

*The health of our health care system depends on nurses.
To demean, diminish, or eliminate them puts the entire system in jeopardy.*

Claire Fagin

PREVENTING **NEW JERSEY'S** **IMPENDING** **HEALTH CARE CRISIS**

*A Report to the Honorable Jon S. Corzine, Governor of New Jersey
and
Honorable Members of the New Jersey Senate and Assembly*

from

The New Jersey Collaborating Center for Nursing

March 2006

PREVENTING NEW JERSEY'S IMPENDING HEALTH CARE CRISIS



The New Jersey Collaborating Center for Nursing
College of Nursing
75 Halsey Street
Newark, New Jersey 07102-1897
973-353-1307
March 2006



NJCCN
Workforce Development
Health Policy
Quality Care
<http://njccn.org>
njccn@rutgers.edu

PREFACE

The board and staff of the New Jersey Collaborating Center for Nursing (NJCCN) at Rutgers University are pleased to present this report to the New Jersey Governor and Legislators. The report focuses on evidence-based recommendations to address three key areas of the ever increasing nursing shortage by: (a) expanding nursing educational capacity, (b) retaining and increasing working nurses, and (c) improving quality of health care through nursing research.

Nurses are the health care providers patients are most likely to encounter during some of their most vulnerable moments—in emergency rooms, hospitals, nursing homes, clinics/physicians' offices, or in their own homes. Over time, cycles of shortages and abundances have plagued the nursing profession, with the last one occurring in the late 1980s. That shortage, as others before had been, was short-lived. However, this nursing shortage is not only lingering on, but is predicted to increase dramatically.

Many societal and health care factors have coalesced to make this shortage uniquely different from those of the past. As societal roles have changed, more and more women who earlier might have chosen nursing now choose other professions, even as nursing remains primarily a women's profession. Our 2002 data indicate that only 4% of New Jersey nurses are male.

At the same time, our nation's citizens are growing older, living longer, and, therefore, are more likely to need hospital and other health care services. Similarly, 40% of New Jersey RNs are over the age of 50, while only 5.5% are age 30 and under. This suggests that large numbers of working Registered Nurses (RNs), the baby boom generation, will begin to retire soon and the necessary replacements will not be there to care for an aging population. Hence, retaining and increasing the existing supply of RNs is one area addressed in this report.

A positive effect of nursing campaigns, such as the Johnson & Johnson nurse recruitment effort, is that more and more students are interested in nursing. However, the schools do not have the capacity to enroll more students, primarily because of the shortage of faculty. As a result, recommendations and suggestions for implementation to increase the educational capacity of nursing schools are another focus of this report.

The Institute of Medicine report, *Keeping Patients Safe: Transforming the Work Environment of Nurses* (2004), emphasized the impact of nurse staffing on patient outcomes. Research, such as that of Drs. Aiken, Buerhaus, and Needleman, clearly identifies the crucial role of nurses in decreasing the rates of complications and deaths among hospitalized patients.

The last area of this report focuses on nursing research and the means to generate a change in nursing care, thereby, increasing the quality of New Jersey's health care. Therefore, this recommendation suggests funding the NJCCN to meet its legislated mandate to serve as a future-oriented research and development organization for nursing that disseminates objective information about the nursing workforce for the allocation of State resources toward nursing.

To ensure that all New Jersey patients have access to the right nurse when they need care, concerted, carefully planned and implemented strategies are needed now to create the change that can prevent, or minimize, all aspects of this looming health care shortfall. Therefore, we strongly encourage the New Jersey Governor and Legislators to initiate prompt action on these recommendations in order to prevent a major health care crisis.

A handwritten signature in cursive script that reads "Geri L. Dickson".

Gerri L. Dickson, PhD, RN
Executive Director

CONTENTS

PREFACE	ii
BOARD MEMBERS	v
STAFF	vii
EXECUTIVE SUMMARY	1
PREVENTING NEW JERSEY’S IMPENDING HEALTH CARE CRISIS: SIX RECOMMENDATIONS	3
I. BACKGROUND	3
II. THE NURSING WORKFORCE SHORTAGE: THE EVIDENCE	3
III. EVIDENCE-BASED RECOMMENDATIONS	4
IV. DOCUMENTING AND IMPLEMENTING THE RECOMMENDATIONS	5
Recommendation #1:	5
Recommendation #2:	7
Recommendation #3:	9
Recommendation #4:	11
Recommendation #5:	13
Recommendation #6:	15
V. CONCLUSIONS DRAWN	17
REFERENCES	19

BOARD MEMBERS

Judith Mathews, PhD, RN, Chair
Association of Diploma Schools of Professional Nursing

Gloria Boseman, PhD, MS, Secretary
Association of Baccalaureate and Higher Degree Programs in New Jersey

Mimi Cappelli, MA, RN, (Former) Chair
New Jersey State Nurses Association

Marian Bass, MS
Consumer of health care

Linda Cuoco, MS, RN
New Jersey Hospital Association

Louise DeBlois, MEd, MA, RN
New Jersey League for Nursing

Lucille Joel, EdD, RN, APN-C, FAAN
New Jersey State Nurses Association

Kathi Kendall-Sengin, PhD, RN
New Jersey Council of Teaching Hospitals

Beatrice Moskowitz, BA, MS
Consumer of health care

Kathleen Pavalkis, MSN, RN
Practical Nurse Educators Council

Beth A Perkins, MSN, RN
New Jersey Council of Associate Degree Programs

Sharon Rainer, RN, MSN, NPC
New Jersey State Nurses Association

BOARD MEMBERS (continued)

Connie Wilson, LPN
Licensed Practical Nurse Association of New Jersey

Luz Ramos, MSN, RN, APN-C,
Health Professionals and Allied Employees

Faith Scott, MPH, RN, CHE
New Jersey Home Care Association

Janice Testa, MSN, RN
Health Care Association of New Jersey

STAFF

Gerri L. Dickson, PhD, RN
Executive Director

Linda Flynn, PhD, RN
Associate Director of Research

Julia R. Plotnick, MPH, RN, FAAN
Administrative Consultant

Allison Creary
Administrative Assistant

Ming Yu Li, BS
Research Assistant

EXECUTIVE SUMMARY

Forecasts on the national and State level indicate a shortage of nurses of crisis proportions by 2020. Not only will the demand for nurses increase as the population ages and chronic diseases increase, but the supply of nurses is predicted to slowly decrease. Thus, without concerted action, in 14 years the gap between demand and supply in New Jersey is expected to climb to 49%, which means only about one-half of the necessary Registered Nurses (RNs) will be there to care for New Jersey patients.

