

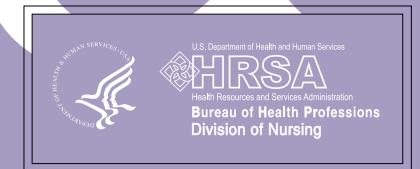
NATIONAL ADVISORY COUNCIL
ON NURSE EDUCATION
AND PRACTICE

NURSE

November 2002

Education Practice

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SECOND REPORT
TO THE SECRETARY OF HEALTH
AND HUMAN SERVICES
AND THE CONGRESS

The views expressed in this document are solely those of the National Advisory Council on Nurse Education and Practice and do not necessarily represent the views of the Health Resources and Services Administration nor the U.S. Government.

NATIONAL ADVISORY COUNCIL ON NURSE EDUCATION AND PRACTICE

**Second Report to the Secretary of Health
and Human Services and the Congress**

November, 2002

**United States Department of Health and Human Services
Health Resources and Services Administration
Bureau of Health Professions
Division of Nursing
5600 Fishers Lane
Rockville, Maryland**

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EXECUTIVE SUMMARY

The National Advisory Council on Nurse Education and Practice (NACNEP) in this second report to the Secretary of Health and Human Services and the Congress highlights its activities during the November 2001-2002 period and presents its concerns and perspectives on the continuing critical nursing shortage with particular emphasis on the nurse faculty shortage. The report was first required under Section 845 of Title VIII of the Public Health Service Act when it was amended by the *Nurse Education and Practice Improvement Act of 1998* (P.L. 105-392).

NACNEP's Activities During the Year

NACNEP's primary activities during the year were centered on furthering two aspects of its prior work: 1) the joint interdisciplinary activities with the Council on Graduate Medical Education (COGME) and 2) the issues underlying the nursing shortage with particular attention to the nurse faculty shortage.

NACNEP furthered its work on promoting interdisciplinary activities among the health professions by participating, along with COGME, in the organization and coordination of a multidisciplinary invitational summit of leaders to discuss and develop strategies for restructuring health professions education to advance and better prepare health professionals to practice in today's health care system. The summit was sponsored by the Institute of Medicine with supporting contributions from a number of Federal agencies and private health foundations. Over 200 action steps were generated by the more than 150 invited participants in the summit.

NACNEP and COGME joint recommendations from their earlier work on interdisciplinary activities to enhance patient safety led the Health Resources and Services Administration (HRSA) nursing and medicine divisions to enter into five cooperative agreements. In one agreement, the grantee is developing nurse and physician faculty leaders in interdisciplinary education specifically directed toward enhancing patient safety who will then

lead other nursing and medical faculty using techniques learned under this program. In the other four agreements, the awardees are working on aspects of improving patient safety at the direct care level in hospitals and in communities. All five projects are completing their first year of the 3-year period for the agreements.

Given the sustained crisis of nursing shortages, the status of the nurse workforce was once again the main focus of NACNEP's activities during the year. Major segments of the three meetings NACNEP held during the year were devoted to the study of issues underlying the ability to ensure an adequate nurse workforce to provide for the health care requirements of the country. The report especially examines approaches to alleviate the severe shortages that have heavy impact on the ability to provide quality health care to the nation's population. NACNEP recognized that steps to address the current nursing shortages are different than those required to ensure that the shortages of today are not also in the picture of the future. Therefore, the nursing shortage issues are discussed from two perspectives, the present and the future.

Current Nursing Shortages

Any actions that could be taken to alleviate the immediate shortfall in the RN supply are those pertaining to recruiting and retaining current RNs in the active workforce and enhancing the effective use of these RNs. An examination of the overall numbers of those who are already educated and licensed to practice as RNs showed that a very substantial proportion of the 2.7 million in 2000, 81.7 percent, were actively engaged in the extensive array of nursing positions available in the health care arena. However, nearly 500,000 RNs were not working in nursing. Among these, 28 percent were employed in non-nursing positions. Nearly one-half of the RNs who were working in other occupations cited better hours as the reason they were not working in a nursing position. About half of these pointed to better pay and more rewarding work in their non-nursing position.

EXECUTIVE SUMMARY

Changes in the nursing workplace, including more flexible hours, better salaries, and an environment where work is valued and rewarding, were cited as possible factors in recruiting some of these RNs back into nursing.

The vast majority of the RNs who were not employed in nursing were not working. The majority of these inactive RNs were over 50 years old. Younger inactive RNs were more than twice as likely to have very young children at home than the RNs of similar age who were working in nursing positions. Enhancements such as the provision for childcare and flexible hours may help to entice some of these younger inactive RNs back into the nursing workplace or shorten the time they are away if they have temporarily withdrawn from nursing. Added data on reasons why younger RNs are not working in nursing might be of further assistance in determining changes needed to encourage younger inactive RNs to return.

While recruitment of RNs for vacant nursing positions is important it is equally essential to retain the RNs already on staff. Several factors that impact on the ability to retain RNs in the hospital workforce were examined. It was pointed out that retention is a complex issue requiring attention to both organizational and individual factors, including both economic and noneconomic issues. The issue of wages is of particular concern. The average real annual salary of RNs showed little change over recent years, only \$200 between 1992 and 2000 according to the National Sample Survey of Registered Nurses (NSSRN). A recent study showed that substantial proportions of RNs believe improved wages and benefits would help a great deal in solving the nursing shortage and influence decisions to remain in the nurse workforce.

Among the many noneconomic factors contributing to retention, two of the most important are staffing and scheduling and the presence of a professional practice environment. The professional practice environment is characterized by a well educated nursing leadership, participatory decision making in matters related to patient care and practice, and respectful collegial relationships with physicians, administrators and other members of the

interdisciplinary team. However, the body of published evidence about retention strategies primarily consists of plans within individual hospitals. A sustained and concerted effort to develop, test and report successful retention models for future decision-making is needed.

The Future

The current shortfall in the numbers of RNs available to provide health care services is a precursor to anticipated future shortages of even greater magnitude. The nursing population is aging and it is expected that considerable numbers will be retiring in the not too distant future. Nursing schools have suffered declining enrollments in recent years and, although the most recent data show some increase, it is not anticipated that there will be substantial increases in nursing school enrollments under current conditions. At the same time, the aging United States population and the technological and therapeutic advances in health care foretell increasing needs for health care providers. A recent analysis by HRSA of the projected supply of and demand for RNs documents the escalation in the gap between the demand for RNs and the available supply. It anticipates that, given current trends, the demand for RNs would be 29 percent greater than the available supply by 2020.

Any substantive increase in the number of working RNs for the future must, of necessity, come from significantly increasing the number of individuals who are being prepared to become RNs. To do so requires expanding educational resources. An essential component of such an expansion is the availability of sufficient faculty. NACNEP, therefore, considered that a critical first step in obtaining an adequate future supply of RNs is to make certain that a cadre of qualified faculty will be available to teach them.

Nurse Faculty Shortages

Nursing school administrators throughout the country point to vacant faculty positions and difficulties in recruiting. Even within the current climate of reduced numbers of applications for schools of nursing, the lack of faculty has caused a number of educational programs to limit

EXECUTIVE SUMMARY

admissions. An even greater shortage is anticipated for the future. The average age of the teaching faculty in RN educational programs was 49.8 years in 2000 according to the NSSRN. It is anticipated that substantial numbers of current faculty members will be retiring in the not too distant future. More than three-quarters of the faculty were at least 45 years old. The qualifications to teach in an RN educational program require a master's degree or a doctorate. The doctorate is preferred, particularly in baccalaureate and higher degree educational programs. The lack of relatively young faculty members can, in part, be attributed to the length-of-time involved in an RN becoming qualified to teach. For example, according to the NSSRN for 2000, the average time between the doctoral degree and graduation from the basic nursing education program was 20.9 years. The number of graduates each year from doctoral nursing educational programs has remained fairly stable despite a substantial increase in the number of programs. The scope of positions available for nurses with doctorates from those as faculty members has increased dramatically. So have the types of positions available for those with master's degrees. Many of the expanded types of positions available provide substantially higher salaries than do those for faculty.

As was the case for the total RN workforce, once faculty members are recruited it is equally important to retain them. An examination of best practices for retention of faculty members revealed both economic and noneconomic factors. A system with annual reviews and established guidelines for compensation should be established and opportunities for incentive rewards should be available. Work environments should encourage scholarships, mutual support, interdisciplinary interaction, and attention to individual professional needs including opportunities to maintain clinical expertise and for professional development. Private funds should be solicited for endowed chairs or other special faculty positions, for specialized awards, and in support of faculty retention plans.

NACNEP also considered the need for increased diversity among faculty members to enhance the ability to recruit into nursing from the rapidly increasing minority

segment of the population. Having a critical mass of minority faculty has been shown to be a major factor in the recruitment and retention of minority students. The Council also looked at the impact of informatics both from the aspect of student recruitment and the need for faculty. On-line courses could facilitate attracting students from areas remote from educational facilities. They may impact requirements for faculty because of the faculty preparation and student interaction time needed. But, on-line learning could provide for collaborative sharing of resources among schools of nursing. As both faculty and students become more proficient in using on-line learning, acceptable student-faculty ratios may increase.

Conclusions and Recommendations

NACNEP's review of the current state of nursing resources in the country and the necessary steps to assure an adequate supply was made in acknowledgement of the changing environmental context, which includes external threats of terrorism and an awareness of patient safety and quality issues. Nurses and nurse faculty are critical elements in the nation's ability to address these external issues. NACNEP divided its recommendations into two areas: 1) actions to further its work in providing advice and recommendations pertaining to the nurse workforce, education and practice improvement and 2) actions that would be important in addressing the nurse faculty shortage, a critical first step in alleviating a potential nursing shortage for the future. In completing its conclusions and recommendations, NACNEP especially recognized and commended the passage of the *Nurse Reinvestment Act* (P.L. 107-205) in August 2002. NACNEP noted that major new authorities included in the Act responded to a number of the actions suggested in its first report and issues raised in this second report that were essential to alleviating the nursing shortages. The new authorities added to the ability of ensuring adequate, qualified, RN resources in the country through Title VIII. NACNEP looks toward sufficient funding for these new initiatives and the other portions of Title VIII so that this legislation can effectively contribute to the alleviation of a crisis in the nation's delivery of quality health care to the population.

I. INTRODUCTION

This second mandated report from the National Advisory Council on Nurse Education and Practice (NACNEP) is presented to the Secretary of Health and Human Services and the Congress within a climate of the continuing shortage of registered nurses (RNs). Hospitals and other providers of care within the health care delivery system point to the current lack of a sufficient supply as an important deterrent to their ability to give the population the full scope of health care required. The availability of a sufficient supply of RNs is key to providing the population with quality health care. RNs have a critical role in affecting the health and safety of the nation in the aftermath of 9/11. The nursing shortage is of increasing concern as plans are developed and enacted for the safeguarding of the population in the face of threats of terrorism.

Section 845 of Title VIII of the Public Health Service Act as amended by *The Nurse Education and Improvement Act of 1998* (P.L. 105-392) directed NACNEP to report its activities and the resultant advice and recommendations annually. (See Appendix A) Thus, while NACNEP from time to time in the past had provided the Secretary, and more recently the Congress as well, with reports on its findings and recommendations about specific issues related to nursing, it is only in this 1998 legislation that NACNEP has been required to do so. In the 1998 legislation NACNEP also, for the first time, was given the dual responsibility of advising both the Secretary and the Congress. NACNEP's first mandated report, covering a three-year period as stipulated in the 1998 legislation, was sent to the Secretary and the pertinent Congressional Committees in December 2001.

The first report summarized NACNEP's activities since the enactment of the 1998 legislation. The report included a review of the projects supported through Title VIII of the Public Health Service Act during the period. Title VIII programming outcomes are central to

NACNEP's development and assessment of its own policy advice and recommendations for the Secretary and the Congress. It summarized NACNEP's development of a national agenda to address issues surrounding the disparity between the diversity of the RN workforce and that of the nation's population as a whole. Seeing the issue of diversity as one related to both the distribution of RNs and improving the health care of the country's culturally diverse population, NACNEP continues to identify the area as critical to achieving its on-going goals and objectives.

This first report documented the steps taken jointly with the Council on Graduate Medical Education (COGME) to respond to the need to reduce medical errors and enhance patient safety through collaborative education approaches. It reiterated the major findings underlying the joint recommendations to foster interdisciplinary education and practice contained in the Councils' widely disseminated report *Collaborative Education to Ensure Patient Safety*. Building on this joint work on patient safety, the two Councils have moved into other collaborative activities fostering interdisciplinary objectives and approaches as described in the review of NACNEP's activities in Section II.

The severity of the nursing shortage was a prime focus of NACNEP's work during the period covered by the first report. NACNEP presented its view of the issues underlying the critical lack of enough RNs to satisfy demands. The report cited the slower growth rate in the supply of registered nurses currently over what existed in the past at a time when the aging population and the significant technological and therapeutic advances are placing increased pressures on the health care system. It examined the implications of the rising age level of the RN workforce, the decrease in the number of entrants into educational programs preparing individuals to become RNs, and factors contributing to the lack of

INTRODUCTION

attraction of nursing in comparison to other career choices available to both men and women. In considering the qualitative along with the quantitative issues facing the availability of RN resources, NACNEP reviewed the adequacy of the educational background of the current RN workforce in the light of the demands on RNs brought about by the increased complexity of care and the broader scope of practice required of today's RN. Thus, the first report presented a wide-ranging set of recommended actions that might be taken to assist in providing the country's residents with better health care from an adequate and qualified nurse workforce.

This second report provides an overview of all the activities undertaken by NACNEP during the year (November 2001- November 2002) following the submission of the first report. In recognition of the overriding concerns arising out of the continuing nursing shortage,

the status of the nurse workforce was once again the main focus of NACNEP's activities. As it continued its examination of nurse workforce issues, NACNEP recognized that approaches necessary to alleviate the current nursing shortages are different than those required to ensure that the shortages of today are not also the picture of the future. Thus, this second report, in Section III, features the nursing workforce shortage issues, from two perspectives, the present and the future. It emphasizes the impact of nurse faculty shortages on concerns for the future availability of the nurse supply.

Also included in this report in Appendices A through G are papers presented to NACNEP during the meetings held in the year. The information and conclusions contained in the papers helped NACNEP crystallize its thoughts on the issues presented in this report.



II. OVERVIEW OF NACNEP'S ACTIVITIES

NACNEP'S primary activities during the year were centered on furthering two major facets of the prior work described in the first mandated report: 1) the COGME and NACNEP joint interdisciplinary activities and 2) the issues underlying the continuing nursing shortage with special attention to the nurse faculty shortage.

INTERDISCIPLINARY ACTIVITIES

Health Professions Education Summit

NACNEP, along with COGME, participated in organizing and coordinating a multidisciplinary invitational summit of leaders to discuss and develop strategies for restructuring health professions education to advance and better prepare health professionals to practice in today's health care system. The summit, which was held on June 17-18, 2002, was sponsored by the Institute of Medicine (IOM). Federal contributions in support of the summit were made by the Division of Medicine and Dentistry, and the Division of Nursing, Health Resources and Services Administration (HRSA) and the Agency for Healthcare Research and Quality. Private partners included the American Board of Internal Medicine Foundation and the California Healthcare Foundation. Over 150 national experts in health professions education, regulation, quality, health policy, and industry participated in the summit.

The participants examined the new skills and roles health professionals need to successfully address the health needs of the population: patient-centered care, interdisciplinary teams, evidence-based practice, quality improvement and informatics. The attendees, working in small interdisciplinary groups, developed strategies around these five skill areas, which were synthesized into seven crosscutting strategies for the reform of health professions education. Once again working in small interdisciplinary groups, the participants then developed personal action steps to take over the next 1-3 year period to implement these seven strategies. Over 200 action steps

were generated. These will be covered in a report to be published and distributed by IOM toward the end of 2002.

Furthering Interdisciplinary Education and Practice

The joint NACNEP and COGME recommendations described in the report *Collaborative Education to Ensure Patient Safety* fostered a number of cooperative agreements with public and private nonprofit entities that were cosponsored by HRSA's nursing and medicine divisions. For one of the projects resulting in a cooperative agreement, a grantee was selected to develop a national "train the trainers" program to create nurse and physician faculty leaders in interdisciplinary education specifically directed toward enhancing patient safety. Faculty graduates of this program would then lead in training other medical and nursing faculty in the curricula and techniques learned under this program. The University of Washington in Seattle received an award of \$1.2 million for the 3-year project period.

The second call for applications by the two divisions was to provide awards of \$300,000 each to four awardees for improving patient safety at the direct care level in hospitals and in communities through collaborative, interdisciplinary activities focusing on the planning, development, and implementation of patient safety curricula/activities, including simulations and informatics to prepare physicians and advanced practice nurses to promote safety and prevent errors in health care delivery. The four awards were made to the following institutions for the specific purposes listed:

- **University of California, San Francisco:** Medical and nursing faculty and clinicians, as well as their students who complete this competency-based, web and seminar-based curriculum will learn to improve outcomes for patients with vascular access devices.

II. OVERVIEW OF NACNEP's ACTIVITIES

- **University of Colorado Health Science Center:** This award will develop case studies for use by interdisciplinary teams of medical and nursing faculty to collaboratively teach students from both disciplines to improve care of patients in the seven State Area Health Education Center (AHEC).
- **Health Research and Educational Trust, Chicago:** This award will use executive walkrounds in 10 traditional and nontraditional clinical sites to teach graduate medical and nursing students, clinicians and faculty about open discussions of adverse events (misses and near misses). The presence of executives in the rounds will ensure that the issue is heard and discussion of systems changes and implications are exchanged to promote change. The project will take place in 10 hospitals in urban and rural Massachusetts.
- **University of Mississippi, Jackson:** This State-wide project is a partnership between the only school of medicine in Mississippi and the State's five graduate nursing programs that prepare advanced practice nurses. The partnership will develop, implement and evaluate a patient safety curriculum to teach to graduate medical and nursing students across the State in regional workshops and to provide the students with on-going electronic consultation.

The five cooperative agreements were awarded in September 2001 for a 3-year period. The grantees are now completing their first year of work.

The characteristically significant shared experience of each of these undertakings is the personal and professional commitment and participation of academic faculty, clinical faculty from health care settings, and administrators from both academia and the health care settings. Such involvement of both faculty and administration promises to deal with the usual "controversies" associated with interdisciplinary education, such as confusion about definitions and terms, curriculum length and content, faculty and departmental resistance, questions about

university support of interdisciplinary, collaboratively taught courses, license requirements and scopes of practice.

NURSING SHORTAGES

The Continuing RN Shortage

As NACNEP continued its work during the year to "provide advice and recommendations to the Secretary and Congress concerning policy matters arising in the administration of [Title VIII], including the range of issues relating to the nurse workforce, education, and practice improvement", it was clear that the nursing shortage had not abated. The elements identified as affecting the future supply of RNs were still relevant. Therefore, the most critical issues facing the availability of nursing care continued to be those of the nursing shortage from both short-term and long-term perspectives. Major segments of the three meetings that NACNEP held during the year were devoted to the study of the issues through presentations made by nursing organization representatives and experts reporting on relevant research. Members of NACNEP during those meetings worked on refining and prioritizing the recommendations in their broad action plan presented in the first mandated report. NACNEP recognized that solutions for the presently on-going nursing shortage rest within the use of already available nursing resources. Activities undertaken to newly develop additional resources will be effective in the future because of the time involved in attracting and educating students. During the meetings, the Council explored possible approaches that have been or may be taken to access those already educated as registered nurses. However, NACNEP, given its role as an advisory body, agreed that it was imperative to look for and recommend possible actions that could increase the capacity to produce more RNs and thus ward off future shortages.

Any actions that could be taken to alleviate the immediate shortfall in the RN supply are those pertaining to recruiting and retaining current RNs into the active workforce and enhancing the effective use of these current RNs. RNs who are working in non-nursing positions primarily point to better pay, more rewarding work and

II. OVERVIEW OF NACNEP'S ACTIVITIES

personal or family needs as the reasons for their not working in nursing. RNs who are not employed are considerably older, on the average, than employed RNs. Those inactive RNs who come from the younger segments of the population tend to have family responsibilities, often including the care of young children. The retention of already employed RNs in positions is of paramount importance as well. Maintaining the stability of the RN workforce is complex, associated with a variety of factors, both economic and non-economic. The solutions engage many segments both within and outside the health care delivery system including examining wage structures, schedules, support systems and the professional work environment.

