Executive Summary
Background and Purpose of the Task Force

By 2002, several states were reporting severe nursing shortages. At the same time, some North Carolina employers were reporting difficulties filling nursing positions. Whether there is currently a nursing workforce "shortage" or "crisis" in North Carolina is open to debate. Yet, there is little question that, without some intervention, North Carolina is likely to experience a severe nursing shortage in the coming decade due to the combination of an aging population and an aging nursing workforce. Long-range forecasts of registered nurse (RN) supply and demand in North Carolina predict a shortage of anywhere from 9,000 nurses in 2015 to almost 18,000 by 2020.

Rather than wait until North Carolina is in the midst of a full-blown nursing crisis, the North Carolina Institute of Medicine (NC IOM), in partnership with and at the request of the NC Nurses Association, the NC Center for Nursing, the NC Area Health Education Centers Program, the NC Board of Nursing, and the North Carolina Hospital Association, decided to act proactively to prevent a future nursing shortage. In the fall of 2002 the NC IOM created the Task Force on the North Carolina Nursing Workforce to undertake a major study of issues surrounding the present and future supply of and demand for nursing personnel in this state. Co-Chairs of the Task Force were Cynthia M. Freund, RN, PhD, FAAN, Dean Emerita of the School of Nursing at the University of North Carolina at Chapel Hill, and Joseph D. Crocker, Senior Vice President, Wachovia and Manager of Community Affairs of The Carolinas Bank in Winston-Salem.[1] The 55-member Task Force included representatives of all levels of licensed nursing personnel, the NC Board of Nursing, NC Division of Facility Services (charged with registration of nursing aides), professional nursing associations, the NC Center for Nursing, the University of North Carolina System, the NC Community College System, the NC Independent Colleges and Universities, the NC Hospital Association, the NC Healthcare Facilities Association, home health and assisted living services providers, the NC Area Health Education Centers Program, school health nurses, and mental health nurses. The work of the Task Force was supported by a grant from The Duke Endowment.

The Task Force examined the current and projected demand for nursing professionals and paraprofessionals in all segments of the North Carolina healthcare industry. The Task Force also studied the degree to which current and developing educational and in-service educational programs are meeting, and are likely to meet, these demands. In addition, the Task Force examined school-to-work transitions, as well as the work environment for nursing personnel and methods to recruit and retain nurses. The Task Force tried to examine these issues for the full range of nursing personnel, including nurse aides, Licensed Practical Nurses (LPNs), Registered Nurses (RNs), Advanced Practice Registered Nurses (APRNs), as well as other registered nurses with graduate degrees at the master's and doctoral-levels. However, most of the Task Force's attention focused on Registered Nurses, who make up approximately 82% of the state's licensed nursing workforce.

The Current and Future North Carolina Nursing Workforce

Determining the exact number of nurses that will be needed in North Carolina in the future is difficult, as both the supply of nurses and the demand for nurses are constantly changing. But there are good reasons to believe that without some intervention, North Carolina will experience a shortage of registered nurses and other nursing assistive personnel over the next two decades. North Carolina's population continues to grow at a rapid pace and the age groups most likely to use healthcare services (those aged 65 and older) are among the fastest growing age groups. The nursing workforce in North Carolina is aging at an even faster rate. The average age of the North Carolina workforce

[1] Dr. Freund has had extensive experience in all aspects of nursing education and is herself a nurse practitioner who has practiced in North Carolina. Mr. Crocker is an experienced hospital trustee, member of the North Carolina Medical Care Commission, Chair of the Board of Trustees of Western Carolina University, and very familiar with the workforce issues in the nursing field.

in general grew from 37.7 (1984) to 40.4 (2001),[1] but the average age of RNs increased from 38.3 in 1983 to 43.6 (2001), and the average age of LPNs increased from 40.5 (1983) to 44.9 (2001). Traditionally, registered nurses move out of full-time employment rapidly after the age of 55. In 2001 about 14% of the RN workforce and 18% of the LPN workforce was age 55 or older. Another 31% of RNs and 32% of LPNs was between the ages of 45 and 54. These two factors, along with others, will exert enormous pressure on the balance between supply and demand for nurses in North Carolina over the next ten to twenty years.