“Nurses are the backbone of the health care system,” said former Governor James E. McGreevey as he signed the legislation on December 12, 2002 to create the New Jersey Collaborating Center for Nursing (PL, 2002, c116). The Center is mandated by legislation to serve as a future-oriented research and development organization that will develop and disseminate objective information for the allocation of State resources toward the nursing workforce.

The Center is located in the College of Nursing, Rutgers, the State University of New Jersey, Newark Campus. After the first year devoted to start-up, the Center has been engaged in systematic data collection and analyses about characteristics of the New Jersey nursing workforce and resultant issues. Based on these findings, the board and staff of the Center make the following evidence-based recommendations about actions needed to avert a public health crisis:

A. Nurse Workforce Supply: Increasing Educational Capacity

1. Expand enrollment capacity for students entering generic nursing programs by increasing State support to New Jersey schools of nursing.
2. Recruit and retain nursing faculty by subsidizing nursing faculty salaries to make them commensurate with other employers of nurses with graduate education.
3. Increase the pool of qualified nursing faculty by providing additional incentives for employers and employees to support those enrolled in master’s degree nursing programs and doctoral level education.

B. Nurse Workforce Supply: Retaining and Increasing the Nurse Workforce

4. Offer grants to New Jersey health care facilities to seek, receive, and actively maintain accreditation for excellence in nursing from the American Nurses Credentialing Center’s Magnet Recognition Program®.
5. Supply grants to health care employers to implement work-study programs that offer flexible part-time hours with full-time salary and health care benefits to employees enrolled in RN programs in schools of nursing.

C. Workforce Development: Improving Quality through Nursing Research

6. Allocate a dedicated line of funding within the annual State budget, or a Department thereof, to provide operating funds for the NJCCN to maintain and sustain its legislative mandates.

Along with the evidence to support each recommendation, the Center offers the following suggestions on how the State may develop and implement a mechanism to support these recommendations:

- Issue a call for competitive proposals through the Commission on Higher Education that provide creative solutions to the nursing shortage by increasing capacity among New Jersey nursing schools;
- Provide subsidies to increase faculty salaries at schools of nursing that produce substantive numbers of nurses;
- Re-direct the Area Health Education Center's (AHEC) funds to focus on the development and recruitment of nursing faculty. The three New Jersey AHECs currently focus on medical education;
- Require a small capitation fee per nurse that would be paid by nurses' employers to the Department of Health and Senior Services;
- Encourage all hospitals to engage in the magnet accreditation process, and by providing small grants to facilities, the State can provide incentives for small hospitals to engage in systems improvements to support nursing practice;
- Partner with relevant State businesses to play a role in supporting hospitals to increase their quality of nursing care;
- Seek and award funds through the Department of Health and Senior Services to employers of nurses who support employees in faculty development roles;
- Introduce and pass amendment legislation to: (a) change the structure of the board of the Center; and (b) allocate a dedicated line of annual funding in the State budget.
- Convene a task force to explore means of funding the Center from one or more existing sources;
- Create a voluntary check-off box on the New Jersey income tax to allow residents the opportunity to voluntarily invest in nursing for one or two dollars; and
- Add a reasonable business fee to the State's large contingent of pharmaceutical companies; they have a vested interest in health care.

Investing in the future of nursing is crucial now, if New Jersey patients are to have a health care system with an adequate nurse workforce, both in number and in educational preparation. Let us take the necessary actions now to ensure that nurses, who serve as the "backbone of the health care system," will be there to care for New Jersey's patients.

PREVENTING NEW JERSEY'S IMPENDING HEALTH CARE CRISIS: Six Recommendations

I. *Background*

"Nurses are the backbone of the health care system," said former Governor James E. McGreevey as he signed the legislation on December 12, 2002, to create the New Jersey Collaborating Center (P.L., 2002, c116). The Center is housed in Rutgers, the State University of New Jersey, and is located in the College of Nursing on the Newark Campus.

The Center, established with a partnership of public and private funds, is mandated by legislation to serve as a future-oriented research and development organization for nursing and to disseminate objective information about the nursing workforce for the purpose of recommending how the State should allocate resources toward nursing. The Center was created by legislative mandate to supply the Governor and State Legislature, as well as other stakeholders in health care, with data about the supply of and demand for New Jersey nurses. The Center's evidence-based recommendations form the bases for change through the creation of health policy.

Although there was no appropriation attached to the Center legislation, a two-year grant of \$712,213 from the Robert Wood Johnson Foundation was obtained in January 2003. Subsequently, two \$100,000 State grants (2003 and 2004) were received. These funds supplied start-up costs as well as operating costs for the first two years. In 2005 the Center received a State grant of \$345,000. A no-cost extension was obtained, and the Center has funds for modest operations until June 30, 2006.

In this first report, six recommendations have been formulated, with rationale, and suggested implementation plans. The following recommendations suggest effective ways for nursing schools and employers to be able to enroll more nursing students and to retain more working nurses; additional State support will be necessary. Collaboratively, then, the State, the industry, and the educational system can avert a major health care crisis in New Jersey.