Nurse Faculty Shortage

In the long term, however, the availability of an adequate and qualified RN workforce is dependent upon the education of sufficient numbers of new RNs as both replacements for those retiring and additions to satisfy the increasing demands. All projections of the future state of the adequacy of the RN supply show that the picture will only deteriorate given the aging of the RN workforce if the present rate of production of new RNs continues into the future. Therefore, the future of adequate nursing resources relies on the addition of substantial numbers of new RNs. Such an expansion cannot be accomplished without the availability of appropriate educational resources. Sufficient qualified faculty is a vital component of the educational resources needed. Nursing school administrators throughout the country point to vacant faculty positions and difficulties in recruiting. Even within the current climate of reduced numbers of applications for schools of nursing, the lack of faculty has caused a num-

ber of educational programs to limit admissions. An even greater shortage is anticipated for the future as substantial numbers of the current faculty members are expected to retire. A critical first step, then, in obtaining an adequate future supply of RNs, is to make certain that a cadre of qualified faculty will be available to teach them. This, then, becomes the first priority in alleviating the anticipated future nursing shortage. Thus, while mindful of the many critical issues facing patient care and nursing documented in its first mandated report, NACNEP focused this past year on the nurse faculty workforce shortage.

FUTURE ACTIVITIES

In its future activities NACNEP will continue to participate in ways of fostering interdisciplinary approaches to education and the delivery of health care. At the same time, continuing concerns about the availability of nursing resources lead to a special presentation in this report of NACNEP's most recent study of the nursing shortage and the underlying components of the nurse faculty shortage. With the nurse faculty shortage seen as the issue requiring immediate attention actions are recommended to improve the availability of sufficient qualified faculty critical to ensuring an appropriate future supply of RNs. In examining ways in which nursing can be most effective in delivering quality health care to the nation's population, NACNEP will continue to monitor the country's nurse supply for approaches to ensure its adequacy. NACNEP will also continue to examine the effect of Title VIII programs for their impact on ensuring a sufficient supply of RNs and enhancing nursing's contribution to the nation's health care.

III. SHORTAGES

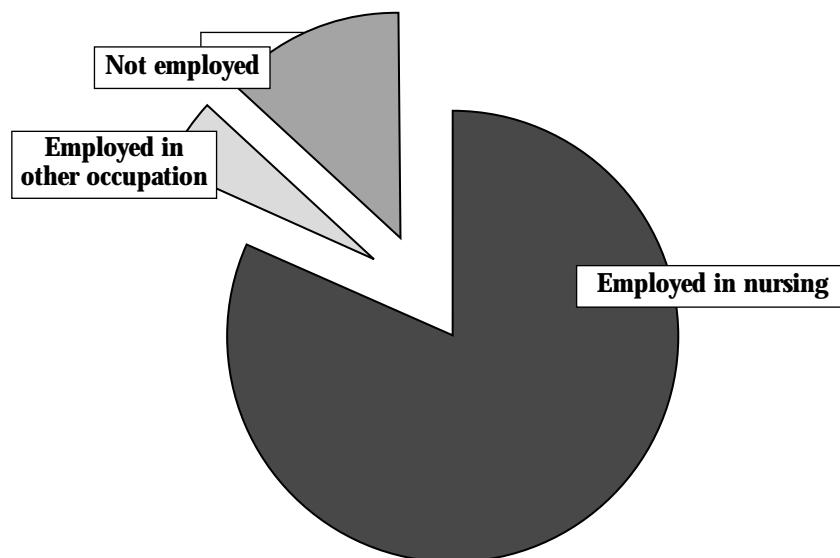
Currently the nation is experiencing a persistent nursing shortage of several years duration. As documented in NACNEP's first report, health care service providers throughout the country report substantial numbers of vacant RN positions and difficulties in recruiting. Stories and feature articles about the nursing shortage persist in today's newspapers, radio and television news broadcasts. In August 2002, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) issued a report citing the deleterious effect of the lack of adequate nursing personnel on patient care in hospitals. JCAHO indicates that, based on an analysis of data reported to the Commission as of March 2002, low nurse staffing levels have contributed to 24 percent of unanticipated events in hospitals that resulted in death, injury or permanent loss of function. The immediate shortfall in registered nurse resources, however, can only be affected by putting into place

approaches to assure that the maximum number possible of those who are already educated and licensed as RNs are working in that capacity.

STRATEGIES FOR THE CURRENT NURSING SHORTAGE

The March 2000 National Sample Survey of Registered Nurses (NSSRN) showed that a very substantial proportion of the currently licensed RNs, 81.7 percent, were actively engaged in the extensive array of nursing positions available in the health care arena. However, nearly 500,000 RNs were not working in nursing, 18.3 percent of the 2.7 million with licenses to practice in 2000. Of these, 28 percent were employed in non-nursing positions (See Chart 1). Dr. Julie Sochalski from the University of Pennsylvania and a Senior Scholar at the Division of Nursing provided NACNEP with some interesting insight

**CHART 1. NURSING EMPLOYMENT STATUS OF
REGISTERED NURSE POPULATION, MARCH 2000
TOTAL = 2,696,540**



Source: USDHHS, HRSA, BHP, Division of Nursing, *The Registered Nurse Population, March 2000, Findings from the National Sample Survey of Registered Nurses*.

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into the currently licensed RNs who were not working as nurses (See Appendix B).

Those RNs employed in occupations other than nursing tended to be older, on the average, than those employed in nursing positions. They were more likely to have higher family incomes than those working in nursing positions. They were more likely to be in part-time positions than were the RNs employed in nursing. The average length of time since these nurses had worked in a nursing position was 8 years. Nearly one-half of the RNs who were working in other occupations cited better hours as the reason they are not in a nursing position. About half of these pointed to better pay and more rewarding work in their non-nursing position. Dr. Sochalski stated that changes in the workplace, including more flexible hours, better salaries, and an environment where work is valued and rewarding may recruit some of these RNs back to nursing as well as salvage some who are considering leaving because of dissatisfactions with these areas.

The vast majority of the RNs who were not employed in nursing, over 70 percent of the 500,000, were not working. As a group, they were considerably older than RNs who were employed in nursing. More than one-quarter of these RNs, about 92,000, were over 65 years old, with 89 percent having left nursing more than 10 years earlier. Around 132,000 of these older inactive RNs were between the ages of 51 and 65 years old, characterized by Dr. Sochalski as "pre-retirement." Among this latter group were nearly 11,000 nurses with a master's or doctorate degree. Dr. Sochalski points out that this group of nurses may be a possible resource in helping to alleviate the nurse faculty segment of the present nursing shortage while steps are taken to educate the future faculty members.

Younger inactive RNs, those 50 years of age or less, were more than twice as likely to have very young children at home than the RNs of similar age who were working in nursing positions. Only 14 percent of those who were not employed were actively seeking nursing employment. About half were looking for part-time work. Dr. Sochalski concluded that enhancements such as provision for child-

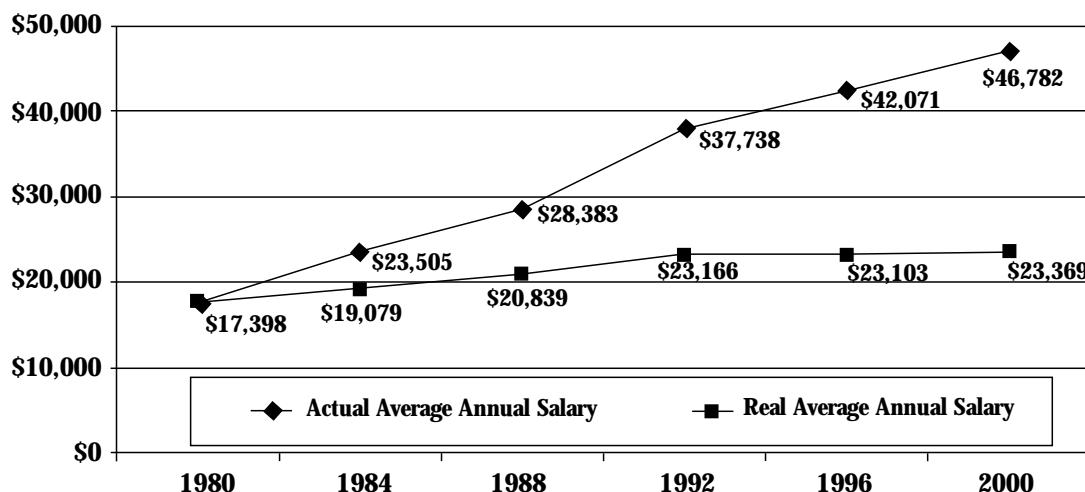
care and flexible hours may also entice some of the younger inactive RNs back into the nursing workplace or shorten the time they are away if they have temporarily withdrawn from nursing. The NSSRN did not ask those who were not working the reason why they were not. Such data could assist in determining what changes might be needed to encourage the younger inactive RNs to return.

While recruitment of RNs for vacant nursing positions is important it is equally essential to retain the RNs already on staff. Hospitals employ an estimated 1.3 million RNs, a substantially greater number than in any other segment of the health care delivery system. Thus RN vacancies in hospitals represent the need for significant numbers of additional RNs. According to the latest data from the American Hospital Association, hospitals have an estimated 126,000 vacant RN positions. A number of hospitals have instituted bonus programs for new RNs or those already on staff if they recommend a new recruit. In her report to NACNEP, Dr. Theresa L. Carroll from the University of Texas Health Science Center Houston School of Nursing focused on best practices for retention of RNs in the nation's hospitals (See Appendix C). Dr. Carroll highlighted many of the factors related to retention that Dr. Sochalski had stressed in relation to recruiting RNs back into nursing. Retention is a complex issue requiring attention to both organizational and individual factors. Factors related to retaining a qualified and experienced RN staff include both economic and noneconomic issues.

The issue of wages is of particular concern. The NSSRN showed that the average annual salary of an RN employed in nursing on a full-time basis was \$46,782. Taking into account inflation, between 1980 and 1992, the average real annual salary of RNs increased by nearly \$6,000. However, between 1992 and 2000, the average real annual salary increased by only a little over \$200 (See Chart 2). As the RN workforce ages, health care and retirement benefits have become as important as wages. In a recent study conducted by the American Organization of Nurse Executives and the publication *Nurse Week* (2002), 79 percent of RNs stated that improved wages and benefits would help a great deal to solve the nursing shortage.

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CHART 2. ACTUAL AND “REAL” AVERAGE ANNUAL SALARIES OF FULL-TIME REGISTERED NURSES, 1980-2000



Source: USDHHS, HRSA, BHPr, Division of Nursing, *The Registered Nurse Population, March 2000, Findings from the National Sample Survey of Registered Nurses, September 2001.*

Among those RNs who were planning to leave their positions over the next three-year period, 58 percent said that improved compensation would very likely influence a decision to remain.

But, as Dr. Carroll points out, dealing with the issue of wages and benefits alone will not stabilize the RN workforce. Among the many noneconomic factors contributing to retention, two of the most important are staffing and scheduling and the presence of a professional practice environment. Hospital nursing is a 24 hours a day/ 7 days a week commitment that requires RNs to work undesirable weekend, evening, and night schedules. In some instances the availability of such work schedules may be an advantage in arranging a schedule that would fit with individual responsibilities. However, with a largely female workforce committed to child bearing, child rearing and care giving, these work commitments compete with family responsibilities and quality of life.

Quality of work life is also affected by the professional practice environment. The professional practice environ-

ment is characterized by a well-educated nursing leadership and participatory decision making in matters related to patient care and practice, and a climate where continuous improvement is the norm. The environment also involves respectful collegial relationships with physicians, administrators and other members of the interdisciplinary team. Immediate strategies for improving the professional practice environment require actions that address multidisciplinary interactions leading to respect, collegiality and evidence-based, patient-focused outcomes. Over the longer term, strategies should emphasize service-education partnerships that include educators and practitioners from all disciplines such as those NACNEP is fostering in its interdisciplinary activities.

Dr. Carroll indicated that the body of published evidence about retention strategies is still limited and consists primarily of descriptions of plans implemented within individual hospitals. Retention is a complex issue that requires attention to both organizational level and individual level factors. In order to impact the professional practice environment, new models of care delivery need to be devel-

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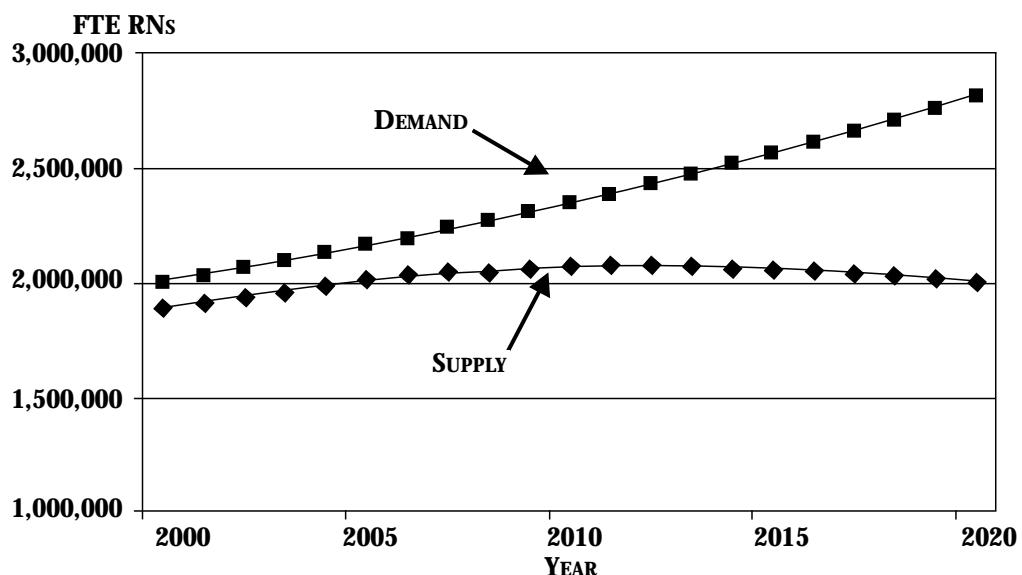
oped and evaluated. There needs to be a sustained and concerted effort to develop, test and report successful retention models to provide the evidence upon which to base future decisions.

LOOKING TO THE FUTURE

The current shortfall in the numbers of RNs available to provide health care services to the population is a precursor to anticipated future shortages of even greater magnitude. The nursing population is aging. With the average age of employed RNs at 43.3 years and 46 percent at least 45 years old, it is expected that considerable numbers of them will be retiring in the not too distant future. In

overall nursing school enrollments under current conditions. At the same time, the aging United States population and the technological and therapeutic advances in health care foretell increasing needs for health care providers. A recent analysis by HRSA of the comparison between the supply and demand for RNs estimated that the shortfall in 2000 was 6 percent, or 110,000 full-time equivalent (FTE) RNs. HRSA projected that, if current trends persist, the shortfall would reach 12 percent by 2010, for a demand of 275,000 more FTE RNs than would be available in the supply. Without major efforts that address the issue, the shortfall is projected to grow to 29 percent by 2020 (See Chart 3). Now is the time to act!

CHART 3. PROJECTED SUPPLY OF AND DEMAND FOR FULL-TIME EQUIVALENT RNs, 2000-2020



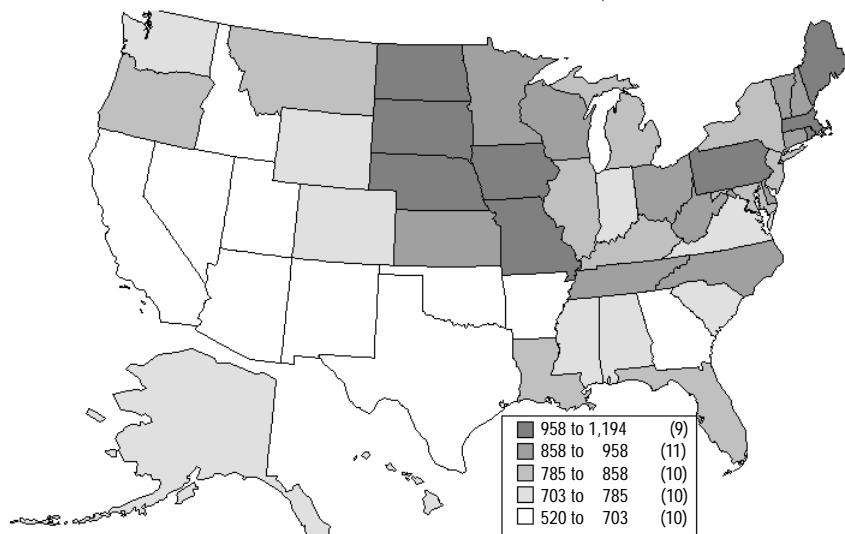
Source: USDHHS, HRSA, BHPr, National Center for Health Workforce Analysis, *Projected Supply, Demand, and Shortages of Registered Nurses: 2000-2020*, July 2002.

recent years nursing schools have experienced declining enrollments. Although the latest data from the American Association of Colleges of Nursing (AACN) showed an increase in baccalaureate program enrollments, they still were at a comparatively lower level than they were in 1995, when enrollments started to decline. Furthermore, it is not anticipated that there will be substantial increases in

The distribution of RNs within the country is of concern along with the overall national requirements. A wide disparity exists in the nurse supply among the States as can be seen when data showing the RN per 100,000 population are examined (See Chart 4). Differences among States can be due to many factors. Employment of nurses is dependent upon the availability and type of facilities or organized

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CHART 4. REGISTERED NURSES PER 100,000 POPULATION IN EACH STATE, MARCH 2000



Source: USDHHS, HRSA, BHP, Division of Nursing, *The Registered Nurse Population, March 2000, Findings from The National Sample Survey of Registered Nurses*, September 2001.

service settings in which they practice. As an example, large central cities are more likely to have the larger teaching and research hospitals with high staffing needs that serve a much broader population group than their immediate surroundings. Smaller, more rural areas, with wide distances to travel to cover a caseload, require different staffing models in public health agencies than large, metropolitan area agencies. Staffing models are dependent on many organizational variables and vary from facility to facility and area to area. Thus, differences in nurse-population ratios reflect differences in and among facilities and service settings that might be specific to a particular geographic area in contrast to another. To the extent that the disparity shown might mirror a greater lack of availability of RNs in some States than others, the comparative data may be of some help in pointing to areas of significant regional shortages. However, HRSA in its data for 2000 estimated that the demand for RNs was greater than the supply in 30 States. Included among these States were many with both relatively high nurse-population ratios and substantial shortfalls such as a number in the New England region of the

country. For the most part, the State-by-State projections predicted greater shortages for the future. By 2020, 44 States were estimated to have a greater demand for RNs than the available supply.

NURSE FACULTY SHORTAGES

Any substantive increase in the number of working RNs for the future must, of necessity, come from significantly increasing the number of individuals who are being prepared to become RNs. To do so requires expanding educational resources. A number of issues affect the ability to expand these resources, such as, the availability of sufficient funds and appropriate clinical practice sites. However, the availability of sufficient nursing faculty, an essential component of effective educational resources, is particularly troublesome. The alleviation of the overall nursing shortage is dependent to a large measure on the ability to greatly expand the nurse faculty, the segment of the nursing resources devoted to creating these resources. Well-qualified faculty members are the foundation of a well-qualified nurse workforce. They are not only responsible for provid-

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ing the nursing students with a sound theoretical foundation for their practice but are responsible for the clinical aspects of the students' education as they learn how to care for all types of patients, including the acutely ill. Thus, nurse faculty members not only have to be well-prepared individuals to start but also have to keep up-to-date on the rapidly changing dynamics of health care.

Even under the present constrained nursing school enrollments, studies show that nursing education administrators throughout the country are concerned about vacant faculty positions and difficulties in recruiting. These same studies also point to even more dire circumstances for the future.

- The Southern Regional Educational Board (SREB) in reporting on a survey made in its 16 member States says, "...the survey reveals a bleak picture about the supply of nurse educators and projections for the future." It further states, "This projected shortage of nurse educators threatens the region's capacity to ensure the health of its residents." The survey findings showed that there were 432 unfilled positions for nurse educators and that 971 educators were without the minimal academic credential for national accreditation for the program.

Separate studies carried out by some of the States within the region reinforced the concerns expressed by the SREB.

- The North Carolina Center for Nursing in reporting the results of a telephone survey in November 2001 indicated that "...nurse educators, as a group, are rapidly moving toward retirement age and nursing programs are already finding it difficult to fill faculty vacancies." The survey results showed a 10 percent faculty vacancy with almost 20 percent of the contacted programs reporting at least one vacancy. In answer to a question of whether the nursing program could increase enrollments by 15 percent in the next year without hiring additional faculty, 90 percent of the programs indicated that they could not.
- The South Carolina Colleagues in Caring group states "Enrollments in SC nursing education programs are

limited because of a faculty shortage. There are 30 faculty vacancies today and more than 70 positions will be vacated due to retirement in the next 5 years. Only 6% of the workforce hold Master's degrees in Nursing that is a requirement to teach in accredited nursing programs."