As the general population ages, the use of healthcare services will increase. But this is not the only factor that drives demand for nursing services. Demand is driven by the number of people needing services, the acuity level of patients, healthcare technological and informatics changes, medical advances, labor productivity, regulatory and market changes, and advances designed to improve quality of care (including required nurse staffing levels). The current and future *supply* of nurses in North Carolina is also affected by a variety of other factors, including: the rate at which North Carolina can enroll and graduate new professionals from our educational institutions, the capacity of our educational system to expand or contract to meet market demands, the rate at which nurses move out of or into our state from other states or other countries (in- and out-migration), new and expanding career options for women and people with nursing degrees, demographic trends that affect the size and age of the labor force now and in the future, and workplace issues such as wage levels and working conditions that affect people's willingness to work in certain environments.

An obvious solution to a pending nursing shortage is simply to produce more nurses. However, before encouraging more people to enter the nursing profession, it will be necessary to expand the capacity of the state's nursing education programs to accommodate new students.

The state should also take additional steps to attract a more diverse workforce into nursing, as the characteristics of North Carolina nurses do not reflect the diversity of the state's population. For example, only about 6% of the RN workforce and about 5% of the LPN workforce is composed of men, compared to 52.8% of the state's workforce in general.[1] Twelve percent of RNs and 26% of LPNs represented racial or ethnic minority groups in 2001. In contrast, racial or ethnic minorities account for 28% of the state's population. These statistics are not inconsistent with national profiles of the US nursing workforce.

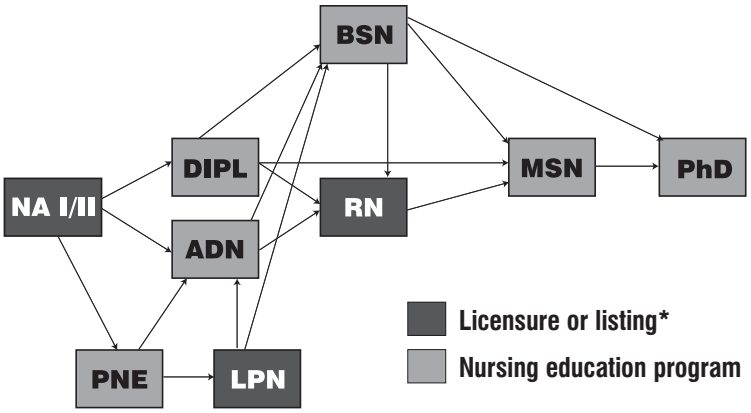
While the nursing workforce situation in North Carolina has not yet reached "crisis" proportions, the projected loss of our most experienced nurses due to aging and retirement, at a time when demand for nurses will be increasing, will undoubtedly lead to a severe shortage of nursing personnel by the end of the decade unless remedial steps are taken. The Task Force recommendations are aimed at attenuating what many have anticipated will be a "crisis" in regard to our state's nursing workforce.

Educating the Future Nursing Workforce

The entry-level credential for nursing practice is the basic license as a Registered Nurse (RN) or Licensed Practical Nurse (LPN). Nurses obtain their RN or LPN licensure by completing a basic course of study from a baccalaureate (BSN), associate degree (ADN), hospital-based diploma, or practical nursing education (PNE) program and passing the National Council Licensure Examination (NCLEX-RN or NCLEX-PN). Once licensed, there are also multiple routes to obtain advanced professional education (Figure 1).