II. *The Nursing Workforce Shortage: The Evidence*

The New Jersey Collaborating Center for Nursing is the primary source for data about the nursing workforce in New Jersey. Our data forecast and "sound the alarm" regarding the extent of a shortage, and we serve as a catalyst to bring together nurses and other health care stakeholders to work collaboratively to find and test workable solutions to minimize, and maybe prevent, the predicted shortage.

As nurse leader Claire Fagin (1999) emphasized, nurses are essential for the public's health. In fact, research published in leading, peer-reviewed medical journals describe the positive relationship between nursing care and the quality of care patients receive in

hospitals. Adequate numbers of nurses are associated with prevention and significant reduction of postoperative complications and medical errors (Aiken et al., 2002; Leape, Bates, Cullen, Cooper, Demonaco, Gallivan, et al., 1995; Needleman, Buerhaus, Mattke, Stewart, & Zelevinsky, 2002).

Nurses represent approximately 50% of the professionals in the health care workforce. The latest forecasts (2004) from the US Department of Health and Services (DHHS) predict an inability to fill 42,400 (49%) New Jersey full-time-equivalent RN positions by 2020 (Biviano, Fritz, Spencer, & Dall). If these predictions are fully realized, almost one out of two New Jersey patients will *not* have an RN to care for them when they need nursing care. In addition, our research suggests that the shortage may be even greater than that projected by the U.S. DHHS because 20% of actively licensed New Jersey RNs do not work in nursing, and 36% of New Jersey RNs work only part time.

Despite recent successful comprehensive and expensive recruitment campaigns, the shortage of nurses has not abated for several reasons. Recruitment campaigns have led to a dramatic increase in the number of students choosing nursing as a major. However, the schools are now “bursting at the seams” and unable to accommodate all of those qualified individuals who want to study nursing. A major reason for the schools’ inability to expand their enrollments is that schools are unable to hire additional qualified faculty without an increase in fiscal resources. Further, the shortage is expected to continue to increase as the population ages. At the same time, the baby boom generation of nurses is beginning to retire and only a much smaller cohort of younger replacements will be there to replace them. Additionally, there is a marked increase of RNs in their first to second year of nursing practice exiting the hospital workforce. In fact, Goode and Williams (2004) report that 53% of new graduates leave their first hospital job within 12 months of employment, compared to the average annual turnover for all RNs of 20%.

Only crucial changes implemented now in the recruitment, education, and retention of the nursing workforce will avert the predicted future of a health care system without adequate numbers of educated, skilled Registered Nurses.

III. Evidence-Based Recommendations

The *supply* of nurses refers to the number of nurses who are actively licensed in New Jersey and willing to work here. The supply of nurses is dependent upon the nursing educational system, migration of nurses into the State for employment opportunities, and retention of nurses within their employment settings. The *demand* for nurses is an economic term that reflects the number of nurses that employers are willing to hire, given their availability. In a short-supply, high-demand environment, schools play a critical role in increasing supply, and employers play a pivotal role by retaining their employees through higher wages and creating more productive work environments. The following recommendations are suggested as means to address issues related to the looming nursing shortage created by the reduced supply and increased demand for RNs.

A. Nurse Workforce Supply: Increasing Educational Capacity

1. Expand enrollment capacity for RN students by increasing State support to New Jersey schools of nursing.
2. Recruit and retain nursing faculty by subsidizing nursing faculty salaries commensurate with other employers of nurses with graduate education.
3. Increase the pool of qualified nursing faculty by providing additional incentives for employers and employees to support those enrolled in master's degree nursing programs and doctoral level education.

B. Nurse Workforce Supply: Retaining and Increasing the Nurse Workforce

4. Offer grants to New Jersey health care facilities to seek, receive, and actively maintain accreditation for excellence in nursing from the American Nurses Credentialing Center's Magnet Recognition Program®.
5. Supply grants to health care employers to implement work-study programs that offer flexible part-time hours with full-time salary and health care benefits to employees enrolled in RN programs in schools of nursing.

C. Workforce Development: Improving Quality through Nursing Research

6. Allocate a dedicated line of funding within the annual State budget, or a Department thereof, to provide operating funds for the NJCCN to maintain and sustain its legislative mandates.

IV. Documenting and Implementing the Recommendations

The Center's recommendations are based on a careful analysis of data about New Jersey's supply and demand for nurses, as well as the research on work environments that retain nurses. The next section of this report details the data to support the recommendations and outlines suggestions for implementation.

Recommendation #1: Expand enrollment capacity for generic RN students by increasing State support to New Jersey schools of nursing.

Given the forecasts for the shortage, serious consideration must be given to increasing the supply of New Jersey RNs. In 2003, the Center initiated an annual survey of the 33 New Jersey RN schools of nursing that educate nurses to enter the workforce. This annual survey provides reliable data about the capacity of New Jersey nursing schools to enroll and educate students and to trend the data over time noting changes that can be compared to the demand for nursing care. The full reports can be found on our website at <http://www.njccn.org>.

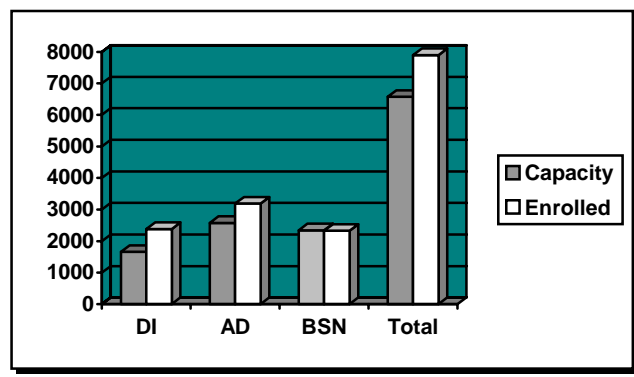
The 2004 data indicate that the New Jersey schools of nursing are working to increase educational capacity. There are 13 Associate Degree programs (an additional program was added in 2004 to total 14), all in County Community Colleges; 11 Hospital Diploma; and 9 Baccalaureate nursing programs in the State that educate nurses to enter the

workforce. Five of the nine Baccalaureate nursing programs are in State-supported schools. The findings from the 2004 Center's survey indicate that:

