate as to the exact number of nurses that will be needed to fill the forthcoming supply gap, there appears to be universal agreement that by 2020 to 2025, this burgeoning nursing supply shortage will have become one of the most severe in our nation's history.

Given that a wealth of independent, federally funded research demonstrates a significant link between RN staffing and patient outcomes, it is imperative to the wellbeing of New Jersey residents that plans are implemented to ensure that an adequate workforce of registered nurses is maintained in the State.

Included in this report are several specific policy initiatives to increase the short-run and long-run nurse supply in the State. Summarized below are our evidence-based recommendations for policymakers:

- **Create incentives for hospitals and other healthcare facilities in New Jersey to:**
 - 1. Implement strategies to retain the older nurse**
 - 2. Develop long-term workforce plans that estimate annual retirements and institute succession planning**
- **Retain nurses in the workforce by mandating that the Department of Health and Senior Services (DHSS) develop and enforce regulations for State public laws designed to retain nurses in hospitals and nursing facilities:**
 - 1. P.L. 2008, c225, an Act to establish a safe patient handling program to reduce the risk of injuries to both patients and healthcare workers; and**
 - 2. P.L. 2008, c236, an Act concerning prevention of violence against healthcare workers.**
 - 3. P.L. 2005, c21, an Act concerning public disclosure of staffing levels in hospitals and nursing facilities.**
- **Provide the impetus for a statewide nurse manager-training program to enhance retention of existing RNs, which would lead to incentives for managers to obtain advanced education.**
- **Designate dedicated State funding for Schools of Nursing within the Universities' budgets so that nursing departments can increase significantly their educational capacity and, subsequently, enrollments and graduations.**

- **Invest with partners in the creation of regional Clinical Simulation Laboratories (CSLs) to increase the nursing education capacity in the State.**

We urge you to take action when considering the severity of a nurse shortage on the future of healthcare and the roles of nurses in providing quality, affordable healthcare for all New Jerseyans. Are we ready to form partnerships among the public, the private, the industry, health care providers, and the nursing community that will reframe healthcare and maintain safe, quality care for all citizens of the State?

*"If you want to go fast, go alone.
If you want to go far, go together."
--- an African proverb*

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APPENDIX C. The “average” New Jersey registered nurse

Executive Summary

Based on the findings of this extensive, statewide survey....

The “average” registered nurse licensed in New Jersey is a 50 year old woman who works more than 10 hours a day. But many, if not most days she feels that her patient workload prevents her from taking even a 30 minute meal break.

She has more than 24 years of nursing experience and considers herself a proficient to expert nurse. Yet, she has concerns that her patient workload is sometimes so high that it will cause her to miss an important change in a patient’s condition. Sadly, she is also concerned about the nursing care that her patients needed during her workday but that she was unable to provide due to time constraints and not enough staff.

She is frequently exposed to patient complaints and verbal abuse. She feels little support from her manager and, despite her experience and skills she rarely receives recognition when she does a good job. She is teetering on the brink of emotional exhaustion.

Yet, despite these obstacles she maintains a sense of personal accomplishment. She knows that she makes a difference in her patients’ lives.

Her challenge is to keep her patients safe and her mental health intact during the long and difficult workdays.

Our challenge is to create systems, processes, and environments that support her in her important work.

Flynn, L. (2007). *The State of the Nursing Workforce in New Jersey: Findings From a Statewide Survey of Registered Nurses*, p.5. Newark, NJ: New Jersey Collaborating Center for Nursing.