- The Texas Nurses Association quoting from a study made by the Center for Health Economics and Policy at the University of Texas Health Science Center at San Antonio in 2000 indicates, "...The Texas nursing education system is operating close to capacity and faces several impediments to producing more graduates. One of the biggest barriers is an unprecedented faculty shortage due to aging, inadequate salaries and a consequent scarcity of applicants. . ."

Similar statements appear in documents from States in other areas of the country.

- The California Strategic Planning Committee for Nursing estimated a need for 333.5 full-time equivalent faculty over the next two years based on a survey of associate degree and baccalaureate and higher degree nursing education program administrators made in the Spring of 2001. More than half of the anticipated vacancies reported by baccalaureate and higher degree program administrators were for doctorally prepared faculty, a group that the respondents indicated as particularly difficult to recruit.
- The Northwest Health Foundation of Oregon reporting on responses received to their survey of nursing education programs in the State indicated that program directors cited an inadequate supply of educationally qualified nurses in their area as the reason for difficulty in hiring faculty. Half the directors also cited poor salaries. The program directors projected substantial faculty requirements in the future due to the aging of the faculty.
- A fact sheet from the South Dakota Colleagues in Caring project indicates "All schools of nursing report difficulty in attracting and retaining qualified faculty. ...More than half the nursing faculty will be eligible to retire in the next 10 years..."
- A fact sheet from the Minnesota Colleagues in Caring

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- group states that one of the factors limiting the opportunity to increase enrollments was the difficulty in recruiting faculty. It further states, "Increased numbers of master's and doctoral students are needed to fill undergraduate and graduate nursing faculty positions. Faculty salary incentives and workload adjustments are needed to compete with clinical and other roles available to RNs qualified to teach nursing."
- Testimony presented to the New Jersey Senate Health Committee in February 2001 by the New Jersey Colleagues in Caring group pointed to the aging of the nurse faculty leading to large numbers being eligible for retirement as limiting "the number of seats available for New Jersey nursing students in all types of nursing programs."

This sampling of comments from various States around the country demonstrates a number of the critical issues underlying faculty shortages. From a national perspective, Dr. Theresa M. Valiga, in her presentation to NACNEP on behalf of the National League for Nursing (NLN), stated that, based on "informal feedback" received by the NLN and its accreditation commission, "a vast majority of schools have at least one full-time position they are unable to fill with a qualified candidate. Many schools also report that they have placed a limit on student admissions, increased class sizes, or delayed students' progression in their programs as ways to deal with the vacancies" (See Appendix D).

The American Association of Colleges of Nursing (AACN) in its 2000-2001 survey of baccalaureate and higher degree educational programs indicated that respondent baccalaureate programs preparing individuals to become RNs could not accept 3,847 qualified applications. Over a third, 38.8 percent of the responding administrators from these educational programs gave insufficient number of faculty as a reason for not being able to accept all their qualified applicants. Dr. Geraldine Bednash, the Executive Director of AACN, in her presentation to NACNEP, pointed out that in a postcard survey of their member baccalaureate and higher degree programs, it was found that the preponderance of baccalaureate and higher degree program

vacancies are for individuals with doctoral preparation. The study showed that 64 percent of the faculty vacancies called for earned doctorates. Another 30 percent were for master's degree preparation but with a doctorate preferred (See Appendix E).

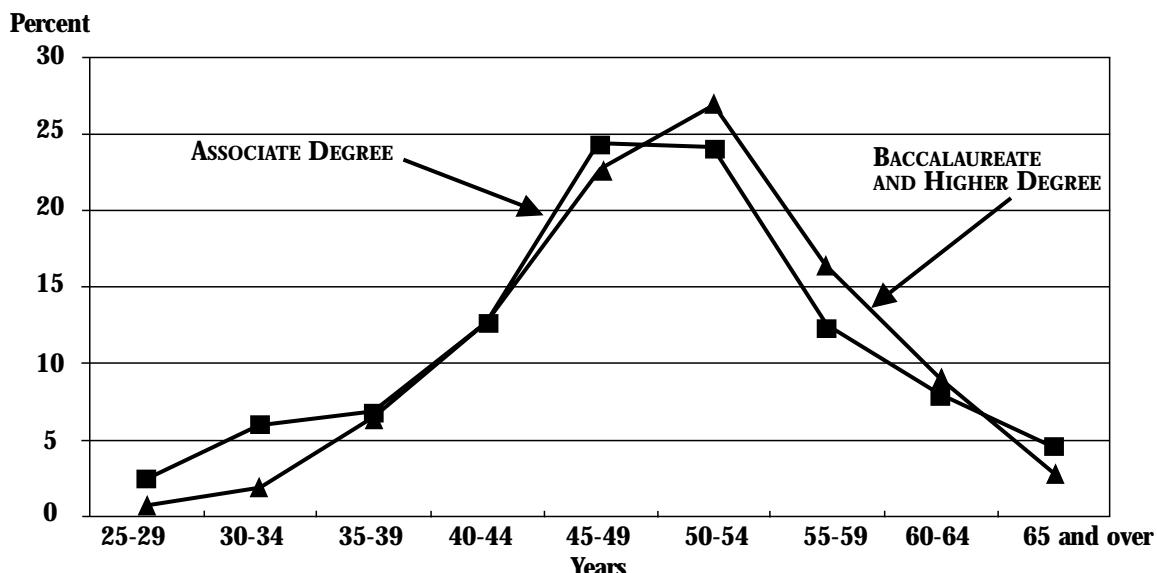
Today's concerns about the availability of an adequate nurse faculty workforce are readily born out through an examination of the characteristics of the current teaching faculty. Based on data from the NSSRN, there were an estimated 36,025 RNs whose primary employment setting was involved in preparing students to become RNs or providing advanced education for those already RNs in March 2000. Of these, 27,715 were engaged primarily in teaching in that they were instructors, assistant or associate professors, professors, or spent at least 50 percent of their time in a usual workweek in teaching students. More than two-thirds, 67.9 percent, were teaching students in baccalaureate or higher degree programs. Twenty-nine percent were teaching in associate degree programs and a little over 3 percent taught in diploma programs. These faculty members spend a considerable amount of their time during a usual workweek in teaching. Associate degree faculty averaged 83 percent of their time teaching students and baccalaureate and higher degree faculty, 74 percent.

Teaching faculty in nursing educational programs were more likely than those in higher education in other disciplines to be employed on a full-time basis. Seventy-five percent of the nursing education program faculty were full-time compared to 65.5 percent of all instructional faculty in 4-year schools and only about 38 percent of all instructional personnel in 2-year public schools.

The average age of the teaching faculty in RN educational programs was 49.8 years (See Chart 5). Baccalaureate and higher degree faculty were older, on the average, than associate degree program faculty, 50.2 years compared to 48.9 years. With more than three-quarters of the faculty at least 45 years old, it is obvious why there is widespread concern about substantial numbers of faculty retiring within the not too distant future. The average age of nurse faculty is not drastically different than that

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CHART 5. AGE DISTRIBUTION OF RN FACULTY IN RN NURSING EDUCATION PROGRAMS, MARCH 2000



Source: USDHHS, HRSA, BHP, Division of Nursing, National Sample Survey of Registered Nurses, March 2000.

of all higher education faculty and other disciplines, as well, are faced with the problem of an aging faculty. However, faculty members in other disciplines may more likely be both younger and older than those in nursing. For example, only about 23 percent of the teaching faculty in baccalaureate and higher degree nursing programs were less than 45 years compared to about 35 percent of the instructional personnel in all program areas of 4-year schools. On the other hand, about 8 percent of the instructional personnel in the 4-year schools were 65 years old or over whereas, in the nursing educational programs, less than 3 percent were in that age category.

The qualifications to teach in an RN educational program require a master's degree or a doctorate. Almost 83 percent of the teaching faculty in RN nursing educational programs had at least a master's degree. Twenty-two percent of them had doctorates. Those with doctorates were for the most part found in baccalaureate and higher degree programs. The lack of relatively young faculty members can, in part, be attributed to the length-of-time involved in an RN becoming qualified to teach. The average age at which the nurse faculty members received their master's

degree was 34.5 years. The average number of years between the time they received the master's degree and when they graduated from their associate degree, diploma or baccalaureate basic nursing education was 10.8 years.

RNs with doctorates are rarely found among the younger segments of the nurse population. Only about 17,300 of the 2.7 million RNs in 2000 had doctorate degrees. The average age at which these RNs achieved that degree was 44.2 years. More than 2 out of every 10 were at least 50 years old before earning their doctorates. RNs take far longer than those in other disciplines to achieve their doctorates after graduating from their entrance level educational program. The average time between the doctoral degree and graduation from the baccalaureate, associate degree or diploma basic nursing educational program for RNs was 20.9 years. In contrast, the National Science Foundation estimates that, for all academic disciplines in total, the average time between the baccalaureate and doctorate degree is 12.7 years.

The age level at which RNs achieve doctorates coupled with the very limited numbers of graduates with doctorate degrees each year adds to the many concerns about

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the ability to satisfy the faculty requirements necessary to expand the RN workforce. Dr. Bednash in her report to NACNEP indicated that the number of graduates each year from doctoral nursing educational programs has remained fairly stable despite the substantial increase in the number of programs. In the 1999-2000 academic year, the 77 doctoral programs graduated 444 students. Furthermore, as both Dr. Valiga and Dr. Bednash indicated, a substantial proportion of the students in doctoral programs are teaching in nursing educational programs while they are attending school. Thus, only a very limited number of new teachers can be anticipated from the graduates of these programs.

Moreover, while on an overall basis, the number of nurses with doctorates has increased significantly over the years; the scope of positions available for such nurses has also increased dramatically. For example, in March 1988, about 80 percent of the RNs with doctorate degrees were working in a position within a nursing education program. By March 2000, although the number of RNs working in nursing education programs that had doctorates had increased 82 percent, the percentage of all doctorally prepared RNs who were in nursing education programs had decreased to 61 percent. This critical issue has particular relevance to baccalaureate and higher degree nursing

educational programs where preparation at the doctoral level is required for teaching or, if not required, certainly preferred.

Another issue is whether nursing education programs can compete with other demands for RNs with master's degree preparation. According to the NSSRN the primary focus of the master's degree preparation for 56 percent of the teaching faculty in 2000 was clinical practice or public health. The AACN reports that in the 1999-2000 academic year the major area of study for the vast majority of graduates from master's degree programs was clinical practice. The number of RNs whose highest degree is a master's degree has more than doubled in the 12-year period from 1988 to 2000. However, here, too, the demands for nurses with such degrees have increased dramatically. Master's degree prepared RNs are widely sought for specialized nursing positions as nurse practitioners, clinical nurse specialists, nurse anesthetists, and nurse midwives. Master's degree preparation is preferred or required for supervisory and management positions in nursing as well. Nursing positions at these levels have much higher salaries than are afforded teaching positions in nursing educational programs as demonstrated by data from the March 2000 NSSRN (See Chart 6). The average salary of a teaching

CHART 6. AVERAGE SALARY OF ALL FULL-TIME RN FACULTY MEMBERS COMPARED TO AVERAGE SALARIES OF FULL-TIME EMPLOYED RNs WITH MASTER'S DEGREE PREPARATION, MARCH 2000

RN Faculty Members				\$48,410		
CNS				\$58,457		
NP/CNM				\$60,862		
Supervisors or Assistants				\$62,144		
All RNs with Master's Degree				\$61,262		

Source: USDHHS, HRSA, BHPr, Division of Nursing, National Sample Survey of Registered Nurses, March 2000.

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faculty member employed on a full-time basis was \$48,410. Full-time faculty in baccalaureate and higher degree programs averaged \$48,845 and those in associate degree programs averaged \$47,211. Although these data represent the average for the year regardless of whether the salary was on an academic 9 or 10-month or calendar 12-month year basis, when compared to the considerably higher average salary of \$61,262 for all RNs with master's degree preparation who are employed on a full-time basis, it is clear that other positions provide far better compensation than teaching does.

As was the case for the total RN workforce, once faculty members are recruited it is equally important to retain them. A 3-member Task Force of NACNEP, consisting of Dr. Karen L. Miller, chairperson, and Drs. Eula Aiken and Linda Norman, provided NACNEP with a review of best practices for retention of nurse faculty members (See Appendix F). Both economic and noneconomic factors were outlined. Compensation initially and over time should be based on established guidelines and a system for annual review and enhancements. Opportunities should be created for bonuses, administrative rewards or incentives for special or meritorious performance, and special awards, including monetary rewards as possible, for teaching, clinical practice and/or research accomplishments. Programs should be implemented to support further education for faculty. Work environments should encourage scholarship, mutual support among faculty, students and administration, interdisciplinary interaction in teaching and research, and attention to individual professional needs of faculty. Faculty need to be made aware of the institutional resources available to them. Opportunities should be developed and supported for faculty to maintain clinical expertise and for professional development. Private funds should be solicited for endowed chairs or other special faculty positions, for specialized awards, and in support of faculty retention plans.

In addition to the question of whether there is a sufficient number of faculty to expand the number of individuals entering nursing, is the important consideration of where will the students come from. One major future resource for expanding the pool of nursing students is the rapidly

increasing minority segment of the population. NACNEP, in developing an agenda designed to increase the racial/ethnic diversity of nursing, pointed out that "The availability of a critical mass of minority faculty in health professions schools has come to be recognized as a major factor in the recruitment and retention of minority students." In 2000, teaching faculty in RN educational programs were predominantly white (nonHispanic). About 9 out of every 10 faculty members were white. About 4 percent were black (nonHispanic) and only 2 percent were Hispanic. About 1 percent each were from Asian (non-Hispanic) or multi-racial backgrounds. Those from American Indian or Alaskan Native or Native Hawaiian or other Pacific Island racial backgrounds each constituted less than 1 percent of the teaching RN faculty members. Thus, attention also needs to be directed toward the diversity of the teaching faculty in order to attract students from the broad base of the potential available population.

Another source for both the entry level nursing students and advanced students necessary to increase the pool of RNs for leadership and highly complex care positions could be individuals located in communities remote from educational facilities. On-line courses could facilitate the education of these students through enabling them to achieve some of their educational experiences in their own community setting. The findings from the Division of Nursing's Rural RN to BSN Using Distance Learning initiative that involved 6 institutions through cooperative agreements are helpful to the examination of the impact on faculty requirements. Dr. Carole Gassert, a staff member of the Division of Nursing, in reporting to NACNEP on these projects, indicated that on-line learning takes more faculty time. Preparations for class need to take place well in advance and take longer than for other types of classes. Faculty need to be available to students on an extended basis electronically. Initially faculty need to develop skills for teaching in a different way thus taking time away from other teaching assignments.

However, in addition to potentially adding to the student body, on-line learning courses/programs can help with faculty requirements in that courses could be taught collab-

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oratively to share resources between or among schools of nursing. On-line learning could allow for flexibility in the use of time thus allowing faculty to budget their time more efficiently. As both faculty and students become more skilled in using on-line learning more effectively, the acceptable student to faculty ratio may increase. Thus, on-line learning in the future might lead to both enhancing the potential student body and easing some faculty requirements (See Appendix G).

On an overall basis the number of RNs required for teaching new entrants into nursing and for preparing those who are already RNs for positions requiring higher levels of knowledge and skills do represent a relatively small portion of the overall RN workforce, no more than about 2 percent. However, these positions are critical to the ability of nursing to fulfill its responsibilities to provide effective qualified health care to the nation's population. Serious shortfalls in this segment of the RN workforce can only exacerbate critical shortages in the total RN workforce. Without assurances of an adequate faculty body to provide the educa-

tional preparation necessary to become an RN the many worthwhile programs being instituted to attract individuals into the profession cannot fulfill their missions. Therefore, NACNEP believes that measures designed to alleviate the nurse faculty shortage are critical first steps to alleviating the future RN workforce shortage. It is necessary to take immediate action to increase the availability of nurse faculty members in order to enable the nursing education system to significantly increase current student enrollments. The measures needed are multifaceted. These include those measures that will maintain the current faculty workforce and attract new faculty members from among those RNs who already have graduate-level preparation and are currently employed in other nursing endeavors and from those who are currently "inactive." It is equally important, in looking to the future, to take measures that will ensure the availability of a cadre of RNs capable of sustaining and increasing the numbers of faculty members necessary to prepare future student bodies so that projected pending nursing shortages can be avoided.

IV. CONCLUSIONS AND RECOMMENDATIONS

The report in summarizing NACNEP's activities this past year highlights its interdisciplinary work and its review of approaches to ensuring an adequate supply of RNs for the delivery of safe, effective care to the nation's population. It itemizes strategies that need to be considered as efforts are made to alleviate the current nursing shortage and examines the crucial elements necessary to ward off a future nursing shortage.

NACNEP's recommendations are presented from two perspectives. The first set of general recommendations reflect NACNEP's consideration of its on-going and future activities and its ability to continue to provide advice and recommendations pertaining to the nurse workforce, education, and practice improvement. The second set of specific recommendations is directed at the acute and severe nursing faculty shortage. The recommendations are made in acknowledgement of the changing environmental context, which includes external threats of terrorism and an awareness of patient safety and quality issues. Nurses and nurse faculty are critical elements of our preparedness as a nation to address these external issues.

GENERAL RECOMMENDATIONS:

- The Division of Nursing should have flexibility in determining the direction of program funding with consideration of the advice of NACNEP and the final report on the Funding Allocation Methodology.
- Continue to use Title VIII appropriations to support interdisciplinary faculty development and COGME /NACNEP on-going collaborative activities.

SPECIFIC RECOMMENDATIONS FOR THE NURSE FACULTY SHORTAGE:

- Provide funding for the Division of Nursing to assist schools of nursing in developing and expanding programs to educate nursing faculty.

- Give priority to projects in the Title VIII Advanced Education Nursing (AEN) program that prepare nurse faculty.
- Fund demonstrations of creative approaches to increasing nurse faculty such as promoting early recruitment of baccalaureate students into academic careers; developing mentoring programs for new faculty; developing the teaching assistant role in nursing education; developing innovative doctoral programs that prepare clinically-expert faculty to teach at all levels.
- Expand the Nursing Education Loan Repayment Program (NELRP) to include (a) clinical preceptors who will work as faculty and (b) schools of nursing as acceptable service sites.
- Provide mid-career fellowships for academic faculty in educational institutions and clinical faculty in both service facilities and educational institutions to fast track through doctoral preparation.
- Eliminate the 10 percent cap on the number of doctoral students eligible to receive Advanced Education Nurse Traineeships.
- Fund studies to identify best practices associated with the appointment of retired faculty to mentor new faculty and to retain expertise on faculty.
- Increase the use of informatics in assisting faculty to carry out their role through providing funds to develop and validate informatics infrastructure in nursing education programs and simulation technology to teach clinical segments of the nursing programs, and for faculty development activities in the use of informatics and simulation technologies as teaching tools.

IV. CONCLUSIONS AND RECOMMENDATIONS

CONCLUSION

In concluding its observations NACNEP especially recognizes and commends the passage of the Nurse Reinvestment Act, P.L. 107-205, enacted August 1, 2002. The Act, which amends Title VIII of the Public Health Services Act, includes major new authorities for programs. These new authorities respond to a number of the recommended actions suggested in NACNEP's first report and issues raised in this report as critical in alleviating the nursing shortages. The Act puts forth such new authorities as the grants for public service announcements, for the

development and implementation of internships and residencies to encourage mentoring and development of specialties, for nurse faculty loans and those related to enhancing the nurse's role and environment in the practice arena that add to the ability of ensuring adequate, qualified, registered nurse resources for the country through Title VIII. NACNEP looks toward sufficient funding for these new initiatives and the other portions of Title VIII so that this legislation can effectively contribute to the alleviation of a crisis in the nation's delivery of quality health care to its population.

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APPENDIX A

Excerpted from the Nurse Education and Practice Improvement Act of 1998 (P.L. 105-392)

“PART G—NATIONAL ADVISORY COUNCIL ON NURSE EDUCATION AND PRACTICE

“SEC. 845. NATIONAL ADVISORY COUNCIL ON NURSE EDUCATION AND PRACTICE.

“(a) ESTABLISHMENT.—The Secretary shall establish an advisory council to be known as the National Advisory Council on Nurse Education and Practice (in this section referred to as the ‘Advisory Council’).

“(b) COMPOSITION.—

“(1) IN GENERAL.—The Advisory Council shall be composed of—

“(A) not less than 21, nor more than 23 individuals, who are not officers or employees of the Federal Government, appointed by the Secretary without regard to the Federal civil service laws, of which—

“(i) 2 shall be selected from full-time students enrolled in schools of nursing;

“(ii) 2 shall be selected from the general public;

“(iii) 2 shall be selected from practicing professional nurses; and

“(iv) 9 shall be selected from among the leading authorities in the various fields of nursing, higher, secondary education, and associate degree schools of nursing, and from representatives of advanced education nursing groups (such as nurse practitioners, nurse midwives, and nurse anesthetists), hospitals, and other institutions and organizations which provide nursing services; and

“(B) the Secretary (or the delegate of the Secretary (who shall be an ex officio member and shall serve as the Chairperson)).