- Between 2002 and 2004, New Jersey schools of nursing increased their graduation rates by 13% from 1,400 annually to 1,600.
- There is an increased interest in nursing by potential students;
- Two-thirds (67%) of schools of nursing in New Jersey turned away qualified student applicants – in fall of 2004 some schools already had their 2005 and 2006 classes filled;
- Many schools no longer keep waiting lists, but students may wait up to two years after completing their general education prerequisites to enter the nursing component of the Associate Degree programs;
- The total number of 2004 nursing student enrollments in New Jersey's RN schools of nursing, Statewide, currently exceeds their reported total enrollment capacity by 20%;
- 57% of all schools of nursing in the State report numbers of enrollments greater than their current capacity to educate students (see figure 1);
- Many schools have increased their capacity by increasing faculty workloads;
- Additional laboratory space and equipment, clinical sites, and classrooms are needed by the majority of nursing schools in order to increase their capacity to educate students; and
- Although the minimum State requirement to teach nursing is a Master of Science in Nursing, Universities and 4-year schools may require doctoral degrees, and in the larger research institutions, a program of research.

Figure 1 depicts the “seat capacity” of schools and the actual enrollments for 2004; the enrollments exceed the capacity by 20%. Although it is a difficult calculation to estimate, attrition rates (i.e., students who enroll but never graduate) are reported to be quite high and exceed 50% in some cases. Additionally, students in the Associate Degree programs generally take at least four years, instead of two years, to complete all the requirements for an Associate Degree with a nursing major.

Figure 1: Enrollments vs. Capacity: 2004



Therefore, in spite of the schools' best efforts, New Jersey's nursing programs are not meeting the State's current need for nurses. Our data suggest that to meet the 2020 demand (based on 2004 data) the State would need to graduate more than 5,600 RNs each year or at least 4,000 more per year than they did in 2004. It is clear from these estimates that new graduates alone will not fill the gap between supply and demand. However, increasing the supply through increased educational capacity will contribute substantially in preventing more serious shortages.

Suggestions for Implementation of Recommendation #1

Increasing State support to New Jersey schools of nursing would expand the enrollment capacity of schools of nursing by increasing the number of faculty lines, the hiring of additional faculty, increasing laboratory space and equipment, and adding classrooms. These efforts would allow a greater number of qualified students to be admitted and graduate from the programs.

The New Jersey Commission on Higher Education and the New Jersey Department of Education can issue a call for competitive proposals for funding to increase capacity among New Jersey nursing schools. Quality criteria, such as attrition rates, rate of first-time pass rates on state board examinations, and accreditation commendations or citations can be used as comparative quality indicators to award grants to the top schools. The school's plan for increasing graduates and the number of graduates could also be taken into consideration.

Because the ethnic/racial distribution of the nurse workforce does not mirror the ethnic/racial distribution of the New Jersey population, specifically African-Americans and Latinos, special attention should be focused on the recruitment of these underrepresented populations into nursing. Schools that increase the diversity among students by at least 10% and are successful in filling at least one-half of their vacant faculty positions with underrepresented populations would receive additional consideration for funding.

Recommendation #2: Recruit and retain nursing faculty by subsidizing nursing faculty salaries commensurate with other employers of nurses with graduate education.

Integral to increasing capacity within the New Jersey schools of nursing is recruiting and retaining faculty. In New Jersey, as well as nationwide, the shortage of faculty in schools of nursing is reaching crisis proportions. Insufficient numbers of faculty hinder schools' efforts to increase their capacity. Our survey indicates that an overwhelming majority (73%) of New Jersey nursing schools would need to increase faculty lines and have sufficient faculty applicants to fill vacant faculty positions in order to increase their enrollment capacity for fall of 2005. The number of full-time faculty positions currently budgeted in New Jersey's schools of nursing totals 575 full-time equivalents. Of these,

however, 6% or 35 FTEs statewide were vacant at the time of data collection in October 2004, after the start of the 2004-2005 school year. Further, 54% of the nursing schools reported vacant faculty positions.

Preliminary data from the 2005-2006 school year indicate a continued high interest in nursing education. Further, graduates in spring 2005 appear to have increased about 20%. The final analysis of 2005 data regarding enrollments and graduates will be released shortly.

According to the American Association of Colleges of Nursing (2005), several factors are contributing to the expanding and widespread nursing faculty shortage. These include: (1) increased nursing faculty retirements; (2) younger faculty's departure from academic life; (3) substantial differences between academic and clinical salaries; (4) tuition and loan-burden for graduate study; (5) diminishing pipeline of master's and doctorally prepared nurses; and (6) nursing faculty workload and role expectations. Findings from a survey completed by the Colleagues in Caring project (a precursor of the Center) of all New Jersey RN nursing schools indicated that 50% of the State's RN faculty would be eligible for retirement (age 65) by 2008 (unpublished data from survey of educators by CIC, 1998). In addition, our 2004 survey found that 73% of the RN schools reported a need for additional faculty (Dickson, Flynn, & Beal, 2004).

In addition to finding qualified faculty, schools must be able to offer them financial incentives commensurate with other sectors of the health care industry. An analysis of salary surveys from several sources, including the U.S. Bureau of Labor Statistics (BLS), a national survey published by a popular nursing journal (Hader, 2004), the New Jersey State Nurses Association, and website reports derived from human resource datasets (www.salary.com; <http://salary.monster.com>), indicate that average salaries in New Jersey schools of nursing are considerably lower than average salaries for other nursing positions in New Jersey requiring a master's degree. Our analysis also found that faculty salaries are considerably lower than average general staff nurse salaries in the State. RNs with a master's degree in nursing constitute 8% of the population of RNs, while less than 1% of RNs hold a doctoral degree (Dickson, Flynn, & Beal, 2004). By State regulations, a Master of Science in Nursing is the minimum requirement for faculty. Table 1 summarizes the differences in salary among faculty, clinicians with master's degrees, as well as RN staff nurses who may hold an Associate Degree, a Diploma, or a Baccalaureate Degree in Nursing.