There were 64 nursing education programs in North Carolina offering credentials for entry-level RN licensure (BSN/ADN/Diploma) in 2004 (Figure 2). Among states in the Southeastern Region (i.e., those states served by the Southern Regional Education Board), only Texas has more nursing education

Figure 1.
Possible Educational Pathways in Nursing

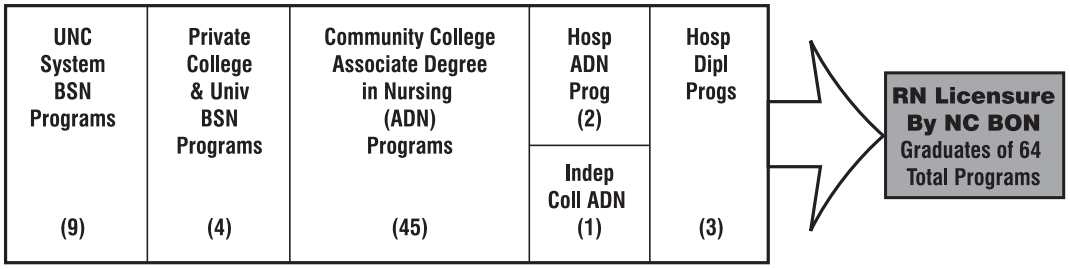


programs than North Carolina. Moreover, North Carolina has the lowest proportion of BSN programs in relation to ADN and hospital diploma programs of any of the SREB states.

While we have many geographically dispersed educational programs to educate nurses and nursing assistive personnel, our educational system lacks the necessary infrastructure to significantly increase the number of new nursing students at this time. Increased funding for faculty positions, faculty recruitment and retention and securing appropriate clinical sites for nursing education are key components affecting the capacity of these nursing education programs to educate students. Our problem is not one of needing to attract more young people into nursing. Each year we are turning away hundreds of applicants who meet entry requirements from our North Carolina nursing programs. Altogether more than 5,446 potential new RNs and 1,707 potential new LPNs were denied admission to North Carolina nursing education programs last year because these programs were unable to add more faculty, more clinical practice sites, and/or more space for students, due largely to budget constraints. Once admitted to nursing education programs, tuition support and student support services (such as academic and educational financial counseling) are critical to the success of nursing education programs.

North Carolina must increase the number of nurses in every category (LPN, ADN, BSN, Diploma, MSN and PhD), and expand education programs that have demonstrated acceptable levels of quality, accessibility, effectiveness and efficiency. However, the issue isn't just the numbers of new nurses produced, but the mix of nurses with a range of educational credentials. In the future, with changes in medical technology and acuity levels of patients seen in certain inpatient or institutional settings, North Carolina is likely to need not just an increased number of new nurses, but nurses who have enhanced educational preparation. For example, there is growing evidence that hospitals that have smaller staff-to-patient ratios and more staff with higher levels of nursing education, also have decreased mortality rates, fewer medical errors and nursing practice violations, and better patient outcomes.[2,3,4,5,6]

Figure 2.
North Carolina Nursing Education Programs Preparing Graduates for Entry-Level RN Licensure, 2003



An additional BSN program is in the second phase of development as of February 2004.

* North Carolina does not "certify" nurse aides. These personnel are "listed" after successfully completing the required training and competency evaluation program of the Nurse Aide I or Nurse Aide II Registry.

Regardless of how nurses enter the profession, they should be offered opportunities to enhance their educational preparation for nursing practice. By greatly expanding the opportunities to pursue education at higher levels, the overall educational level of North Carolina nursing care will increase, and, in turn, provide a variety of nursing career options to a broad spectrum of North Carolina citizens. By expanding prelicensure BSN, RN-to-BSN, and accelerated BSN programs, the Task Force envisioned that the current ratio of 60% ADN/Diploma and 40% BSN nurses could gradually change over the next 10-15 years to 40% ADN/Diploma and 60% BSN. This ratio change is also important because it will increase the number of nurses qualified for graduate programs that prepare nursing faculty.