“(2) APPOINTMENT.—Not later than 90 days after the date of enactment of this Act, the Secretary shall appoint the members of the Advisory Council and each such member shall serve a 4 year term. In making such appointments, the Secretary shall

ensure a fair balance between the nursing professions, a broad geographic representation of members and a balance between urban and rural members. Members shall be appointed based on their competence, interest, and knowledge of the mission of the profession involved. A majority of the members shall be nurses.

“(3) MINORITY REPRESENTATION.—In appointing the members of the Advisory Council under paragraph (1), the Secretary shall ensure the adequate representation of minorities.

“(c) VACANCIES.—

“(1) IN GENERAL.—A vacancy on the Advisory Council shall be filled in the manner in which the original appointment was made and shall be subject to any conditions which applied with respect to the original appointment.

“(2) FILLING UNEXPIRED TERM.—An individual chosen to fill a vacancy shall be appointed for the unexpired term of the member replaced.

“(d) DUTIES.—The Advisory Council shall—

“(1) provide advice and recommendations to the Secretary and Congress concerning policy matters arising in the administration of this title, including the range of issues relating to the nurse workforce, education, and practice improvements;

“(2) provide advice to the Secretary and Congress in the preparation of general regulations and with respect to policy matters arising in the administration of this title, including the range of issues relating to nurse supply, education and practice improvement; and

“(3) not later than 3 years after the date of enactment of this section, and annually thereafter, prepare and submit to the Secretary, the Committee on Labor and Human Resources of the Senate, and the Committee on Commerce of the House of Representatives, a report describing the activities of the Council, including findings and recommendations made by the council concerning the activities

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under this title.

“(e) MEETINGS AND DOCUMENTS.—

“(1) MEETINGS.—The Advisory Council shall meet not less than 2 times each year. Such meetings shall be held jointly with other related entities established under this title where appropriate.

“(2) DOCUMENTS.—Not later than 14 days prior to the convening of a meeting under paragraph (1), the Advisory Council shall prepare and make available an agenda of the matters to be considered by the Advisory Council at such meeting. At any such meeting, the Advisory Council shall distribute materials with respect to the issues to be addressed at the meeting. No later than 30 days after the adjourning of such a meeting, the Advisory Council shall prepare and make available a summary of the meeting and any actions taken by the Council based upon the meeting.

“(f) COMPENSATION AND EXPENSES.—

“(1) COMPENSATION.—Each member of the Advisory Council shall be compensated at a rate equal to the daily equivalent of the annual rate of basic pay prescribed for level IV of the Executive Schedule under section 5315 of title 5, United States Code, for each day (including travel time) during which such member is engaged in the per-

formance of the duties of the Council. All members of the Council who are officers or employees of the United States shall serve without compensation in addition to that received for their services as officers or employees of the United States.

“(2) EXPENSES.—The members of the Advisory Council shall be allowed travel expenses, including per diem in lieu of subsistence, at rates authorized for employees of agencies under subchapter I of chapter 57 of title 5, United States Code, while away from their homes or regular places of business in the performances of services for the Council.

“(g) FUNDING.—Amounts appropriated under this title may be utilized by the Secretary to support the nurse education and practice activities of the Council.

“(h) FACA.—The Federal Advisory Committee Act shall apply to the Advisory Committee under this section only to the extent that the provisions of such Act do not conflict with the requirements of this section.”; and

(6) by redesignating section 855 as section 810, and transferring such section so as to appear after section 809 (as added by the amendment made by paragraph (5)).

APPENDIX B

RNs Who Are Not Working in Nursing: A Profile

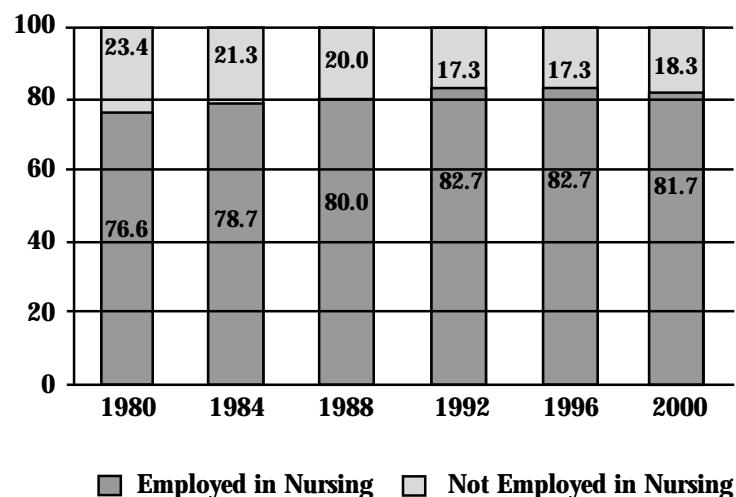
Julie Sochalski, Ph.D., R.N., F.A.A.N.

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University of Pennsylvania School of Nursing

Participation in the nursing workforce has been rising steadily over the past two decades. Data from the National Sample Survey of Registered Nurses (NSSRN) shows that the percent of RNs who were working in nursing rose from 76.6 percent in 1980 to 82.7 percent in 1996, and holding at 81.7 percent in 2000 (see Figure 1).

be working in other occupations in 1992 and 1996, respectively. The proportion working in a health care occupation was relatively consistent across this period, though, at nearly 45 percent of RNs working in other occupations in each survey.

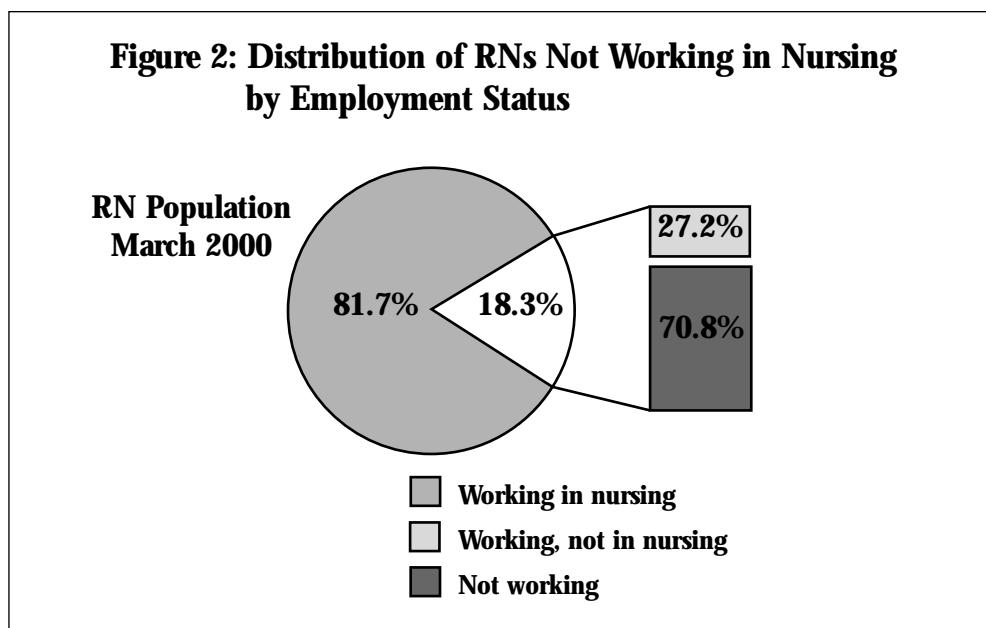
Figure 1: Percent of RNs Employed in Nursing, 1980-2000



In 2000 there were nearly 500,000 RNs who were not working in nursing. Among them, 70.8 percent were not working at the time of the survey, and 27.2 percent were employed in occupations other than nursing (see Figure 2). The proportion of RNs who are employed in other occupations among those not working in nursing has increased slightly during the 1990s: 25.8 percent and 26.6 percent of RNs not working in nursing were found to

The purpose of this paper is to describe the characteristics of the population of RNs who are not working in nursing, to compare them with RNs currently working in nursing, and to examine the factors that are associated with choosing to work in fields outside of nursing. Finally, this paper will discuss the implications of these findings for the future nursing workforce.

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RNs working in other occupations

In 2000, there were around 135,600 RNs who reported working in an occupation other than nursing. This group profiles somewhat differently than RNs working in nursing (Table 1). First, RNs working in other fields were older than RNs working in nursing: their mean age was 48.4 years compared to 43.3 years, respectively, and half as many were under the age of 40. Furthermore, RNs in other occupations were half as likely to have young children (less than six years of age) in the home, and they had received their highest nursing degree six years earlier on average than RNs working in nursing, both of which would correspond with their higher mean age. Second, RNs employed in other occupations were somewhat less likely to work full-time.

Finally, income levels may be higher for those working outside of nursing. The NSSRN collects annual individual earnings and annual household earnings information for RNs working in nursing; however, only

annual household earnings information is collected from RNs working in other occupations. Consequently, only indirect comparisons, via annual household earnings, are possible. As shown in Table 2, a somewhat greater proportion of RNs working in other occupations have an annual household income of \$75,000 or higher than RNs working in nursing. Household incomes are influenced by at least two factors: work effort, i.e., working full-time or part-time, and the presence of other wage earners in the

Table 1: Characteristics of RNs Employed in Nursing and in Other Occupations

	Nursing	Other
%with BSN or higher	44	47
Yrs since highest degree (mean)	14	20
Mean age (yrs)	43.3	48.4
% < 40 years	35	17
% married	71	73
% young children	18	9
% Full-time	72	63

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Table 2: Annual Household Income Among RNs Employed in Nursing and in Other Occupations

	Nursing	Other
% all RNs @ \$75,000 or higher	41	50
% all FT single @ \$75,000 or higher	8	24

household or other sources of income. To control for these factors, annual household incomes were compared for single RNs who were working full-time in both groups. Here the comparison is somewhat more dramatic. There was a three-fold difference in the proportion of single full-time RNs whose annual household incomes were at least \$75,000: 24 percent of those working in other occupations compared with eight percent of those working in nursing.

Eighteen percent of these otherwise employed RNs had left nursing in the last year, and 79 percent left more than one year ago. Among those who left nursing more than a year ago, the mean time period since nursing employment was nine years. Table 3 compares RNs who left nursing in the last year with those who left more than a year ago. RNs who left recently were four years younger on average and were twice as likely to be less than 40 years of age. Also noteworthy, just

over half of those departing nursing recently were working full-time, compared to nearly two-thirds of those who left nursing more than a year ago and the nearly three-quarters of RNs who were working in nursing.

The NSSRN assesses the reasons that RNs left employment for other occupations (Table 4). The principal reason for leaving

Table 4: Reasons for Leaving Nursing Employment Among RNs Employed in Other Occupations

	Left Nursing ≤1yr ago	Left Nursing >1yr ago
(#1) % better hours	51	48
(#2) % more rewarding	46	49
(#3) % better salary	39	37

nursing was better hours, listed by half of each group. More rewarding work and better salaries were the next two most frequent reasons given for seeking employment outside of nursing. Regardless of the length of time since leaving nursing, the reasons motivating that move appear to be quite similar. What is striking is the high ranking of non-financial reasons that were associated with the move to other fields of work. While these positions may also be come with higher salaries, better salaries ranked third

after workplace flexibility regarding hours and how fulfilling the work itself is as rea-sons for leaving nursing.

RNs not currently working

There were around 350,000 RNs who were not currently working. Two-thirds of these nurses left nursing employment more than one year ago, on average six years earlier, and 31 percent left within the last year. This group is comprised of nurses who have exited the workforce tem-porarily, for child-rearing for example, and those who have exited permanently.

Table 3: Characteristics of RNs Employed in Other Occupations

	Left Nursing ≤1 yr ago	Left Nursing >1 yr ago
% with BSN or higher	47	48
Mean yrs since highest degree	16	22
Mean age (yrs)	45.5	49.4
% < 40 years	29	14
% married	67	74
% young children	11	8
% Full-time	52	64

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Roughly one-third of this group, around 123,000, were 50 years of age or younger. Table 5 compares these nurses with RNs aged 50 years and under who were

different from RNs currently working in nursing. One reason to examine this population is to determine whether some potential exists for recruiting RNs back to the workforce from this group: would changes in the workplace create both an incentive to return to the nursing workforce and, perhaps more importantly, to retain those who may be considering leaving for the same reasons.

Table 5: Characteristics Among RNs < 50 years Employed in Nursing and Not Employed

	Nursing	Not Working
%with BSN or higher	46	54
Mean yrs since highest degree	14	14
% married	73	88
% with young children	23	42
% household income \$75,000+	42	51
% married household income \$75,000+	55	57

working in nursing. A higher proportion of those who are not working were prepared at the BSN level or higher, were more likely to be married, and were nearly twice as likely to have young children in the home than RNs of the same age who were working in nursing. Among those who were married, the proportion reporting annual household earning of at least \$75,000 was the same for each group. These findings suggest that annual household income was sufficient for RNs who were not working to remain out of the workforce, and that factors other than salary may be needed to encourage them to re-enter the workforce.

Around 132,000 RNs who were not working could be classified as "pre-retirement," at 51-65 years of age. Seventy percent of them left nursing employment over a year ago, leaving eight years ago on average. Compared to non-working RNs who were 50 years of age or less, only half as many in the pre-retirement group (29%) were educated at the BSN level or higher. However, there were nearly 11,000 RNs in this group with a masters or doctorate degree. And finally, there were 92,000 RNs who were over 65 years of age, with 89% having left nursing employment on average 10 years earlier.

Implications

The population of RNs not currently working in nursing represents a diverse group of nurses whose profile is

These data suggest that for RNs employed in other occupations, flexibility in the workplace with regards to working hours, and in particular more opportunities for part-time employment, may motivate some of these RNs to return, or encourage those who are contemplating a move to stay. In addition, the structure of the work itself and working conditions would also have to be addressed. Nearly half of this group reported that more rewarding work was one of the reasons that they left the profession. Career ladders and other opportunities to develop clinical expertise, to practice in that professional role, and to be rewarded for those skills, may be one strategy that could address this concern. Finally, better salaries would need to be explored as well. While this was the third most frequent reason that nurses reported influencing their decision to leave, it may be that these RNs are earning higher salaries in these jobs, regardless as to whether it motivated their departure. Better salaries could also go a long way towards assisting in retaining the current workforce in nursing. The slow rise in the proportion of nurses working in other fields among RNs not working in nursing during the 1990s suggests that all of these factors should be considered in developing a broad-based strategy to retain these nurses. These nurses represent a group that are interested in staying in the workforce, though under the right conditions.

Some of the same factors may be operant for the group of RNs who are not currently working. However, the survey does not assess the reasons these RNs have left the workforce. Furthermore, the survey does not ask whether they view their exit as temporary, and whether

APPENDIX B - RNs WHO ARE NOT WORKING IN NURSING: A PROFILE

they intend to return to the nursing workforce and when. It is likely that within this group are RNs who have left temporarily for child-rearing obligations and who intend to return. Indeed, 42% of non-working RNs who are 50 years of age and under report having young children in the home, and some share of this group are likely a part of the cycle of RNs who are moving out of and into the workforce at any point in time. Child care options may be a necessary factor to motivate the return of this group, or at least an earlier return than the one planned. Of note is the rather sizeable group of RNs between ages 51-65 who have a masters or doctorate — nearly 11,000 nurses. Depending on the length of time since they have worked in nursing, with some retraining this group of nurses may represent a resource to partially fill the gap in nursing faculty shortages while the educational system redoubles its efforts to produce the next generation of nursing faculty.

However, current interest in returning to nursing is rather low among this population, and decreases with age and the length of time since their last nursing job (Table 6). Only 5.7% of RNs employed in other occupations and

8.0% of RNs who were not working reported that they were looking for work in nursing. These rates of interest in nursing employment are higher among those who are younger and those who left nursing within the last year. Many factors enter into the decision to participate in the workforce, and these figures underscore the challenge to be faced in both encouraging RNs to return to the nursing workforce as well as creating the conditions that will retain those who may be considering departure.

The examination of this population of nurses could provide a valuable window into the characteristics of RNs that are leaving the nursing workforce, the reasons behind that departure, and what it may take to retain them. A few modifications to the data collected in the NSSRN would go a long way towards that effort. First, a clear definition of who is and who is not working in nursing is needed. Currently, respondents to the survey self-identify whether they are working in nursing. Adding a clarifying question to follow the self-identification of nursing employment could provide a more complete and consistent picture of who is not working in nursing. Further

Table 6: Percent of RNs Reporting to be Looking for Work in Nursing

RNs Employed in Other Occupations		5.7%
	Age \leq 50 years	6.8%
	Left nursing \leq 1 year ago	11.9%
	Left nursing > 1 year ago	5.4%
	Age > 50 years	4.2%
	Left nursing \leq 1 year ago	8.2%
	Left nursing > 1 year ago	3.6%
RNs Not Working		8.0%
	Age \leq 50 years	14.3%
	Left nursing \leq 1 year ago	26.5%
	Left nursing > 1 year ago	8.7%
	Age > 50 years	4.5%
	Left nursing \leq 1 year ago	11.8%
	Left nursing > 1 year ago	2.4%

APPENDIX B - RNs WHO ARE NOT WORKING IN NURSING: A PROFILE

detail on the types of positions these RNs hold would add very useful information to the survey. Second, assessment of the reasons for not working in nursing should be extended to nurses who are not working. Third, individual annual income should be obtained from RNs who are employed in other occupations, and not just of RNs working in nursing. Salary enhancements have been identified as an important strategy to attract and retain nurses in the workforce, and information on the salary potential of these non-nursing occupations filled by RNs could inform the development of competitive salary strategies. Finally, complete data on work history is needed, of

both RNs working in nursing and those who are not. Years of work experience since receiving their basic nursing education, both in and outside of nursing, and breaks in that work history would provide a much better picture of the work profile and workforce participation patterns of RNs, and could guide future workforce planning efforts.

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APPENDIX C

Best Practices for Retention of RNs in U.S. Hospitals

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Introduction

Retention of the RN workforce is a complex issue associated with a variety of factors that demand attention from many constituents both within and outside the health care delivery system. The nursing shortage has received attention in the popular as well as the professional media. As one solution to the nursing shortage, the importance of retaining RNs in hospitals has attracted additional attention with the publication of a study that linked nurse staffing levels with quality of care in hospitals. This study conducted by Needleman et al. (2002) concluded that "a higher proportion of hours of nursing care provided by registered nurses and a greater number of hours of care by registered nurses per day are associated with better care for hospitalized patients" (p.1715). Stated another way, insufficient numbers of nurses staffing hospitals is related to an increased occurrence of preventable adverse events.

Issues that relate to retaining a qualified and experienced RN staff include both economic and noneconomic factors. Economic factors relate to wages and benefits while noneconomic factors relate to staffing and scheduling, the culture of the professional work environment, job stress, intensity of work, safety, job satisfaction, work-life balance, work redesign, and an institution's location. Rarely, if ever, is retention of an adequate number of qualified nurses attributable to any single factor. Therefore, while the following discussion focuses on the factors as distinct issues, the complex interaction among the factors must not be overlooked.

Economic and Noneconomic Factors that Contribute to Retention

Economic factors include wages and benefits. Citing findings from *The National Sample Survey of Registered Nurses* ((Spratley et al., 2002), Steinbrook (2002) states,

"wages for registered nurses have been relatively flat as compared with the rate of inflation. The average annual salary for was \$46,784. Between 1980 and 1992, real annual salaries for RNs increased by nearly \$6,000. Between 1992 and 2000, however, they increased by only \$200 (p.1759)." As the RN workforce ages, health care and retirement benefits have become as important as wages. In a study conducted in 2001, by the American Organization of Nurse Executives and *Nurse Week*, 79% of RNs stated that improved wages and benefits would help a great deal to solve the nursing shortage. Moreover, the study noted that among those RNs who were planning to leave their present position over the next 3 years, 58% said improved compensation would very likely influence their decision to remain.

But wages and benefits alone will not stabilize the RN workforce. Reviewing the nursing literature as well as interviewing nurse executives and staff nurses helped this author to generate a list of noneconomic factors that have become at least as important as the economic factors of wages and benefits. Most important among the noneconomic factors, staffing and scheduling heads the list of issues necessary for retaining a qualified nursing staff. Hospital nursing is a "24/7" commitment that requires RNs to work less desirable weekend, evening, and night schedules. With a largely female workforce that is committed to child bearing, child rearing, and family care giving, a nurse's work commitments compete with family responsibilities and interfere with perceived quality of life. In relation to staffing, nurses want predictability, fairness, flexibility, and adequate numbers of staff with the correct skill mix. Predictability relates to the decision rules that govern how vacation, holiday, and days off are scheduled. Fairness relates to how these rules are applied. Flexibility reflects the option to request time off to balance multiple commitments to work, school, and family.