Table 1. Average Nursing Salaries in New Jersey: 2004

Nursing Faculty	Nurse Practitioner	Nurse Manager	Staff RN
\$56,200 (BLS) (Graduate Degree)	\$79,000 (websites) (Graduate Degree)	\$71,460 (journal survey) (Bachelors Degree)	\$61,790 (BLS) \$63,000 (websites) (AD, Diploma, or Bachelors Degree)

In summary, current nursing faculty members are aging, and there are insufficient numbers of younger faculty to replace them. Educational expenses, higher academic workloads, and lower academic salaries are creating an exodus among younger nursing faculty as they move to more profitable industry positions.

Suggestions for Implementation of Recommendation #2

In recent years, average salaries for nursing positions in clinical settings have risen significantly more than those for nursing faculty positions. The academic salaries have frequently been constrained by state, county, or institutional budget cuts. Consequently, New Jersey schools of nursing, similar to nursing schools in other states, have difficulty competing with nonacademic employers for scarce nursing staff. Yet, initiatives to increase student enrollments in schools of nursing and to offset a broader nursing shortage are dependent on sufficient numbers of nursing faculty.

Providing State subsidies to increase faculty salaries at schools of nursing that produce substantial numbers of nurses would ensure that faculty positions are competitive with industry nursing positions requiring similar educational preparation and experience. A fair and just way of distributing the funds would need to be determined. From our 2003 survey, we found a wide variance among schools with full-time faculty salaries ranging from a low of \$30,000 to a high of \$80,000 (Dickson, Flynn, & Beal, 2004). Again, the Commission on Higher Education or the Department of Education would be the appropriate entity to develop a fair and just means for rewarding nursing schools on a Pay-for-Performance basis.

Recommendation #3: Increase the pool of qualified nursing faculty by providing incentives for employers and employees to support those enrolled in master's degree nursing programs and doctoral level education.

The data cited above indicate that employers of nurses outside of education compensate nurses at rates far higher than the educational sector. In addition to salary, other benefits may be offered that motivate RNs to obtain graduate education and consider teaching as a career. In addition, Advanced Practice Nurses, also required to be masters prepared, need to continue their clinical practice in order to maintain their certification and remain current in practice; sometimes difficult to do in an academic setting.

However, successful partnerships have been crafted between education and service to encourage Advanced Practice Nurses with appropriate credentials to teach on a part time basis. Educational institutions and hospitals can arrange joint-positions between education and service for graduate-prepared nurses. Expert clinicians will need additional education to understand principles of teaching and learning; the educational system can provide the basics of helping students to learn and how to evaluate students' learning in the clinical setting.

Suggestions for Implementation of Recommendation #3

An interdisciplinary task force can be convened to explore sources of existing funds that can be used to support the educational system and faculty development. Some possible sources of existing funds may be tapped, such as those outlined below.

For example re-direct Academic Health Education Center (AHEC) funds to focus on the development and recruitment of nursing faculty. New Jersey has three AHECs that primarily are medically based but could form partnerships with educational institutions to determine the additional knowledge and skill necessary for an expert clinician to become a faculty member in Associate Degree or Hospital Diploma Schools. The State should consider strategies that would incentivize the health care practice sector to encourage selected employees who are pursuing graduate education to consider faculty positions. The short-term payback may not be evident; however, in the long term, more faculty will equate to more graduates, which in turn will lead to better patient care.

Another potential source might be funds that hospitals receive for nursing education that could be used for faculty development, as well as providing subsidies to supplement faculty salaries. Other potential sources might include a small fee per nurse employee paid to the Department of Health and Senior Services to be used to expand nursing schools to prepare additional students.

Other states are working on developing special benefits for such items as student loan-forgiveness and the waiver of State taxes for graduate nurses who become faculty members. Texas has initiated a program that provides \$500 tuition exemption for children at the institutions in which the parent is serving as a clinical preceptor.

These are a few examples, but a task force can explore innovative and creative ways to re-direct existing funds without adding to the general budget or the State deficit.

Recommendation #4: Offer grants to New Jersey health care facilities to seek, receive, and actively maintain accreditation for excellence in nursing from the American Nurses Credentialing Center's Magnet Recognition Program®.

Because the data indicate that increasing the supply of new nurses alone is unlikely to solve the nursing shortage, employers must implement strategies to retain employed nurses. *Retention* serves at least two important goals: it decreases the high cost of employee turnover, estimated to be 150% of the cost of retaining each nurse (Advisory Board, 1999), and it improves the quality of patient care. Research indicates that the nurse staff shortages are accompanied by nurse job dissatisfaction and subsequent job attrition (Aiken, Clarke, Sloane, Sochalski, Busse, et al, 2001). A recent survey of more than 43,000 RNs working in U.S. hospitals found that 41% were dissatisfied with their jobs, and 43% suffered from job-related burnout. Perhaps not surprising, more than 22% of the 43,000 surveyed nurses were planning to leave their job. An unsatisfactory

work environment characterized by inadequate staffing levels, unsupportive management, and a diminishing focus on patient quality were reported by the nurses as the primary factors influencing their intentions to resign (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002). Comparable findings were reported from a nationally representative sample of 4,000 hospital-based RNs surveyed in 2004, in that approximately 23% of respondents indicated plans to leave their job (Buerhaus, Donelan, Ulrich, Norman, & Dittus, 2005).

Consistent with prior research demonstrating that the majority of nurses who consider leaving their jobs actually do follow through with their intentions, the Bernard HODES Group reports a national RN attrition rate of 15.5% in 2004. Compared to teaching, another predominately female profession, turnover within nursing is two times higher than that among public school teachers.