APPENDIX C - BEST PRACTICES FOR RETENTION OF RNs IN U.S. HOSPITALS

Skill mix takes into account not only the number but also the experience and competence of nurses assigned to a shift on a designated unit. The ideal staffing plan adjusts the number, competence, experience, and skill of the staff to meet patient needs based on the patient acuity which reflects severity of illness. The advent of managed care has resulted in a marked increase in the intensity of work related to patient care. Patient acuity has increased and length of stay has decreased, resulting in the same or more work being performed in a much shorter period of time. In addition, shortened length of stay means that the number of admissions and discharges for any given time period has also increased. Work intensity takes on added significance when resources such as adequate staffing are not available and mandatory overtime becomes the staffing modality of choice. While knowledgeable administrators agree that skill mix should match the acuity of patients' illness, at the national level no recent data on staffing exist (including skill mix and competence) that adjusts for the acuity of the patients' illness or the decreased length of stay (Steinbrook, 2002).

Marlene Kramer summarizes the importance of clinical competence as she reflects on findings from over 25 years of her work related to magnet hospitals. Having competent co-workers continued to be one of the most important issues identified by nurses in both magnet and non-magnet hospitals. Competence serves as the basis for autonomy, nurse-physician relationships, and control over nursing practice. Competence is related to attracting and retaining nurses, job satisfaction, and effective nursing practice. "Competence is positively related to self-esteem and locus of control. It is not just that the nurse knows; it's that she knows she knows" (Kramer & Schmallenberg, 2002, p.31).

Quality of work life is affected by the professional practice environment. Characteristics of the professional practice environment include the following: respectful, collegial relationships with physicians, administrators, and other members of the interdisciplinary or transdisciplinary team, a well-educated and responsive nursing leadership team, professional autonomy that includes participatory

decision making in matters related to patient care and nursing practice, and a culture where continuous improvement is the norm. Hospitals, which have been awarded magnet status by the American Nurses Credentialing Center, traditionally support a professional practice environment.

Professional and collegial interactions founded in trust and respect are the hallmarks of a professional practice environment. One study on nurse physician relationships concluded that daily interactions between nurses and physicians strongly influenced nurses' morale. Yet, of the nearly 1200 nurse, physician, and administrator respondents, 92.5% said that they had witnessed disruptive behavior by physicians that included yelling or raising of the voice, disrespect, condescension, berating colleagues and patients, and use of abusive language (Rosenstein, 2002). Even in the best hospitals, nurses are not immune to this behavior. One senior nurse administrator was dismayed to discover that a long-tenured physician at the hospital had been lashing out at nurses for years. The doctor's outbursts had gone unchallenged because the nursing staff felt that nothing would be done about the behavior (Uhlman, 2002).

Disruptive behavior affects not only nurses but also all members of the health care team. Disruptive behavior can be especially detrimental as teams migrate from an interdisciplinary practice pattern to a transdisciplinary model of delivering care. Whereas interdisciplinary teams are characterized by coordination of patient care by representatives from many disciplines, transdisciplinary teams share knowledge across disciplines and allow members to use skills learned from those other than in their primary discipline. The process of problem solving in a transdisciplinary team strives to avoid traditional power imbalances and competition among professionals (Greco & Anderson, 2002).

A well-educated, responsive nursing leadership is another distinguishing element in the professional practice environment. Senior nursing leadership needs to work at establishing credibility as an effective advocate

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for nursing to create an environment that supports close mutually productive relationships among nurses, unit managers, medical staff, ancillary departments, and patients (The Advisory Board, 2001). One study of what skills and attributes women (including nurse executives) will need to succeed as leaders in the 21st century identified personal integrity as well as truthfulness, credibility, and ethical standards as the most important characteristics of a successful leader (Carroll & Jowers, 2001). Credibility is characterized by data based decision making, efficient and cost-effective management practice, and strategic collaboration with other department leaders (The Advisory Board, 2001). Within nursing, credibility is about clinical competence, which provides the basis for professional autonomy and decision-making.

Nurses see professional autonomy and participative decision making in matters related to nursing practice and patient care as a major requirement of the professional practice environment. As one nurse executive observes, "we need to find better ways to listen to nurses' concerns, complaints, frustrations, anger and feelings...[because nurse leaders]...recognize that the answers for the tough times ahead will come from the energies of the team..."(Vogtman, 2002, pp.20-21).

One of the attributes of a professional practice environment where nurses can and should have a voice is continuous quality improvement related to clinical care. The overall themes for the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) performance improvement standards include the active involvement of senior hospital leadership and a planned systematic approach to data collection and analysis that is collaborative, interdisciplinary, and organization wide (Kelley, 1999).

Another factor that contributes to retention of RNs in hospitals is physical and psychological job stress "Nurses are exposed daily to significant risks to their personal health and safety" (JCAHO, 2002). According to the American Nurses Association Health and Safety Survey (2001), 70 % of nurses reported that severe stress and

overwork were among their top concerns, with 40% reporting that they have been injured on the job. In addition to the fatigue caused by long hours and (in some cases) mandatory overtime, nurses are routinely required to do physically heavy lifting, care for combative patients, and cope with the presence of air and blood borne pathogens. One study of needlestick injuries suggests that they are more common than reported and they do not occur randomly (Aiken, Sloane & Klocinski, 1997). In fact, nurses who work in hospitals with low staffing levels and in a poor work environment are two to three times more likely to sustain a needlestick injury (Clarke, Sloane, & Aiken, 2001).

Psychological stress often results from a variety of factors inherent in the work of caring for patients with life threatening diagnoses. Understanding psychological stress is further complicated by evidence that suggests that the sources of and solutions for stress are perceived differently by generational cohorts (Santos & Cox, 2000; The Advisory Board Company, 2002). However, there is little disagreement that whatever the generational issues may be, balancing work-life demands, working in a hostile environment, and constantly being required to cope with work demands that outstrip resources also contributes to stress. Any combination of physical and psychological stressors can lead to burnout. While burnout can cause nurses to leave hospital employment, it can also affect the overall quality of care, as burnout can result in nurses distancing themselves from patients and coworkers.

During the 1990s, the health care industry responded to the economic pressures of managed care by mergers, acquisitions, downsizing, and re-engineering that, in retrospect, have been unsuccessful in achieving the targeted productivity and financial goals (Jones & Redman, 2000). These activities caused serious erosion in the nursing work environment, especially at the unit level where management and staff interact most directly to provide patient care. Even the JCAHO (2002) admits that, although unwittingly, the restructuring initiatives of the 1990s had a lasting, negative impact on nursing leadership. This result is no small problem because nurse executives are

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expected to reconcile the competing business and clinical objectives and build teams that are committed to providing safe, high-quality patient care.

Unlike a majority of hospitals during this period, magnet hospitals were less likely to undergo re-engineering at the unit level (Havens, 2001). A study of the original magnet hospitals, which in 1986 had the most positive nursing work environments, found that by 1998 "these ratings had deteriorated and some of the deterioration was a result of ill informed restructuring" (Aiken, 2002, p.71). Results of another study that compared magnet and nonmagnet hospitals, suggested that there were differences in how the two groups chose to respond to similar political and economic pressures. Nonmagnet hospitals were more likely to implement skill mix changes that resulted in fewer RNs and more LPNs and nurse's aids to care for patients. At the same time, the magnet hospitals implemented significantly more changes to expand the Chief Nurse Executive (CNE) role to oversee multiple non-nursing departments, perhaps suggesting that engineering efforts were more targeted toward administrative and management levels (Havens, 2001).

Any individual or combination of these previously mentioned factors could affect the job satisfaction of nurses. Large-scale surveys of nurses that were initiated to determine their job satisfaction have produced varied and often conflicting results. For example, one study of 43,000 nurses employed in hospitals in five countries, including the U.S., reported high job dissatisfaction while the relationships between nurses and physicians appeared satisfactory (Aiken, Clarke, Sloane, Sochalski, Busse, Clarke, Giovenetti, Hunt, Rafferty, & Shamian, 2001). Another study, which sampled 4100 U.S. nurses working in a variety of settings, found that 87% of the nurses were satisfied with being a nurse and 56% had no plans to leave their present position in the next 3 years (Graham, 2002). Results from a survey of 1200 nurses, physicians, and administrators, who were employed in a west coast community-owned hospital system, reported that 92.5% of the respondents had witnessed disruptive physician behavior and that all groups noted a definite

relationship between physician behavior and nurse satisfaction and retention (Rosenstein, 2002).

Whether a hospital is located in a rural or urban area may also contribute to the ultimate success of retention efforts. Urban hospitals have problems related to competition with other facilities, neighborhoods that are unsafe or undesirable, a dwindling referral network for specialty practices, and a landlocked physical facility that makes expansion and construction of facilities like parking garages expensive, if not impossible. While rural facilities may not face landlocked physical plant or competition for staff, oftentimes they are uniquely challenged by a place-bound workforce and limited source of funding for salaries, maintenance, and expansion.

Strategies for Improving Retention

Many strategies have been proposed to improve retention. Some involve system wide interventions while others need to occur at the unit level. In recognition of the diversity of nursing personnel, the American Organization for Nurse Executives (2000) concludes that meeting the needs of nursing professionals in the 21st century will necessitate creating a working model that reflects the needs and desires of individuals at different points in their personal lives and careers. Both immediate and long-term plans need to be developed to address current and future needs of the health care system to insure that sufficient numbers of competent nurses are prepared and willing to work in hospitals. However, with the exception of the work that has been done with the magnet hospitals, little empirical evidence has been published to support the effectiveness of retention strategies.

Economic Factors. At least one major survey of nurses has identified the importance of addressing economic issues in the recruitment and retention of nurses (Graham, 2002). While entry-level salaries have been improved to attract more nurses to hospitals, a salary structure is needed that rewards nurses for increasing competence and experience in order to deal with creeping salary compression. Likewise, benefit plans that are both flexible and competitive with those provided by other

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industries need to be considered. Health care and retirement benefits are major issues for the aging nursing workforce, while younger nurses may need childcare. Flexible benefit plans allow nurses who are at different stages in their careers balance family needs with retirement planning. Peter Buerhaus (in Graham, 2002) has observed that it is helpful that economic issues are so important to nurses "because in the short run, this may be the easiest change to accomplish, thus, 'buying' time for responses to be put in place that address the noneconomic actions" (p. 17).

Noneconomic Factors. Any comprehensive retention plan must deal with the issue of staffing, including a flexible skill mix to accommodate patient acuity. However, several states have proposed legislation that will dictate mandatory staffing ratios that do not account for patient variables. As of July 1, 2002, the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) began requiring health care organizations to establish staffing plans that the organizations will be required to monitor by using data from "nursing sensitive clinical indicators and human resource indicators such as adverse drug events, patient falls, use of overtime, staff turnover rate, patient and family complaints, and staff injuries on the job" (JCAHO, 2002, p. 15). This requirement includes monitoring the number and mix of all health care practitioners and technical staff to assure the presence of "the right numbers of care givers of the requisite competency and skill mix to provide safe, high-quality care" (JCAHO, 2002, p.15).

In addition, to make the commitment to around the clock, 7-day-hospital work schedule desirable and practical, the issue of flexibility and alternate work schedules must be addressed. In a review of research conducted both within and outside of health care to determine the effects of alternate work schedules, Griffeth and Hom (2001) conclude that flextime helps employees balance home and work duties but does not appear to positively impact retention. However, strategies such as a compressed workweek, which allows for recovery time (a leading cause of turnover in shift workers) and opportuni-

ties for job sharing and part-time work, may deter resignations.

While adequate staffing contributes to retention goals, it is also related both to preventing nurse injury and to patient safety. Despite recognition that many workplace injuries are ergonomics-related, nearly 60% of nurses report that patient lifting and transfer devices were not provided by their organizations (American Nurses Association, 2001). Addressing the ergonomics issue, the JCAHO (2002) has noted that, "with an aging nursing workforce and an increasingly corpulent population, health care organizations will find it a basic necessity to acquire ergonomic technologies that reduce the risk of physical strain and injury..." (p.12).

Another strategy that is aimed at enhancing retention of RNs is establishing and maintaining the professional practice environment. The professional practice environment as found within magnet hospitals has been studied extensively by Kramer and Aiken and their colleagues. Their research suggests that this environment is a model for administrative practice and nursing care delivery within an organizational culture that fosters retention. In fact, evidence exists to support the relationship between a positive professional practice environment and shorter lengths of stay and lower patient mortality. Professional practice environments in magnet hospitals are characterized by higher nurse-patient ratios, and clinical autonomy for nurses, including control over nursing practice. This environment is also characterized by better nurse-physician communication and collaboration, educationally prepared nurses and nurse managers, strong organizational support from administration, and a consistently communicated value that the patient is the focus for health care (Aiken, Havens & Sloan, 2000; Havens, 2001; Kramer & Schmallenberg, 2002; Aiken, 2002; Hinshaw, 2002). Both the JCAHO and federal legislation support establishing a magnet hospital certification program as one method of achieving a professional practice environment that will accomplish multiple goals including safe patient care and attracting and retaining nurses.

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In addition, within this professional practice environment, nurse-physician-administrator relationships are characterized by mutual respect, open communication and collaboration in the interest of providing safe, quality patient care. Strategies for establishing this culture need to focus both on the institution and, longer term, on the educational system within which all health professionals are educated. Some examples of improvement strategies for health care institutions suggested by Hinshaw, (2002) and Rosenstein, (2002) include the following:

- Create more opportunities for all health care personnel to communicate through such things as open forums, workshops, and educational programs that are aimed at team building and conflict and stress management. Appoint a physician leader who can assist with planning these programs and encourage physician participation.
- Establish an explicit communication structure for dialogue about patient care issues, such as interdisciplinary performance improvement teams.
- Provide a common organization level committee structure for interdisciplinary decision making about such things as patient care policy.
- Identify potential sources for conflict, such as scope of practice, competency, staffing, scheduling and equipment, and plan proactively to offset and/or avoid these situations.
- Establish a zero tolerance code of conduct policy for disruptive behavior, which includes reporting guidelines, and hold all health care personnel accountable for their actions.

Longer-term strategies involve an overhaul of the educational system in which the values of health care professionals are shaped. Partnerships among providers and educators must be fostered and supported so that education and care delivery systems can be re-conceptualized as interdisciplinary activities. This re-conceptualization should include diminishing the traditional "educational silo" where health profession students have limited opportunities to interact and are taught exclusively by members

of their own disciplines in classes open only to students preparing for entry into the same profession. A more interdisciplinary approach should result in a better-balanced perspective of the various contributions that the different disciplines can make to patient care delivery. The goal of such an educational process should result in a system where "no individual or institution dominates deliberations or controls decisions to the detriment of the system" (Conway-Welch, 2000, p. 64).

Finally, establishing the professional practice environment and a high performance culture is the responsibility of the nurse executive, who can delegate the authority for implementation to the nursing management team. The nurse manager is responsible for retaining a high performance workforce. This responsibility includes hiring, identifying turnover risk among employees, coaching the staff nurse, fostering career development that matches the needs of the nurse and the needs of the organization, and building the nursing care team (The Advisory Board, 2001a & 2001b). However, little in basic nursing education programs prepares the nurse for the manager role. Continuing education and in-house staff development can help to fill immediate gaps in specific skills. These are important ways that an institution can foster innovation and creativity, share values, and shape policy. But nurses who aspire to the manager role need support to pursue graduate education in nursing administration.

Unfortunately, over the last decade the surge of support for advanced practice graduate programs has stifled the sustainability and growth of nursing administration graduate programs in most regions. To meet the needs of the health care delivery system for sophisticated nurse managers, graduate nursing programs will need to commit greater resources to revitalize nursing administration programs and post-master's degree certificate options in nursing administration for advanced practice nurses. This commitment will need to include partnerships with health care agencies to plan curricula that are relevant, adapt courses to take advantage of web-based technologies, develop innovative class schedules that are convenient both to the learner and the employer, and recruit new

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faculty and/or retool existing faculty to teach in nursing administration graduate programs.

One note of caution: The above-mentioned strategies proposed to improve retention of the RN workforce in hospitals should not be implemented without a comprehensive needs assessment of an individual institution or system's RN workforce. Each organization needs to craft a retention plan that is tailored to its specific population and region. While system level strategies are needed to address salary and benefits issues, many of the noneconomic factors can and should be addressed at the nursing department or the individual unit level.

RNs themselves are the best sources of information about the status of care delivery, as well as their own stress and satisfaction levels. When interpreting institution-level data, it is worth noting that nurses' perceptions of their ability to render quality patient care is one of the most significant factors in job satisfaction. This finding was so profound that the definition of a magnet hospital was revised to read, "A magnet hospital is one that attracts and retains nurses who have high job satisfaction because they can give quality care" (Kramer & Schmallenberg, 2002, p. 26). Furthermore, when the quality of nurses' work life is improved and when nurses have high job satisfaction, they become the best recruiters of other nurses.

Conclusions

- Retention is a complex issue that requires attention to both economic factors as well as noneconomic factors.
- Because of the complexity of the issues related to retention, there are no "quick one size fits all fixes."
- The body of published evidence about retention strategies is very thin and consists primarily of descriptions of plans implemented within individual hospitals.
- A positive professional practice environment such as that which is found in magnet hospitals is a function of a variety of factors. One of the most important factors is the quality of the relationship within and

among the disciplines, including but not limited to nurses, physicians, and administrators.

- Nurses are the best recruiters of other nurses. When the quality of work life is improved for nurses, the potential for recruiting other nurses is also improved.

Recommendations

- The complexity of retention issues necessitates crafting complex solutions. In order to impact the professional practice environment, new models of delivering care need to be developed and evaluated. A sustained and concerted effort to develop, test, and report successful retention models is also necessary to provide the evidence upon which to base future decisions.
- Solutions aimed at improving the professional practice environment need to focus on both immediate and long-term strategies.
 - Immediate strategies need to generate actions that create and communicate expectations that all interactions should be characterized by respectful collegiality in support of safe, high quality patient care.
 - Strategies aimed at improving the professional practice environments over the longer term need to emphasize changes in the educational systems which foster planned opportunities for students to interdisciplinary educational experiences that are supported through service-education partnerships that include educators and practitioners from all disciplines.
- Staff nurses need to be actively involved in decision making especially in those issues that affect professional nursing practice, patient care, and recruitment, and retention of RNs.

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APPENDIX D

The Nursing Faculty Shortage: National League for Nursing Perspective

Presented to the National Advisory Council on Nurse Education and Practice (NACNEP)

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On behalf of the National League of Nursing Board of Governors, the more than 10,000 individual NLN members, 1,500 nursing schools and agencies the organization represents, and its 38 constituent leagues, I thank you for the opportunity to talk with you today about a very significant issue: the shortage of qualified faculty to teach in nursing programs. My name is Terry Valiga, and I am the Director of Research and Professional Development at the NLN ... a member of the Senior Management Team.

Our entire nation is painfully aware of the shortage of nurses to provide direct care in hospitals, homes, schools, clinics, and other health care settings. Many studies are underway to document the extent and severity of this crisis in various parts of the country. And there are a number of national, regional, and legislative strategies currently being implemented that are designed to resolve the crisis and eliminate the shortage of nurses in practice.

But there is another dimension of the "shortage" that has, to date, received little attention, and it's an aspect that can have even more far-reaching consequences. I speak, of course, to the shortage of faculty to teach in schools of nursing.

Various states' efforts, federal legislative initiatives, the ANSR Coalition (Americans for Nursing Shortage Relief), the *Nurses for a Healthier Tomorrow* coalition, recruitment efforts underway by our schools of nursing and professional associations, the *Call to the Profession* coalition, and the Johnson & Johnson Campaign for Nursing's Future all may be incredibly successful in attracting young men and women, underrepresented minorities, and second-career individuals to pursue a career in Nursing. But if those individuals are then told that

they cannot be admitted to nursing programs because there are not adequate numbers of qualified faculty to teach them, then we need to question the ethics of all these recruitment efforts.

We must, therefore, address the nursing faculty workforce shortage before we find ourselves turning away qualified, enthusiastic "recruits" to our profession. And the National League for Nursing commends the National Advisory Council for Nursing Education and Practice for doing just that through today's hearings and, hopefully, subsequent initiatives.

STATISTICS

Allow me to tell you something about this shortage in the nursing faculty workforce. You have received a document (*Nursing Faculty Shortage, 2001*) that reports on a study conducted by the SREB (Southern Regional Educational Board) Council on Collegiate Education for Nursing. A May 2001 survey conducted by this Council of the 491 institutions in the 16 SREB states and the District of Columbia revealed the following:

- More than 425 unfilled faculty positions were reported
- 86 institutions reported that they did not have enough faculty to "cover" their undergraduate and graduate programs
- 144 faculty members retired in that academic year
- More than 550 resignations had been experienced in that academic year or were expected in the coming two years, and
- Most of the 6,322 nurse educators had a master's degree in nursing

Texas, one of the states included in the SREB survey, also conducted its own survey called "Nursing

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Education: An Assessment of Educational System Capacity to Meet Nurse Workforce Demand" (Douglas, 2002). This study identified four constraints on the capacity of the Texas nursing education system to meet workforce needs:

1. an aging nurse faculty workforce
2. barriers to recruiting and retaining qualified faculty
3. declining enrollments in all programs; and
4. under-representation of minority groups in nurse faculty and student populations

And this is not an issue in the U.S. only. Dr. Tony Butterworth (Chief Executive of a National Health Service Workforce Development Confederation in England) noted the following in a March 2002 article: "Soon, ... and somewhat sadly, our universities [in the United Kingdom] will begin to experience a shortage of good teaching staff because of an aging workforce" (p. 24).

The NLN currently has a study underway to describe our national nursing faculty population. As the only professional organization that focuses on faculty development, supports nursing education research, and attends to all types of nursing programs, the NLN is in a unique position to address this issue, and we are pleased to be taking the lead in relation to it. Nursing faculty are the primary stakeholders of the NLN, and our organizational goals and initiatives clearly are focused on meeting faculty needs and supporting the preparation of qualified faculty.

Specifically, the mission of the National League for Nursing is to advance quality nursing education that prepares the nursing workforce to meet the needs of diverse populations in an ever-changing healthcare environment. We believe that quality nursing education cannot occur without faculty who understand their role, can implement that role effectively, and can influence the future of nursing education. Thus, included among the NLN's five major goals are the following:

- The NLN will lead in promoting the professional growth and continuous quality improvement of educators for the nursing workforce
- The NLN will lead in promoting evidence-based

teaching in nursing and the ongoing development of research that informs and improves nursing education

- The NLN will be the authority in providing and interpreting comprehensive nursing workforce supply data

Our *Faculty Census 2002* survey is designed to provide information about the faculty component of the nursing workforce. For full-time and part-time faculty, this survey will document their educational preparation, credentials, rank, age, salary, tenure status, teaching experience, resignations and retirements, and race/ethnicity. It also will answer a series of questions related to budgeted unfilled faculty positions: how many of them are there, in what specialty areas are they most significant, and how are schools dealing with such vacancies, among other things.

The survey has been constructed so that we will be able to (a) draw comparisons to information in the Division of Nursing's *2000 National Sample Survey of RNs* and (b) report trends in comparison to the Faculty Census survey conducted by the NLN in 1997. Informal feedback we and the National League for Nursing Accrediting Commission (NLNAC) have received to date suggests that a vast majority of schools have at least one full-time position they are unable to fill with a qualified candidate. Many schools also report that they have placed a limit on student admissions, increased class sizes, or delayed students' progression in their programs as ways to deal with the vacancies. Finally, nearly all schools informally report that they expect the problem to worsen before it improves ... if it improves. Let me explain.

In 1993 — less than 10 years ago — there were a little more than 3,000 students enrolled in master's programs who were preparing for an educator role. This number represented 9.9% of all full-time and part-time graduate student enrollments at the time. In that same year, 755 of the 7,926 master's graduates (or 9.5%) had prepared for a career in nursing education.

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These numbers decreased slightly in 1994 and again in 1995. Enrollments dropped to 2,989 (8.8%) then 2,954 (8.3%). And graduations rose slightly in 1994 to 854 (9.9%), but dropped down to 765 in 1995 (8.3%).

By 1999 the picture was more disturbing, with the number of full-time and part-time students enrolled in master's programs education "tracks" down to 1,229. For the 30,537 students enrolled that year, those preparing for a faculty role represented only 4.0%. And the number of graduations in 2000 fell to only 247 (of 9,969) ... a mere 2.5%.

As dismaying as these numbers are, the 2000 data are even more shocking. Our unofficial data indicate that there are only 64 (of more than 375) master's programs that offer an "academic" nursing education "track" and/or a post-master's certificate program in "academic" nursing education. Less than 2% of all full-time and part-time enrolled students are in this "track," and little more than 1% of the approximately 9,000 master's graduates in 2000 were nursing education "majors." That's 900 individuals ... not even one for each of our LPN programs (of which there are approximately 1,100) or one for each of our RN programs (of which there are approximately 1,500!).

In 2001, the number of programs offering academic nursing education tracks and the number of students enrolled in this area of specialization seem to have risen slightly. And that's good. But we don't know if this will be a trend, and even if it is, there still is much work to be done in relation to master's programs ... and doctoral ones, as well.

There are 79 doctoral programs in nursing today. One of those programs focuses on the preparation of nursing faculty and confers a Doctor of Education degree in Nursing Education. Twelve other schools indicate that "education" is an option of focus in their Ph.D. or D.N.Sc. program. Since most doctoral programs do not ask students to declare a "major" such as nursing education, it is not possible to know how many of the graduates from

doctoral programs focused on this role. But even if every doctoral graduate from these 13 programs did so, that is only approximately 60 individuals per year. And if experience is any indicator, many of these new doctorates probably already hold a faculty position, so they are not "adding to the ranks" of faculty.

To illustrate this problem even more dramatically, if every doctoral graduate each year assumed a faculty position upon completion of his or her program — and we know from Dr. Ada Sue Hinshaw's (2001) analysis that many nurses with graduate degrees are not selecting academic careers — but even if every doctoral graduate did choose a career in academe, that still would be less than 400 individuals annually. This would be enough to provide one new doctoral graduate to every master's program in the U.S., but it would leave no new doctoral graduates for the 79 doctoral programs themselves, and none for the more than 550 baccalaureate programs in the country.

It is true that many nurses earn their doctorates in fields other than nursing, some even in education or educational administration, and then they assume faculty positions. I do not know what these numbers are, but we might want to be careful to look to this as the "solution" to the shortage of doctorally-prepared nursing faculty since these programs do not address the uniqueness of nursing education.

One also can argue that many individuals who graduate from master's programs with preparation as nurse practitioners, nurse midwives, or clinical nurse specialists go on to assume teaching roles. This is true. In fact, most of our faculty, historically, have had this type of preparation. But we must ask if this is the best type of preparation for a faculty role?

We in Nursing would never think of allowing an individual to practice as a nurse practitioner if she or he did not have a sound knowledge base and highly developed skills in assessment, diagnosis, pharmacotherapeutics, reimbursement issues, parameters of the role, and so on.

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Yet, we constantly allow individuals to practice as teachers with no or only cursory knowledge and skill in teaching, advisement, curriculum design, program evaluation, outcomes assessment, accreditation processes, citizenship in the academic community, principles of higher education, evaluation strategies, and so on. This must change. The faculty shortage issue, then, is not only an issue of numbers but an issue of appropriate preparation as well, a topic that is addressed very clearly in the editorial by Dr. Joyce Fitzpatrick (2001) and the "cry for action" by Cheryle Kelly (2002), both of which you received.

Armed with the appropriate preparation and sound commitment to the role, faculty in our nursing programs would be better equipped to design programs that are of the highest quality and that graduate individuals who are exceptionally well prepared to practice in today's and tomorrow's complex health care arena. Such faculty also would engage in evidence-based practice as teachers. They would conduct research to determine what practices are most effective in facilitating learning, how we can best use the clinical setting to enhance student self-confidence, ways in which simulated learning can best prepare students for clinical practice, strategies that best facilitate interdisciplinary practice, and — among other things — what we can do in the educational setting to promote students' critical thinking and their ability to be flexible and adaptable in an ever-changing, uncertain, ambiguous, unpredictable world. As noted in the editorial by Dr. Chris Tanner (1999, pp. 51-52), "We have pressing questions [in nursing education] that beg for answers ... [and] ... there is no doubt we will need a cadre of well-educated scholars who have immersed themselves in the study of how people learn to conduct this research."

Without preparation for the faculty role ... without role models and mentors to help them manage the unique issues one faces in that role ... without a strong commitment to a role where teaching is primary and one's own clinical practice is secondary ... and without a science to undermine their practice, individuals whose preparation was as a nurse practitioner or clinical nurse specialist struggle to implement the faculty role. They often teach

only as they were taught (which, by the way, typically uses strategies that are being shown to be quite ineffective with today's learners). They fail to innovate. And they are likely to prefer to engage in a clinical role that fits much more closely to what they went to graduate school for in the first place ... and where they are likely to earn more money!

The nursing faculty crisis, therefore, is real, and the potential for it to grow in severity very soon is high. And, as noted, it is a crisis not only in quantity — numbers — but a crisis in quality as well.

SOLUTIONS

Our profession has witnessed the incredible success we've had in graduating advanced practice nurses from our master's programs. In fact, with the exception of CRNAs (who seem to be in short supply nationally), many parts of our country now seem to be experiencing somewhat of an over-supply of nurse practitioners, and some new graduates are finding it difficult to secure positions that allow them to use their advanced practice skills. This success of nurse practitioner programs has been due, in part, to the attractiveness of this advanced practice role in terms of autonomy and salary. It also is due, in part, to the fact that this role has received a great deal of attention in the media as one that is significant, results in positive patient outcomes, and is cost-effective.

But the success in graduating large numbers of advanced practice nurses (particularly nurse practitioners) also can be attributed to the funding that has been available over the past 10-15 years to support the development of such educational program in schools of nursing and the "re-tooling" of faculty to teach in such programs. This is an excellent example of what wonderful things can happen when an institution or agency invests substantial resources over time in programs that are desperately needed.

If we are to solve the "nursing shortage" by attracting increasing numbers of men and women to the field ... and having adequate numbers of qualified faculty to

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teach them ... we now need to shift the funding emphasis away from the preparation of nurse practitioners and toward the preparation of nursing faculty. Faculty members do need advanced clinical knowledge and skill. I am not suggesting that this should be ignored. And they do need research skills. But the role they will assume in most of our programs is that of teacher, not clinician or researcher.

They, therefore, need knowledge and skills in education, as well as clinical practice and research. Our schools need individuals who want to be faculty ... who want to work with students as their primary "clients" ... who know how to and will design and implement effective curricula ... who know how to and will be contributing members of the academic community ... who accept that their primary responsibility is as a teacher, and their clinical responsibilities are secondary ... who are excited about and dedicated to their role ... and who can and will encourage other nurses to pursue such a career.

As noted by Dr. Tony Butterworth (of England), "It is important ... to recognize and develop skilled teaching and make it an attractive career choice for nurses" (2002, p. 24). Resolving the shortage of nursing faculty for all our programs will require an examination of workload issues, salary issues, and promotion and tenure issues. But, it also requires more.

We need substantial funding to support nursing education research so that we can build a science of nursing education, just as we have built (and continue to build) a science of nursing practice. We need funding and programs to support continuous faculty development. We need leadership to encourage colleges and universities to re-examine their tenure and promotion criteria and processes to assure that teaching, program design, student advisement, and other educator skills are highly valued and rewarded.

To resolve this crisis, we need faculty in schools of nursing to spend time talking with each other about education issues ... issues like how to attract and retain

minority students, how to design curricula for RNs that truly challenge them to grow as professionals, how to promote students' critical thinking, how to design effective collaborative learning strategies, how to develop innovative evaluation methods that assess what students truly have learned, how to design interdisciplinary learning experiences that have valuable outcomes, and how to avoid "wasting" our time with students focusing on minute "factoids" so that we can "cover it all."

Clearly we need substantial funds to support the development of master's, post-master's, and doctoral programs that are designed to prepare faculty for the complex, challenging role they will face. And we need scholarships and fellowships to support students who are enrolled in such programs.

SUMMARY

As noted earlier, the National League for Nursing is the only professional nursing organization that focuses on faculty development, supports nursing education research, and attends to all types of nursing programs. We offer an intensive Faculty Development Institute each summer, and an Education Summit every fall. We offer grants to support research that addresses the *Priorities for Research in Nursing Education* formulated by our Blue Ribbon Panel, and will initiate our Nursing Education Research Institute in 2003.

The NLN also offers regional programs, online courses, and collaborative workshops that address the learning needs of faculty. And most recently, we have partnered with Johnson & Johnson (as part of their "Campaign for Nursing's Future") to award scholarships to support full-time and part-time master's/post-master's students who are preparing for the faculty role, and fellowships to support full-time doctoral study and dissertation research in nursing education.

The NLN's member task groups and councils are focusing on significant issues in nursing education: educational standards, recruitment and retention of students ... and faculty, articulation and mobility, the infusion of

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technology into nursing education, new teaching/learning/evaluation paradigms, and the development of a minimum data set for nursing education research. And finally, our Think Tank on Graduate Preparation for the Nurse Educator Role will be issuing its report by the fall, a report in which they will lay the foundation for ongoing work related to the clarification of nurse educator competencies ... those that are common to all types of nursing programs, and those that are unique to each type of program.

In light of its mission and goals, the NLN is pleased to be taking a lead in addressing the nursing faculty shortage issue and promoting lifelong learning of faculty in their role as educators. The National League for Nursing looks forward to collaborating with the National Advisory Council on Nursing Education and Practice, the Division of Nursing, other agencies, and other professional associations to advance the agendas outlined here, as we believe this is a "solvable" problem.

Again, I thank you for this opportunity to speak to you about the nursing faculty shortage, and I would welcome your questions or comments.

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APPENDIX E

The Shortage of Doctorally Prepared Nursing Faculty in Institutions with Baccalaureate and Graduate Nursing Programs: American Association of Colleges of Nursing Perspective

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On behalf of the American Association of Colleges of Nursing (AACN), I thank you for the opportunity to share some of the information that AACN collects about full-time nurse faculty in baccalaureate and graduate level nursing programs. In addition to salary data, AACN's extensive national faculty database contains information on faculty characteristics, including age, rank, level of education, teaching responsibilities, tenure status, resignations, and retirements.

The shortage of doctorally prepared nursing faculty in baccalaureate and graduate programs in nursing has been an issue of growing concern during the past several years. Why should we worry about sufficient numbers of faculty? We should be concerned because the shortage of faculty is contributing to the current nursing shortage by limiting the number of students admitted to nursing programs.

AACN collects data on applications to baccalaureate, master's, and doctoral programs every two years; and in 2000-2001 there were 5,832 qualified applications to baccalaureate, master's, and doctoral programs that were not accepted. An insufficient number of faculty was cited by 32.8% of the respondents as a reason for not accepting all qualified students (Berlin, Bednash, & Stennett, 2001). A special survey was conducted in 2000 to determine the vacancy rate for faculty. In a national sample of 220 schools (38% of AACN-member institutions), there were 5,132 full-time faculty positions. Of these positions, 379 (7.4%) were vacant. The mean number of vacancies per school was 1.7 with a range of 0-17; only 20 schools reported no vacancies. Educational requirements were listed for 297 of the vacancies. Sixty-four percent (64.2%) of the vacancies required an earned doctorate; and a master's degree with doctorate preferred was required for 30.7% of the positions. Hence, the preponderance of vacancies is for people

with doctoral preparations. Vacancies for master's prepared faculty was 4.5% and positions categorized as other was 2.6 percent (AACN, 2000).

FACTORS CONTRIBUTING TO THE SHORTAGE OF FACULTY

Why is there a shortage of doctorally prepared faculty and why can't we attract and retain more master's and doctorally prepared people to serve in the faculty role? Recurrent themes include salary inequities, competition with other marketplaces, the aging faculty workforce, departure from academic life, enrollment declines in nursing programs, and the prolonged time to completion of the doctoral degree.

Salary Inequities and Competition with Other Marketplaces

Clearly, a key issue facing academic nursing is salaries that are noncompetitive with other marketplaces. In 2001-2002, the median calendar-year salary for an assistant professor in a public university was \$63,500 and \$55,260 for doctoral and master's prepared faculty, respectively (Berlin, Stennett, & Bednash, 2002b). Where is the competition? A sample of clinical and administrative nursing salaries is presented in Table 1 (Tumolo & Collins, 2001; Salary.Com, 2002).

Aging Faculty Workforce

The primary factor contributing to the acuity of the faculty shortage situation is that we have an aging faculty workforce that is rapidly approaching retirement and a dwindling pool of younger faculty for replacement.

AACN conducts a survey of faculty in baccalaureate and higher degree granting schools of nursing each fall. In

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Table 1. Calendar year, full-time nursing salaries for assistant professors in public universities and selected clinical and administrative salaries.

Academic:	
Assistant Professor (MSN)	\$ 55,260 (median)
Assistant Professor (PhD)	\$ 63,500 (median)
Clinical and Administrative:	
VP for Nursing	\$ 110,935 (median)
Nursing Director	\$ 90,139 (median)
NPs (Private Practice)	\$ 78,217 (mean)
Clinical Nurse Specialist	\$ 60,632 (median)
Emergency Dept. Administrator (RN, BSN Preferred)	\$ 70,000-80,000 (range)
Neonatal ICU (BSN, MSN Preferred)	\$ 70,000-80,000 (range)
Perioperative Nurse (BSN, MSN Preferred)	\$ 80,000-88,000 (range)
Nurse Anesthetist	\$ 96,802-114,362 (range)

Sources: Berlin, L.E., Stennett, J., & Bednash, G.D. (2002b), Salary.Com (March 2002), and Tumolo J. & Collins, A (2001).

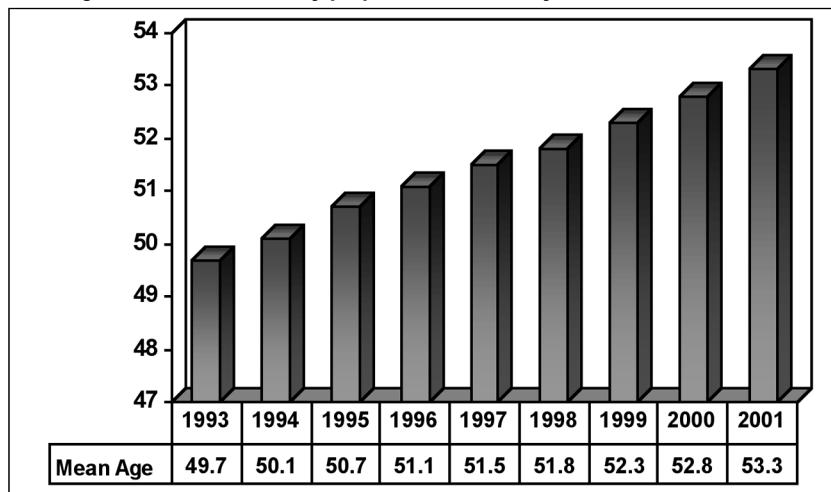
academic year 2001-2002, there were 9,767 full-time nurse faculty in 542 of 678 institutions, for an overall response rate of 80%. The mean age for doctorally prepared professors, associate professor, and assistant professors was 56.2, 53.8, and 50.4 years respectively, with a range of 28-78 years; the mean for master's prepared faculty was 48.7 years (Berlin, Stennett, & Bednash, 2002b;

AACN, 2002). Thanks to the AACN's foresight, we began collecting faculty age data in 1993. Like the overall nursing workforce, the mean age of faculty has increased steadily, going from 49.7 years in 1993 to 52.2 in 2001 for doctoral faculty (Figure I) and 46 to 48.5 for master's faculty (AACN, 1993-2001).

Dr. Linda Berlin, AACN's Director of Research and Data Services and her colleague, Dr. Karen Sechrist, a principal of Berlin Sechrist Associates and project director of the California Strategic Planning Committee for Nursing, used our faculty age data to model retirement projections for faculty age 62 and younger. Since the paper is in press and will appear in the March/April issue of *Nursing Outlook*, I am not at liberty to discuss all the findings. However, I can tell you that their projections of the number of faculty eligible to retire each year and the modal year that most people will reach retirement age are very sobering (Berlin & Sechrist, 2002).

In conjunction with the change in mean age, the proportion of doctorally prepared faculty age 50 and over

Figure 1.
Mean age of full-time doctorally prepared nurse faculty, 1993-2001.



Age data not collected in 1996; midpoint of '95 and '97 used.

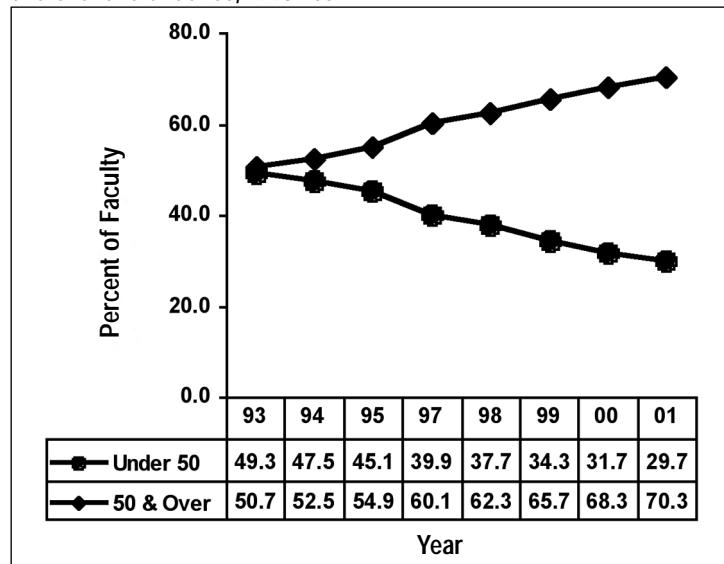
Source: American Association of Colleges of Nursing, 1993-2001.