Compounding the issue of nurse staffing shortages and job dissatisfaction are the findings from the Center's survey of New Jersey nurses. We found that the percentage of nurses planning to leave their jobs was 31%, and of those, half (50%) indicated that work environment factors were their primary reason for leaving (Dickson, 2003). This situation is likely to worsen. In fact, the U.S. DHHS reports that if the current trends in education and RNs exodus from the workforce continue, the number of RNs giving up their license will outnumber the number of new entrants into nursing by 2020 (Biviano, Fritz, Spencer, & Dall, 2004).

There are well-documented, evidence-based strategies for improving nurse job satisfaction and retention. For over two decades, research has found that those hospitals meeting criteria for accreditation as magnet hospitals from the American Nurses' Credentialing Center's (ANCC) "Magnet Recognition Program®" have significantly higher rates of nurse job satisfaction, lower attrition rates, and lower percentages of nurses experiencing burnout. These positive nurse outcomes are attributable to the presence of distinct factors within the work environment that are requirements for achieving magnet accreditation. These factors include systems and processes that ensure nurses' participation in hospital policy development and decision-making, consistent adequate nurse staffing levels, and a quality infrastructure that supports care delivery and makes certain that nurses have the resources to deliver high quality patient care. In addition, research findings consistently indicate that ANCC magnet hospitals also experience superior quality indicators including higher levels of patient satisfaction when compared to non-magnet hospitals (Aiken, Havens, & Sloane, 2000).

Suggestions for Implementation of Recommendation #4

Consumers should be encouraged to access information on quality of care that is provided in New Jersey hospitals. New Jersey has already begun to track and report quality indicators for its facilities (New Jersey Department of Health, 2005). The *New Jersey 2005 Hospital Performance Report* helps consumers determine how each New Jersey hospital fares on treatment of selected health conditions. However, it does not

contain any information on nurse-sensitive patient outcomes such as falls, pressure sores, and pain management.

In addition, the U.S. DHHS has recently initiated a website, Hospital Compare (<http://www.hospitalcompare.hhs.gov/>) that assists consumers in comparing hospitals within the state to others across the nation. A competitive mechanism could be developed using the *Hospital Compare* data offered in the State through the New Jersey Department of Health and Senior Services to encourage hospitals and long-term care facilities to improve their nursing care and governance.

Because magnet hospitals have demonstrated improved nurse retention *and* patient outcomes, New Jersey should consider ways to incentivize all facilities to achieve and maintain magnet status. Seventeen of the 104 New Jersey acute care facilities have earned magnet status, with other facilities undergoing the costly accreditation process. Some are undergoing the re-accreditation process, which occurs every four years. Chief Nurse Executives report that the cost of resources to achieve and maintain the accreditation is in the six-figure range, depending on the size of the hospital, with larger hospitals having increased fees.

We recommend that all hospitals engage in the magnet accreditation process; even though the costs associated with accreditation may be prohibitive for the smaller facilities. Absent full magnet accreditation, these smaller hospitals can certainly engage in systems improvements to support nursing practice. By providing small grants to facilities, New Jersey might help jump-start these activities. We also recommend that hospitals be rated on nurse-sensitive quality indicators so that consumers can use available websites to seek information on the quality of nursing care, as well as the quality of care for medical conditions.

The New Jersey Department of Health and Senior Services would be the most appropriate entity to fund the grants, especially as they work toward improving hospital performance indicators. The State could consider partnerships with local foundations and businesses, such as the pharmaceutical industry, to play a role in supporting hospitals to increase their quality of nursing care;

Recommendation #5: Supply grants to health care employers to implement work-study programs that offer flexible part-time hours with full-time salary and health care benefits to employees enrolled in RN programs in schools of nursing.

Work-study nursing programs are effective mechanisms that enable health care employers to not only offer upward mobility to non-nurse employees, but also to address the growing shortage of nurses. This concept has gained national recognition in that a new phrase, “grow your own,” has been coined by health care employers to describe this innovative approach to enlarge the nurse pipeline.

Serving as a national model, the Ladders in Nursing Careers (LINC) program was a nursing work-study program in New York City originated by funding from the Robert Wood Johnson Foundation. The program provided tuition and financial support to low-income hospital and nursing home employees while they attended schools of nursing preparing to become either practical or registered nurses. In return, employees were expected to work for their employers for approximately three years following graduation. In addition to addressing the nursing shortage, this program helped entry-level employees advance into the nursing profession. The program was so successful (93% graduation rate), that it was replicated in eight other states, and currently remains operational in seven states. New Jersey was not among the program states (The Robert Wood Johnson Foundation, 1999).

Two similar programs have successfully been implemented in New Jersey. In 2002, the New Community Corporation opened a licensed practical school of nursing for the dual purposes of providing upward career opportunity for their paraprofessional employees, while developing an adequate nursing workforce to staff their facilities. New Community is a nonprofit community-developed organization in Newark that provides nursing home and home health care services to 5,000 clients annually. Its practical nursing program provides full tuition, childcare services, and a full-time salary to employees while attending school. The program has an 89% graduation rate and 100% pass rate on the licensing examination that allows them to become Licensed Practical Nurses (New Community Corporation, 2004). Similarly, Bayonne Medical Center provides a full-time salary, full-time benefits, and full tuition to non-nursing employees who attend classes at Bayonne Hospital School of Nursing and work 24 hours per week at Bayonne Hospital (Nursing Advisory Council Report, 2005).

Suggestions for Implementation of Recommendation #5

Although innovative and successful in enlarging the nursing workforce, nursing work-study programs require an investment of funds. The LINC program was funded by planning and implementation grants from the Robert Wood Johnson Foundation. Similarly, the New Community School of Practical Nursing program is funded by a variety of foundation grants. State-funded incentives to New Jersey health care employers would increase the replication of these highly successful models across the State and achieve two important goals: (1) offset a serious nursing shortage by increasing the size of New Jersey's nursing workforce; (2) provide upward salary and career mobility for entry-level, low-income health care workers in the State.

The New Jersey Department of Labor could seek funds to establish similar programs as outlined above. Additional funding for the programs could be sought from the U.S. Department of Labor and the U.S. Division of Nursing in the Bureau of Health Professions. The New Jersey Department of Labor could develop a fair and equitable way to distribute the funds among collaboratives of the health care industry and educational programs similar to the Lattice Career programs (such as the one sponsored by the Newark Alliance), which is a partnership between health care

organizations and educational institutions. This program includes other shortages of health care workers, as well as nurses.

Recommendation #6: Allocate a dedicated line of funding within the annual State budget, or a Department thereof, to provide operating funds for the Center to maintain and sustain the Center's legislative mandates.

The New Jersey Collaborating Center for Nursing came into existence in 2003, with the Robert Wood Johnson Foundation grant. The first year was spent in setting up the Center with such activities as finding space to house the Center, hiring staff, purchasing furniture and equipment, and getting a board appointed. The legislation outlines a 17-member board to develop global policies, set priorities, hire the Executive Director, and seek extramural funding. The appointment process of the politically appointed board has been slow. In addition, the terms have been staggered between one and two year appointments making it almost impossible to have a fully appointed board in the first few years.

At the same time, we have released data reports, as well as reports of projects developed through our work. The New Jersey Nursing Demand Model developed in Colleagues in Caring was tested and updated with forecasts for 2010. The forecasting papers can be found on our website at www.njccn.org.

We have developed and disseminated brochures for students and booklets for faculty of the New Jersey Revised Articulation Agreement for LPNs to progress to RN schools and for RNs to earn a BSN degree without repeating basic information. Through interactions of different types of nurses throughout the State, we developed and published a career advancement competency-based practice model for RNs to differentiate practice and to retain and reward experienced nurses in direct patient care.

In addition, we purchased a recruitment program from the North Carolina Center for Nursing, packaged the materials for New Jersey, and distributed recruitment posters and CDs to 2,418 public and private elementary and secondary schools in New Jersey. Our member organizations, particularly the New Jersey Hospital Association, conducted recruitment follow-up sessions with interested schools.

After the basic operations were set, we moved on to analyze data about New Jersey RNs and LPNs and reported the findings of a 2002 random sample survey Colleagues in Caring had conducted of New Jersey RNs and LPNs. In 2003, we conducted a survey of RNs and LPNs who did not renew their licenses in 2002 and 2003. We also conducted our first educational capacity survey of New Jersey nursing schools in 2003. We have shared the results of our reports widely, through presentations at nursing and health care organizations and on our website. We report our data as objectively and unbiased as possible so that others may draw conclusions from their own organizational perspectives.

The State grants we received have helped to extend the RWJF grant time. We were successful in receiving a \$50,000 planning grant from the New Jersey Health Initiatives for our 2006 national conference, and Dr. Flynn received a \$356,556 grant from the RWJF. This grant has allowed us to mount a major study exploring the impact of nurse staffing on patient outcomes. For this study we are working in collaboration with the New Jersey State Board of Nursing and the Center for Health Outcomes and Policy Research at the School of Nursing, University of Pennsylvania. Dr. Linda Aiken is the Director of the University of Pennsylvania Center. The New Jersey study will extend Aiken's previous study to include LPNs, as well as RNs, and the home health and long-term care employment sector, in addition to the acute care sector.

In 2005, we worked with the State Employment and Training Commission of the New Jersey Department of Labor to co-host a major health care shortage summit on October 6th, 2005. This summit was designed to share examples of successful solutions to the nursing shortage. Dr. Dickson was a member and leader in the Advisory Committee charged with planning the summit.

Beginning in 2005, the Center has formed a partnership with the National League for Nursing and the New Jersey State Board of Nursing to collect and analyze the data from both RN and PN schools to determine their ability to graduate sufficient numbers of RNs and LPNs. Attrition rates are included in the 2005 survey, i.e., what percentage of students who are initially enrolled in the nursing programs actually graduate. The attrition rates along with the passing rates on the licensing examinations and their accreditation reports will allow the State to compare the schools on some standardized measures.

In addition, revenue-generating streams are being investigated to supply a source of operating funds for the Center. The Center's short-term goals are to increase its capacity to conduct research, release New Jersey components of national reports, convene advisory councils, convene an annual meeting, and foster the recruitment of underrepresented populations into nursing.

The Center has played a major role in disseminating information about the nursing workforce. Supporting the Center with operating funds will allow further research to continue to provide the evidence for health policy change in New Jersey. Further information about the Center activities can be found on our website at <http://njccn.org>.

Suggestions for Implementation of Recommendation #6

Consideration should be given to the introduction of amendment legislation to: (a) change the structure of the appointment of the board to increase the terms to three years and to change the method of appointments consistent with other councils or commissions; and (b) allocate a dedicated line of annual funding in the State budget. This would allow for a period of stability where the mission of the Center would be the focus rather than a continual concern about funding to sustain the mission and

legislative mandate. If the Center should lose its funding, the Center would no longer exist as it is now.

Means of funding the Center's operating costs could come from one or more existing sources. For example, New Jersey taxpayers may be offered the option via a check box on their New Jersey tax forms to increase voluntarily their tax payment by one dollar as an investment in the future of nursing in New Jersey. Consideration can be given to a minimal increase in State health care professional licensure fees or a capitation fee paid for the care of charity care patients by nursing students, similar to the federal Medicare pass-through dollars now paid to hospitals whose schools of nursing students care for Medicare patients.