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increased from 50.7 percent in 1993 to 70.3 percent in 2001 (Figure 2) (AACN, 1993-2001).

and hired older faculty, while younger faculty are leaving academia.

Figure 2. Percent of doctorally prepared faculty age 50 and over and under 50, 1993-2001.



Source: American Association of Colleges of Nursing, 1993-2001.

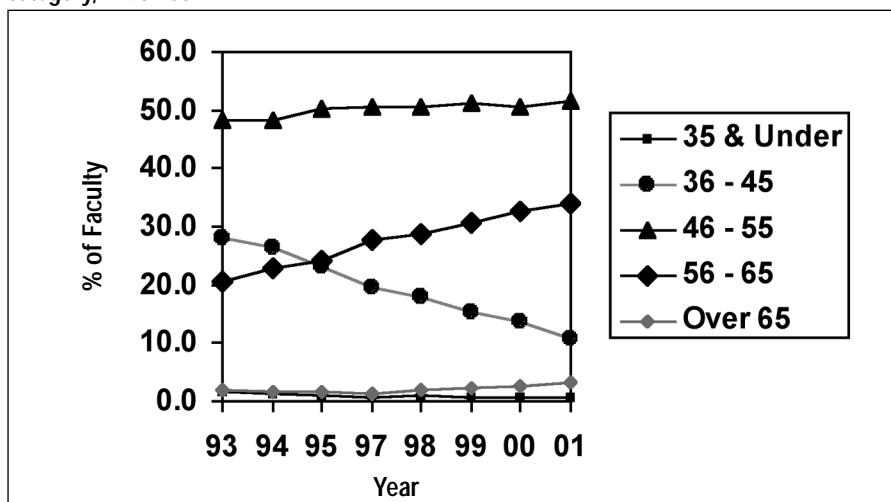
The percentage of doctorally prepared faculty by age categories is striking. From 1993-2001 there was a 17.3 percent *decline* in the 36-45 age group and a 13.4 percent *increase* in the 56-65 group (Figure 3) (AACN, 1993-2001). What has happened here? We have both retained

Departure from Academia

The decline in the 36-45 year category is particularly disturbing. Certainly advancement to the next age category accounts for some of the decrease, but departure from academic is a major factor. AACN data on employment commitments of doctoral graduates were last collected in 1999. Approximately 25% of graduates planned to work in settings other than schools of nursing (Berlin & Bednash, 2000). This finding was supported by data from three additional sources. Special runs from the Survey of Earned Doctorates indicated that over time the percent of nursing doctoral recipients planning non-academic careers increased and teaching as a primary employment activity decreased—both by approximately 11% (National Opinion Research Center, 2001).

Likewise, the National Sample Survey of Registered Nurses databases estimated that in 1992, 1996, and 2000 the proportion of nurses with doctorates in nursing teaching in baccalaureate and graduate programs showed steady declines—from 68% in 1992 to 49% in 2000 (Division of Nursing, 2001). Lastly, 1994 AACN data on faculty resignations in the 36-45 year age category

Figure 3. Percent of doctorally prepared full-time faculty in each age category, 1993-2001.



Source: American Association of Colleges of Nursing, 1993-2001.

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indicated that although the majority left to accept other nursing faculty positions, 22% left academia to assume positions such as nursing service, private sector, or private practice positions (AACN, 1994).

Diminishing Pipeline of Doctoral Enrollees and Graduates

What is happening in doctoral programs that should be a primary pipeline for future faculty? In the fall of 2001, there were 3,070 enrollees in 79 doctoral programs in nursing; 59.1 percent were part-time students. There were 394 doctoral graduates from August 1, 2000 to July 31, 2001, a decrease of 11.1 percent from 1999-2000. Graduates represent only 12.8 percent of enrollees, a function of more part-time than full-time students (Berlin, Stennett, & Bednash, 2002a).

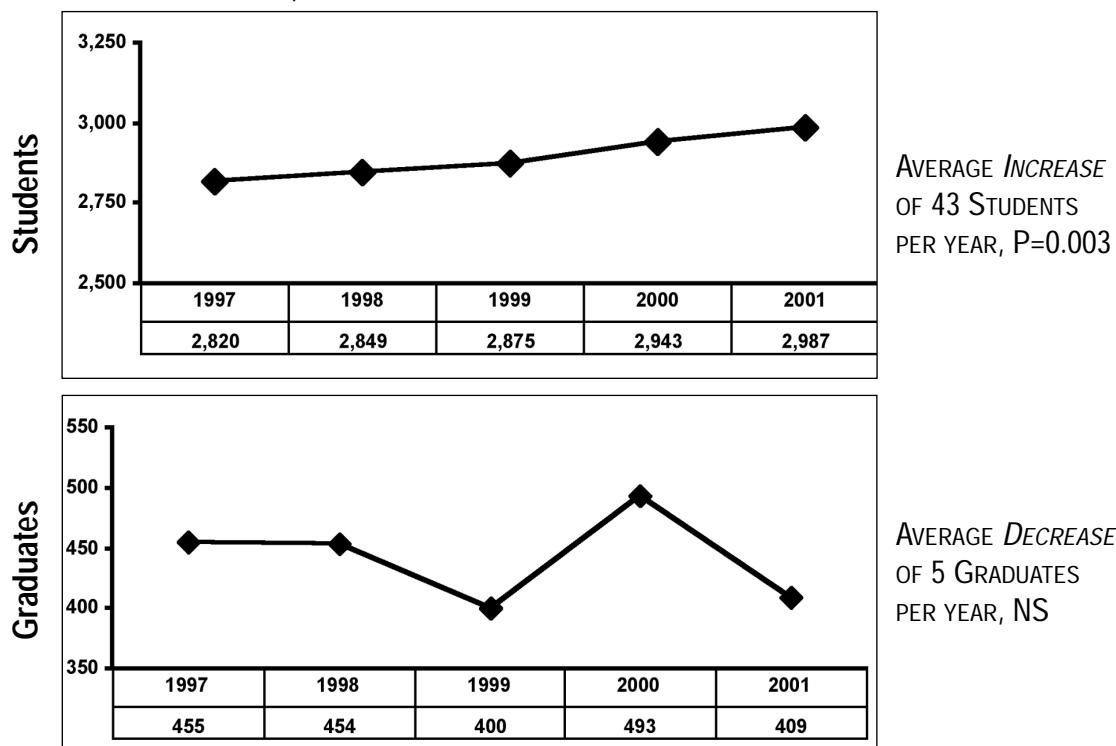
Let's look at trends in enrollments and graduations

(Figure 4). Five-year trend data in the same 74 schools reporting data each year to AACN from 1997-2001 showed an average increase of 43 doctoral students per year. The pattern of graduations is random with an average decrease of five graduates per year (Berlin, Stennett, & Bednash, 2002a).

This is troublesome considering that the number of doctoral programs. In 1990 there were 52 programs and in 2001 there were 79—an increase of 51.9 percent (Bednash, Berlin, & Haux, 1991; Berlin, Stennett, & Bednash 2002a).

AACN, by the way, almost routinely captures 100 percent of doctoral enrollments and graduations. In 1999 we did not obtain data from one institution, as there was a transition in the deanship. Therefore, we feel confident that this is the universe of doctoral graduates.

Figure 4. Five-Year Doctoral Enrollment and Graduation Changes in the Same 74 Schools, 1997–2001.



Source: Berlin LE, Stennett J, Bednash, GD. (2002). *2001-2002 Enrollment and Graduations in Baccalaureate and Graduate Programs in Nursing*. Washington, DC: AACN.

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Table 2.
Number of doctoral programs in nursing in the US: 1990-2001.

Year	Number ¹	Graduates
1990	52	287
1991	54	351
1992	54	374
1993	59	380
1994	61	365
1995	62	401
1996	65	366
1997	68	433
1998	70	411
1999	73 ²	360
2000	77	444
2001	79	394

¹ Joint, cooperative, or collaborative programs are counted as one program.

² There were 74 programs in 1999. One school did not report.

Source: American Association of Colleges of Nursing, 1990-2001.

Time to Degree and Age of Doctoral Recipients

I think that the information on time to doctoral degree and the age upon degree completion is very startling. In nursing, the time to completion of the doctoral degree from first enrollment in a master's program was almost 16 years (15.9), compared to 8.5 years for other fields (National Opinion Research Center, 2001). In our communications with people in other disciplines, we were told that by the late 30's and early 40's, academicians are making significant contributions to their respective fields. This is a very different perspective as if we enroll people in a master's program at age 40 we think we are making progress! In fact, we just sat on a review panel together, did we not, looking at applications for a predoctoral fellowship program? There were a number of candidates in their *mid- to late 50s!* One must question what kind of a career trajectory individuals can have at that age, given that the mean age of retirement for nursing faculty is 62.5 (AACN, 1993 &1994).

Another statistic of concern is the time to completion of the doctorate. From 1999-2000, the mean number of years registered in a doctoral program was 8.3 years for nursing

graduates compared to 6.8 years for all research doctoral awardees (National Opinion Research Center, 2001).

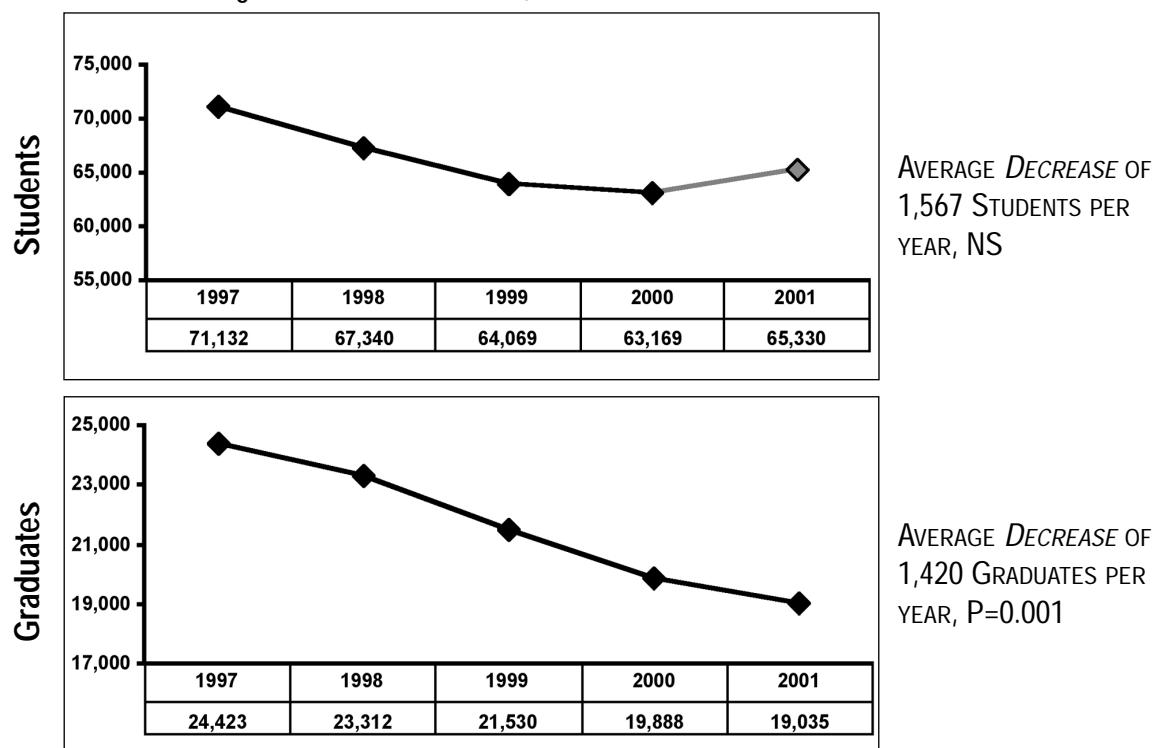
The age distribution of doctoral graduates should not be surprising, in light of the above statistics. Of the 365 recipients of nursing doctoral degrees in 1999 who reported age, the median age was 46.2 years. Almost half of all graduates (48.8%) were between the ages of 45 and 54 years; 12 percent were older than 55 years, and only 25 (6.8%) were under 35. In comparison, the median age of all research doctoral awardees in the US in 1999 was 33.7 years (National Opinion Research Center, 2001).

Baccalaureate and Master's Pipeline

When evaluating the pipeline for doctoral preparation, trends in baccalaureate and master's programs must also be considered. After a six-year decline in baccalaureate enrollment, 2001 marked a 3.7 percent increase in the number of enrollees (Berlin, Stennett, & Bednash 2002a). Although there was a 3.7 percent increase in enrollees this year, there has been an average decrease of 1,500 baccalaureate graduates for the past five years; and graduations will continue to decline each year until

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Figure 5. Five-Year Generic (Entry-Level) Baccalaureate Enrollment and Graduation Changes in the Same 358 Schools, 1997–2001.



Source: Berlin LE, Stennett J, Bednash, GD. (2002). *2001-2002 Enrollment and Graduations in Baccalaureate and Graduate Programs in Nursing*. Washington, DC: AACN.

the 2001 enrollees graduate (Berlin, Stennett, & Bednash, 2002a). Despite the modest increase in enrollees this year, we have 21 percent fewer students than we had six years ago.

Another trend that people don't really talk about is the decline in master's programs. Master's enrollments and graduations have declined steadily for the past five years. Regression analysis of cohort data from 280 schools reporting in 2001 indicated an average decrease of 480 students and 155 graduates per year (Berlin, Stennett, & Bednash, 2002a). This decline is particularly disturbing given that master's graduates are the source for 51 percent of future faculty, as well as the source for future doctoral students (Berlin, Stennett, & Bednash, 2002a). However, the shift of master's prepared faculty to doctoral student and graduate may not increase the number of new people in the faculty pool since they are already functioning in faculty roles.

PROPOSED SOLUTIONS TO THE SHORTAGE OF FACULTY

Well, the data summarize the story with respect to dwindling numbers of faculty. So, where do we go from here and what are some solutions?

Enhance Teaching Capabilities of Current Faculty

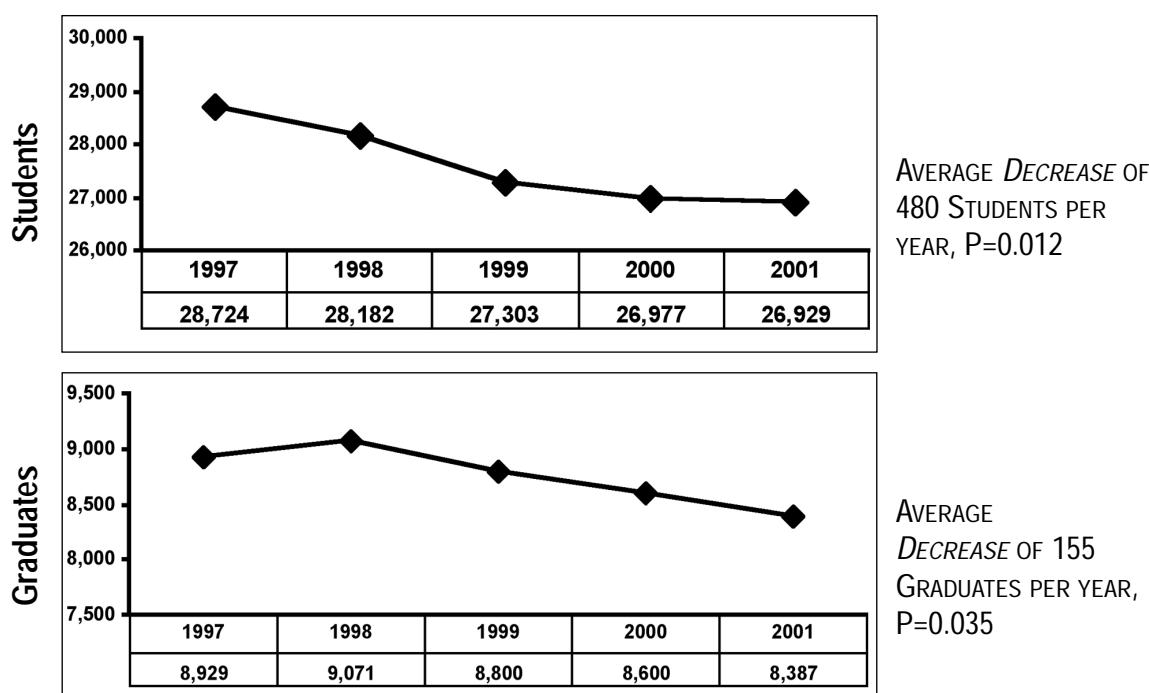
AACN has a strong role in faculty development and has been very concerned about preparing people for faculty roles. One of AACN's initiatives that is being developed is Education Scholar, which is a series of six web-based programs to prepare faculty to become expert teachers. We are also in the process of developing a statement about the projected faculty shortage and the kinds of competencies that faculty should possess.

Encourage Part-Time Opportunities for Retired Faculty

Most nursing faculty members retire at 62.5 years

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Figure 6. Five-Year Master's Enrollment and Graduation Changes in the Same 280 Schools, 1997–2001.



Source: Berlin LE, Stennett J, Bednash, GD. (2002). *2001-2002 Enrollment and Graduations in Baccalaureate and Graduate Programs in Nursing*. Washington, DC: AACN.

(AACN, 1993 & 1994). Many faculty approaching retirement would like to continue teaching in some capacity, but there are financial implications in terms of social security and retirement plans. We need to be creative about ways to retain these individuals, such as phased retirement and redesign of workload.

Expand Capacity

A number of AACN-member schools have implemented creative approaches to expanding capacity through education-practice partnerships with the clinical service environment to use expert clinicians in the practice environment to expand faculty capacity. One of AACN's goals is to revitalize a capitation program which would allow schools to expand enrollment capacity by providing financial resources to expand facilities, hire additional staff and faculty at more competitive salaries, and to forge additional education-practice partnerships.

Shorten the Time Between Undergraduate and Graduate Study and Encourage Full-Time Study

We as a profession need to decide about the best way to move people along the faculty pipeline. This will involve re-examination of some of our historic trends. If baccalaureate graduates are the pipeline for future faculty, we need to very carefully consider whether the custom of requiring graduates to have considerable practice experience before they are admitted to a master's programs should continue. By the time master's study is considered, many individuals have other responsibilities and seek master's study on a part-time basis, thus prolonging degree completion to about six years, when it should be two years at the maximum. Therefore, it is imperative that baccalaureate students understand that the next step to enhance their career is by moving directly to full-time graduate-level study. In fact, a number of AACN-member schools have initiated scholars programs where promis-

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ing students are mentored early to help them make the transition immediately to graduate education.

There are also 29 AACN-member schools that have initiated baccalaureate-to-doctoral programs and there are seven more being planned (Berlin, Stennett, & Bednash, 2002a). The goal of these programs is to move promising baccalaureate graduates immediately into doctoral study so we can transition them into a long-term career as scientists, researchers, and teachers.

Second Degree Programs

An innovative approach to nursing education that is gaining momentum is the accelerated degree program for non-nursing graduates. Offered at both the baccalaureate and master's degree levels, these programs build on previous learning experiences and transition individuals with undergraduate or graduate degrees in other disciplines into nursing. Though these programs are not new, they have proliferated over the several years. In 1990, there were 31 baccalaureate and 12 master's programs designed for non-nursing college graduates (Bednash, Berlin, & Haux, 1991). By fall 2001, there were 84 baccalaureate and 24 master's programs in operation (Berlin, Stennett, & Bednash, 2002a). Graduates from second degree programs are prized by nurse employers who value the skill and perspective these graduates bring to the workplace.

SUMMARY

Thank you for this opportunity to present information from AACN's extensive national database on nursing education programs and other national data sources to quantify the shortage of doctorally prepared nursing faculty and to summarize trends about the future faculty pipeline. Although the current shortage of faculty is very serious, AACN is working diligently to alleviate the situation via its major short- and long-term strategies and initiatives.

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APPENDIX F

Best Practices for Retention of Nursing Faculty in Higher Education

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Emanating from April 12, 2002, NACNEP discussions of the *Workforce Workgroup*, a task force was appointed to summarize "best practices" information for retention of nursing faculty in higher education. Assumptions of the task force were that 1) nursing higher education takes place in a variety of types of academic institutions and 2) that a variety of factors influence capacity to apply best practices in nursing higher education.

The following best practice suggestions are directed at administrative leaders and faculty of nursing academic institutions and are taken from nursing and other scholarly literature, anecdotal experiences as stated by experienced deans and directors, solicited faculty input, research evidence and academic administration guidelines. These suggestions require commitment by nursing leadership and investment by the nursing program, the college or university institution and public and private entities that support the educational endeavor:

I. Working Environments that Support Faculty

- A. Develop a *culture* in the academic organization that
 - Encourages scholarship in all missions of the university or college (teaching, research, practice/community service)
 - Recognizes intradisciplinary expertise within the academic milieu
 - Rewards mutual support (faculty-faculty, faculty-students, faculty-administration)
 - Maintains broad discussion of relevant issues in nursing and academic freedom
 - Supports creativity, innovation, and continuous improvement efforts
- B. Implement long-term career planning for faculty that allows for different career phases or choices within the organization over time

and annually evaluate individual faculty satisfaction with this plan.

- C. Provide opportunities for interdisciplinary interaction, teaching, research and clinical practice.
- D. Create flexible faculty-working assignments, as appropriate, to accommodate faculty needs for variety and personal development in the missions of the school or university.
- E. Develop programs for orientation and mentoring of junior and newly hired faculty, including opportunities for broad college or university-wide collegial support and networking relationships.

II. Compensation Package

- A. Follow *American Association of Colleges of Nursing (AACN) Guidelines* for salary compensation of faculty. These guidelines include consideration of experience, appointment, rank, tenure, academic setting and specify compensation percentile and salary ranges.
- B. Develop individualized faculty compensation packages when possible, including such assets as: salary, benefits, workspace, equipment, laboratory facilities (as appropriate), travel and scholarship dissemination support, intellectual property agreements, and other assets that support the work of faculty.
- C. Establish goals as appropriate for enhancement of faculty salaries over time based on the *AACN Guidelines*.
- D. Implement a system of annual compensation review that incorporates criteria for salary adjustment based on performance or merit for excellence in teaching, research, and/or practice/service.
- E. Implement a system for salary enhancement as reward for achieving promotion and/or tenure.

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- F. Create opportunities for bonuses, administrative rewards or incentives for special or meritorious performance.
- G. Negotiate with leaders of clinical service sites to create jointly funded faculty and practice roles that may help to support and enhance compensation for faculty, particularly in high-demand clinical domains, e.g., critical care, neonatal nursing, nurse practitioner.

III. Rewards and Recognition

- A. Develop special awards for teaching, clinical practice and/or research accomplishments, including monetary rewards as possible. Some schools recognize award winners at graduation or school-wide events. Awards may be made through selection of outstanding faculty by students, colleagues, dean, school administration or college or university leaders. Some schools fund such faculty awards through private or endowment sources.
- B. Showcase the accomplishments of faculty both internally to the school, college or university and externally to the broader local community and alumni and supporters of the school.
- C. Provide opportunities through publications, presentations and public comments for recognition of the achievements of faculty.
- D. Encourage faculty utilization of school, college or university policies for sabbatical leaves or other academic leaves available to faculty, including helping eligible faculty plan for these reward and development opportunities.

IV. Faculty Support for Further Academic Education

- A. Implement special programs to support doctoral education for masters-prepared faculty
 - Release time for academic coursework
 - Tuition support
 - Reduced teaching assignments
 - Creative payback arrangements, e.g., 2-3 year commitment to sponsoring institution after degree completion

- B. Consider targeted, competitive academic support programs for qualifying faculty
 - May be used to meet identified faculty specialty role need, e.g., midwifery, nurse practitioner, nursing administration, nurse anesthetist, emergency preparedness roles
 - May be used to encourage high-demand faculty recruitment, e.g., culturally diverse or male faculty or faculty in specialty areas of clinical practice, to support their doctoral education
 - May be supported through private endowments, restricted funds or individual gifts for this purpose
 - May involve "leaves of absence" or "leave with pay" options
 - May include special payback arrangements, e.g., specified commitment to faculty role at sponsoring institution or teaching while in school requirements
- C. Develop "special" faculty advanced educational development programs for new or updated educational methodologies, such as technology-based distance education methods, laboratory and clinical skills simulations and "virtual" classroom techniques.
- D. Recruit inexperienced faculty, e.g., clinical, BSN or master's prepared nurse experts, for academic roles through master's, doctoral or special advanced educational support programs.

V. Resources to Support the Faculty Role

- A. Ensure that faculty and staffs are educated about the various resources available to them to support the missions of the university or college, e.g., facilities, space, supplies, classroom support, maintenance and infrastructure.
- B. Provide adequate and clearly specified staff support for faculty endeavors, in keeping with faculty assignments in teaching, research, clinical practice and service.
- C. Plan for integration of information systems and educational technologies into the short and

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- long-term budgets of the school, including negotiation with administration.
- D. Educate the faculty and staff about the fiscal resources provided to the school for nursing programs and support of the missions of the college or university.
- VI. Maintenance of Faculty Clinical Expertise**
- A. Utilize clinical partnerships between faculty and clinical nurses established with clinical practice agencies to enhance the clinical practice of faculty.
 - B. Implement clinical faculty contracts for teaching involving clinical staff nurse experts from clinical practice agencies, including remuneration and/or service exchange agreements.
 - C. Organize "release-time" options for faculty practice to support clinical teaching assignments and orientation to clinical sites.
 - D. Implement a direct clinical services faculty practice plan, as appropriate for the school, to enhance the variety of student opportunities for clinical practice sites, to augment faculty clinical expertise and to expand potential revenue sources for the school.
 - E. Develop internal, institution-based clinical laboratory experiences for faculty to maintain technical skills and to learn new techniques of clinical practice.
 - F. Create faculty "re-tooling" programs:
 - May include leaves of absence or release-time options for intensive periods of clinical practice, particularly for new teaching assignments or unfamiliar clinical teaching sites;
 - May include changes in teaching assignments based upon demonstrated technical expertise or lack of readiness to teach in certain clinical areas or domains;
 - May include re-tooling requirements as part of faculty evaluation of performance and concomitant compensation plans;
 - May include maintenance of clinical competency standards as part of recruitment and hiring contracts/agreements;
- Develop on-going relationships with education experts in clinical practice agencies to support both academic and service nursing education needs, including shared contractual models that define resource-sharing options.
- VII. Professional Development Opportunities for Faculty**
- A. Budget allocations for specific faculty development programs or professional development opportunities that may arise during the fiscal year.
 - B. Make funds available to all faculty or establish selected faculty development fund utilization criteria:
 - May include creative selection criteria, e.g., development of course content; internal competition; annual delineation of development goals by individuals that qualify for support; faculty committee selection processes; administration-initiated selection; rotation plans that provide equal access to funds.
- VIII. Endowed Chairs or other Special Faculty Positions Supported by Private Funds**
- A. Establish privately supported faculty positions that encourage and incentivize faculty productivity in a certain mission area, e.g., research domain, educational specialty, practice area.
 - B. Solicit private gifts or endowments to support long-term faculty retention strategies.
 - C. Earmark endowments or private gifts for specific faculty teaching, research or practice awards and find ways for public recognition of these achievements, e.g., acknowledgement at commencement, faculty assemblies, college or university-wide meetings.
 - D. Engage "Advisory Boards" or "Boards of Directors or Trustees" of the school, college or

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- university in support of faculty retention plans:
- May include donor outreach and cultivation of financial support for specific retention strategies and faculty rewards;
 - May include solicitation by Board members of business community or private foundation support;
 - May include networking and outreach by Board members to legislators and political supporters for specific faculty retention strategies and compensation aims.
- E. Pursue community linkages that may strengthen the resources available for faculty support and development, as well as education of nurses, e.g. partnerships with businesses, not-for-profit organizations, public health agencies and schools.

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APPENDIX G

Impact of Technology on the Faculty Shortage

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INTRODUCTION

For the purpose of this paper, comments are focused on distance learning technologies and their impact on the faculty shortage. The discussion is limited to on-line or web-based learning. Although on-line learning represents one of the newer methods of distance learning, it was chosen as a focus because of its increasing popularity and usage in nursing education.

The increasing prevalence of on-line learning is demonstrated by a February 2002 survey conducted by the Southern Region Education Board's Council on Collegiate Education for Nursing (CCEN). CCEN surveyed the nursing education units (school department, college, etc.) in their region and found that 125 of the 491 nursing education units (47%) located in the Southern Region offered at least one on-line nursing course. In looking at the types of electronically delivered courses in the Southern Region, web-based courses were delivered three times more frequently than compressed video courses, the second most common type of electronic delivery used.

RURAL RN TO BSN EDUCATION USING DISTANCE LEARNING

An exploration of the impact of on-line learning on the faculty shortage will begin with a discussion of current outcomes for six cooperative agreements for Rural RN to BSN students using distance learning. The purpose of the five-year initiative, funded by the Division of Nursing beginning in 1999, is to expedite and facilitate the baccalaureate education of registered nurses from rural areas using distance learning methodologies. Expedite is defined as a time reduction in completing the program because an innovative, technological approach to deliver-

ing a quality program and a mechanism for evaluating and recognizing existing knowledge and competencies are used. To qualify for funding, grantees were required to have some experience using distance learning methodologies and had to have an existing technological infrastructure in place. Grantees have been asked to deliver the majority of their program through on-line learning. Grantees are required to recruit students from Census Bureau-defined rural areas. Each year the grantees meet to discuss problems encountered with on-line learning and solutions used to overcome them.

The rural RN to BSN distance learning grantees proposed that they would have graduated large numbers of students by the end of the third year of funding. However, the actual number of rural students completing the programs lags behind anticipated outcomes. Therefore, the 2002 annual meeting focused on programs' abilities to expedite completion of RN to BSN programs using primarily on-line learning. Grantees reported that four major factors were slowing the progression of distance learners. First, students' life events cause them to drop back their course loads to part-time study. Because the majority of learning occurs asynchronously in the students' environment, it was anticipated that students would be able to carry full-time course loads. Most students, however, add this educational endeavor to existing responsibilities for work and families. And because on-line learning is time consuming, the students slow their progression to balance demands on their time.

Second, program policies often require students to complete pre-requisites before enrolling in nursing courses. Rural students have difficulty finding non-nursing courses taught on-line. And since they are located a sig-

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nificant distance, either by miles or geography, from available courses, student progression is slowed. A third factor, university policies about the number of transfer credits accepted, compound the problem of completing pre-requisite courses. As grantees worked to change these policies and to locate on-line pre-requisite courses, progression for rural RN to BSN on-line students has been expedited. The final major factor influencing progression of on-line learners is the frequency of courses offered. The grantee reporting the largest number of on-line graduates at the 2002 meeting offers all courses each semester.

In spite of obstacles discussed, the RN to BSN distance learning grantees feel the on-line courses have expedited the total time it takes for RN students to complete the BSN degree. And on-line learning allows some previously inactive students not supported by the cooperative agreements to complete their programs. The grantees feel they have either minimized or eliminated most of the factors influencing progression, so the numbers of graduates will significantly increase during the final two years of project funding.

The on-line technology itself has an impact on grantee faculty and students. High bandwidth is generally not available to rural students. If it is available it is generally not affordable. Therefore, some grantees reduce the amount of connect time for students by sending them large amounts of course materials on CD-ROMs. In spite of the ubiquitous nature of technology, some students continue to have a lack of basic knowledge about using computers. Grantees require students to attend computer training on campus at the beginning of their program. At that time the rural RN to BSN students are loaned a laptop, purchased by the school with grant funds, for the duration of their program. To minimize technological problems, grantees set up the laptops with all the software required. Even so, students need to have technical support available to them. Some faculty help students to solve technological problems, but most grantees use a designated individual with technological expertise to provide support. Generally grantees feel support is needed for limited times, not 24 hours a day, 7 days a week.

Software for on-line learning is changing rapidly. In 1999 interactive software for individual learning between faculty and more than one student was generally not available. Just two years later, U.S. News reviewed seven interactive software packages that allow faculty to interact with multiple students in their homes. This software gives faculty more options for interacting with on-line rural students. The cooperative agreements allow grantee schools of nursing to purchase laptop computers to loan to students. Most programs report a continued need for laptop computers for students. Even if there is a computer in the home, the competition for its use among family members causes a hardship for the student. In summary, technology training continues to be needed for the rural RN to BSN on-line student, having a loaner laptop available from the school facilitates student enrollment and completion, and faculty engaged in on-line learning have more software tools available.

Rural RN to BSN grantees are asked to enroll cohorts of students to reduce the feelings of isolation experienced by distance learners. As mentioned, grantees are also asked to provide an initial orientation session for technology support and for socialization. Students receive financial support for their on-campus experiences. Grantees have found students need additional help beyond the orientation to deal with feelings of isolation. The grantee faculties have developed follow-up sessions, encouraged students to use email, and to post bio-sketches to introduce themselves to classmates. Grantees are also using social rooms/bulletin boards to help students interact with peers. All the programs are using more interactive components in their curricula. These strategies are reducing feelings of isolation, but faculty report that students look forward to their face-to-face sessions on campus.

Informal conversations with nursing educators indicate a sense that on-line learning can be used to minimize the need for faculty. Quite the opposite is true. Because of the increased time needed by faculty to interact with individual on-line learners, some of the rural RN to BSN grantees have limited course enrollment. Although there is not consensus, most grantees feel that a class size of

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no more than 20-25 students gives faculty time for needed interaction.

It will be interesting to follow the outcomes identified by the rural RN to BSN distance learning grantees as they continue to develop models for on-line learning. At this point literature about on-line learning was reviewed to determine if the results discussed above mirror those of other on-line learners.

ON-LINE LEARNING

In general, literature indicates that students report several advantages to on-line learning (Halstead & Coudret, 2000). They have more flexible time work on class assignments rather than being locked into a specific on-campus time. Since on-line students are forced to interact with computers, they learn computer skills that can be transferred to other areas of their work life. An obvious advantage is that students spend less time traveling to campus and class. This is especially important for rural learners who may have to traverse geographical barriers in inclement weather. Students feel they have better access to information as on-line learners. They use the Internet to access information and exchange ideas with peers and faculty. The feedback they receive is often more timely than waiting for on-campus classes to meet. A final commonly reported advantage is that on-line students become self-paced and independent learners. It is interesting that on-line learners have paradigms of learning that on-campus learners may not yet experience.

There are also disadvantages with on-line learning reported in the literature. The most common is technology problems that have to be solved. As the infrastructure becomes more standardized and stable, fewer technology problems should occur. A second common disadvantage reported by students is increased time demands to complete an on-line course. The time spent on-line generally exceeds actual classroom time. Although faculty experienced with on-line teaching use more interactive techniques, students report less contact with peers. The final common disadvantage is a report of increased costs to complete on-line courses. Often institutions add a technology fee to on-line courses, increasing the costs.

Interestingly, faculty report advantages and disadvantages to on-line learning that are similar to what students describe. The faculty also indicates on-line learning gives them more flexible time to interact with students. The faculty feel both they and students have better access to information than in on-campus courses. Although students report less contact with peers, faculty report more frequent contact with students than in on-campus courses. By the nature of course construction, on-line students are forced to interact. This results in improved student contribution to class.

Technology problems are seen as a disadvantage by faculty, as well as students. The faculty also report increased time demands with on-line learning. Anecdotal reports state that from 66 to 500% more time is required to prepare an on-line course than an on-campus course. Part of the increased time is caused by the steep learning curve needed by faculty to negotiate the software. And finally, a lack of face-to-face interaction is seen as a disadvantage by faculty.

Some nursing leaders have expressed concern that distance learning, including on-line learning, will not facilitate the socialization of students into nursing. Two studies were found that address this issue (Cragg, Plotnifoff, Hugo & Casey, 2001; Nesler, Hanner, Melburg & McGowen, 2001). Nesler and colleagues from Excelsior College, School of Nursing, in New York compared professional socialization in senior baccalaureate students in on-campus and distance learning courses. Interestingly, students in distance learning had higher socialization scores than on-campus students. Health care experience was found to be a critical factor in socialization, not the mode of educational delivery. Cragg and colleagues at the University of Ottawa in Canada examined perspective transformation (professional resocialization) in RN to BSN students using distance learning for their education. Once again, the distance learning students had the highest socialization scores. Although neither study indicated the exact distance learning methodologies used, the data should help to alleviate concern about the socialization of students who are distant learners, including on-line learners.

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Discussion of specific costs associated with on-line learning has been difficult to find in the literature. The literature in general indicates that if building space, utilities, etc. are considered traditional classroom teaching costs are higher than and on-line teaching courses, especially when technology has been installed (WICHE, 2002). More data is needed in this area.

As stated the purpose of this paper is to examine the impact of technology on the faculty shortage. Before focusing on faculty, this author would like to briefly summarize the impact of on-line learning on students and on educational institutions.

Impact of on-line learning on students:

- Provides resources for socially and intellectually linking learners from different cultures and geographical areas.
- Provides students with flexibility in deciding when to complete course assignments.
- Provides an equalizer for minority students or for students with English as a second language.
- Provides opportunity for more individual feedback to each student.
- Requires redefining of the student role. Students must become more independent and self-directed in their learning.
- Currently produces higher drop out rates than traditional courses. Expectations of on-line learners need to be more carefully developed before courses begin.
- Provides students with technology skills needed to succeed and excel in the 21st century.
- On-line learners test scores equaled or exceeded traditional course scores

On-line learning will challenge some of the processes and policies associated with traditional methods of educational delivery. For example, faculty will need to receive recognition and compensation for the time required to develop on-line courses. Institutions will need to assess the learning needs of their clientele and assure that both on-line and on-campus educational opportunities exist if

they are needed. Because of the need for a high degree of interactivity, institutions should maintain a class size that encourages successful on-line delivery. Since on-line learners may have minimal presence on campus, arrangements must be made for these students to obtain library materials. And on-line learners need opportunity for the orientation, advisement and registration services available to more traditional students.

On-line learning definitely impacts faculty. It changes faculty teaching roles to a facilitator of knowledge acquisition rather than an imparter of knowledge. The initial on-line course development takes longer than on-campus course development and requires that the entire on-line course be posted before it begins. On-line faculty must be available to students electronically for more extended time than on-campus faculty. Interaction must be maintained with both real-time and asynchronous communication. When testing knowledge, on-line faculty must use a variety of strategies to maintain security during testing.

Given the advantages, disadvantages, and impact of on-line learning on the educational process, what is the future of on-line learning? Four characteristics of on-line education are emerging. First, educators will blend more learning experiences between on-ground (on-campus) and on-line. This will blend synchronous (live) and asynchronous (self-directed) events. As educational and technological tools are combined, the information and human touch aspects of learning will be blended.

A second characteristic of on-line learning is that knowledge events of the future will be compressed. They will be shorter and modules will be developed. This will allow more self-paced and directed learning. Perhaps traditional semesters will disappear and on-line students will be able to move through their educational programs at their own speed. This will be tied to the third characteristic of on-line learning, personalized learning environments. Expert systems will query students' needs, abilities, and individual preferences. Learning experiences will then emerge from a pool of potential learning events.

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The fourth characteristic of on-line learning is discovery learning. Rather than a "tell and test" paradigm, there will be more emphasis on applying information to new and different situations. To accomplish discovery learning, more scenarios and games may be used. Learners are active rather than passive. Simulations may be used to apply scenarios during the learning process.

IMPACT OF ON-LINE LEARNING ON THE NURSING FACULTY SHORTAGE

So what is the impact of on-line learning on the nursing faculty shortage? There are both positive and negative impacts. Because on-line learning takes more faculty time and not less, it cannot be used as a substitute for having adequate numbers of nursing faculty. On the other hand, using on-line technologies courses/programs could be taught collaboratively to share resources. For example, informatics or genetics faculty could be shared across disciplines and across schools of nursing to provide needed faculty. Another positive impact is that on-line learning will provide faculty with flexibility for using their time. This may allow them to budget their time more efficiently.

On-line learning will initially require faculty to develop a different paradigm of teaching skills. This may be burdensome for faculty who feel overextended in terms of assignments. On the other hand, using technology to teach and having a chance to be innovative may entice some nurses to consider teaching as a career option.

Because some of our clientele of students are demanding on-line learning, I believe it is here to stay as a teaching modality. But we need to use new teaching-learning models and not just apply on-line learning to old solutions. The quality of the on-line product, not whether the product is on-line or on-campus, will determine how much on-line learning will contribute to educating our nurs-

es and nursing faculty of the future. As stated in the Innovations in Online Learning document produced by the Pew Learning and Technology Program (Twigg, 2001) on-line learning should be a learner centered event that combines high quality, interactive software, synchronous and asynchronous dialog, and individualized monitoring. Then on-line learning can adequately supplement learning for students. But technology will not eliminate the need for increased faculty to fill vacant positions.

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