The task force, suggested in recommendation #3, could investigate other innovative sources of existing health care dollars that might be redirected for the common good of improving health care for New Jersey residents by ensuring that nurses, adequate in number and education, will be there to meet the health care needs of New Jerseyans. Legislative policy could then put into place a mechanism to use these funds to sustain the Center and its basic work, which would be expanded through extramural grants. Funding the Center for its usual annual operating costs of \$345,000 each year would sustain the Center and enable it to reach new heights of accomplishments.

New funds also could be accessed by adding reasonable business fees for the State's large contingent of pharmaceutical companies; they have a vested interest in health care. The suggestions here are just the beginning of a creative exploration of the re-direction of existing funds or non-state funds that the task force could investigate.

V. Conclusions Drawn

This report represents the first in a series of biennial reports to the Governor and the Legislature. The Center was created by legislation on December 12, 2002, but the bill did not carry any appropriation. The intent, however, was to fund the Center each year, similarly to the annual funding of \$500,000 awarded each and every year since 1991 to the North Carolina Center for Nursing. However, the RWJF funded the Center in 2003 and funds from the State were awarded subsequently.

The benefit to the State in sponsoring a Center devoted to nursing issues and health services research is beginning to reap dividends. Seeking and receiving a dedicated, annual allocation will allow for further growth and development of the Center, its vision and mandates.

This year the NJCCN is hosting a national conference in Jersey City, which has been identified as the "must attend" nursing workforce conference of the year. It is important to note that the Center is now functioning at a high level with minimal staff; ensuring annual operating costs would allow the staff to continue to grow and maximize its high performance mandate without the continual search for funding.

The State cannot afford to lose the Center and its ability to provide objective evidence and development plans for increasing and retaining the New Jersey nursing workforce. The funding would ensure that the Center's mission as a future-oriented research and development organization for nursing would continue, as well as allow it to meet its vision to serve as the State's primary resource for nursing workforce data.

Founded on the concept of increased quality through nursing, the Center highlights the presence and voice of New Jersey nursing, which, in turn, provides the evidence-based recommendations to improve health care for all New Jerseyans.

With a projected shortfall between the supply and demand for RNs at 49% in just 14 years, action must be taken now to prevent a public health crisis. Investing in the future of nursing is crucial if New Jersey patients are to have a health care system with an adequate nursing workforce, both in number and in education. Let us take the necessary actions now to guarantee that nurses, who serve as the "backbone of the health care system," are there to care for New Jersey patients.

References

- Advisory Board Company. (1999). *Reversing the Flight of Talent: Nursing Retention in an Era of Gathering Shortage*. Washington, DC: Author.
- Aiken, L., Clarke, S., & Sloane, D. (2002). Hospital staffing, organization, and quality of care: Cross-national findings. *Nursing Outlook*, 50 (5), 187-194.
- Aiken, L., Clarke, S., Sloane, D., Sochalski, J., Busse, R., Clarke, H., et al. (2001). Nurses' reports on hospital care in five countries. *Health Affairs*, 20 (3), 43-53.
- Aiken, L., Clarke, S., Sloane, D., Sochalski, J., & Silber, J. (2002). Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *Journal of the American Medical Association*, 288, 1987-1993.
- Aiken, L., Havens, D., & Sloane, D. (2000). The magnet nursing services recognition program: A comparison of two groups of magnet hospitals. *American Journal of Nursing*, 100 (3), 26-35.
- American Association of Colleges of Nursing. (2005). *Nursing faculty shortage*. Available at <http://www.aacn.nche.edu/Media/FactSheets/facultyshortage.htm>
- Biviano, M., Fritz, M., Spencer, W., & Dall, T. (2004). What is behind HRSA's projected supply, demand, and shortages of registered nurses. Unpublished manuscript.
- Buerhaus, P., Donelan, K., Ulrich, B., Norman, L., & Dittus, R. (2005). Is the shortage of hospital RNs getting better or worse: Findings from two recent national surveys of RNs, *Nursing Economics*, 23(2), 61-96.
- Dickson, G.L. (2002). *Forecasting the demand for nurses in New Jersey*. Available at http://www.njccn.org/pdf/forecast_nj.pdf
- Dickson, G. (2003). The New Jersey Board of Nursing and Colleagues in Caring RN survey: Findings of the RN Survey. Available at http://www.njccn.org/pdf/RN_Survey_rpt_Revised.pdf
- Dickson, G., Flynn, L., & Beal, L. (2004, February). *New Jersey's Educational Capacity: RN-Producing Schools*. Available at http://www.njccn.org/pdf/final_ed_capacityi.pdf
- Fagin, C. (1999). Essay: Nurses, patients, and managed care. *New York Times*, March, 16, p. F7.
- Goode, C., & Williams, C. (2004). Post-baccalaureate nurse residency program. *Journal of Nursing Administration*, 34 (2), 71-77.

- Hader, R. (2004). Salary survey 2004. *Nursing Management*, 35(7), 28-32.
- Institute of Medicine. (2004). *Keeping patients safe: Transforming the work environment of nurses*. Washington, DC: The National Academies Press.
- Leape, L., Bates, D., Cullen, D., Cooper, J., Demonaco, H., Gallivan, T., Hallisey, R., et al. (1995). Systems analysis of adverse drug events. *Journal of the American Medical Association*, 274 (1), 35-43.
- Needleman, J., Buerhaus, P., Mattke, S., Stewart, M., & Zelevinsky, K. (2002). Nurse-staffing levels and the quality of care in hospitals. *New England Journal of Medicine*, 346 (22), 1715-1722.
- New Community Corporation. (2004). *NCC workforce LPN program: Schools of practical nursing*. Available at <http://www.newcommunity.org/main.htm>
- New Jersey Department of Health. (2005). *New Jersey 2005 Hospital Performance Report*. Available at <http://web.doh.state.nj.us/hpr/hpr2005.pdf>
- The Robert Wood Johnson Foundation. (1999). *Ladders in Nursing Careers Program*. Available at <http://www.rwjf.org/reports/npreports/ladderse.htm> .