School-to-Work Transitions

Unlike the experience of other professionals, nurses are often expected to practice fully in a relatively short time span after licensure. However, studies have shown that new nurses often have difficulties translating their educational experience into practice, particularly as it relates to skills in recognizing abnormal findings, assessing the effectiveness of treatments and supervising care provided by others.[7] This, in turn, causes new graduates to feel insecure in their job responsibilities and be less satisfied in their jobs. To better prepare nursing students for the transition into the workplace, students should be given a more intensive clinical experience during their final semester of school, followed by a more intensive orientation or internship opportunity once the new nurse begins practice. Once employed, new graduates should be provided supervised on-the-job skills training, along with a system of peer support. Ensuring an adequate school-to-work transition will help new nurses understand their job responsibilities and obtain the confidence and skills necessary to provide higher quality care.

The Work Environments of North Carolina Nursing Personnel

Nurses report lower job satisfaction than other professionals. This is problematic because job satisfaction is strongly correlated with turnover and retention. In North Carolina, only about half of all nurses report being happy with their jobs; close to one-fifth of all nurses report being unhappy with their work situations (19.9% of staff RNs and 17.7% of staff LPNs), and the rest are neutral.[8] The aspects of job satisfaction vary among work settings, with nurses in hospitals and long-term care settings being least satisfied with their jobs; and those in community settings much more satisfied. Job dissatisfaction in nursing often results in low morale, absenteeism, turnover, and poor job performance.

When nurses are dissatisfied at work, they are more likely to change jobs. Not only does staff turnover reduce the number of experienced staff who are familiar with the organization, it brings added expense to employers. Some North Carolina nursing employers reported significant financial outlays to recruit and train new nursing staff. A recent study suggested that the cost of turnover for one hospital nurse ranges between $62,000-$68,000.[9]

In addition to affecting turnover and performance in a particular job, job satisfaction can also affect satisfaction with nursing as a career. Nurses, especially those working in inpatient hospital settings, were less willing to recommend nursing as a career to other people. Only 40% of hospital inpatient RNs, and 50% of inpatient LPNs reported that they would encourage others to become a nurse.

The Task Force considered the role of nurses in different workplace settings in North Carolina, including institutional settings (e.g., hospitals, psychiatric institutions), long-term care facilities (nursing homes and assisted living facilities) and community-based settings (home health and hospice, public health and school nursing). There are several critical elements for a successful nursing work environment that cut across workplace settings. These include: management support and skilled nurse managers; an environment that promotes positive team relationships with coworkers; orientation and mentoring programs; the involvement of nurses and nurse aides in policy and decision making at both the institutional and unit level; competitive salaries and benefits; reasonable work loads; a safe working environment; career ladders and opportunities for advancement; minimizing paperwork and administrative burdens; flexible scheduling; supporting nurses in their role as patient care integrators; and professionalism and process standards in all departments with accountability.

Advanced Practice Nursing

There are four types of advanced practice registered nurses (APRNs) practicing in North Carolina: nurse

practitioners (NPs), certified nurse midwives (CNMs), clinical nurse specialists (CNSs), and certified registered nurse anesthetists (CRNAs). All APRNs are licensed registered nurses, have advanced academic preparation and many categories of APRNs are nationally certified. The Task Force heard testimony that advanced practice registered nurses in North Carolina are not currently permitted to practice to the full extent of their educational preparation. Although the education and certification requirements for each APRN group are similar across the country, the allowable scope of practice for each type of APRN varies depending on the state in which they practice. The Task Force was unable to fully explore these issues, but recommended further study of APRN practice issues.

Summary of Recommendations and a Blueprint for Action

The Task Force built upon these findings to formulate a series of recommendations to prevent a future nursing workforce crisis. These recommendations were grouped into seven areas: (1) nursing faculty recruitment and retention, (2) nursing education programs, (3) transition from school to work, (4) nursing work environments, (5) Advanced Practice Nursing, (6) building an interest in nursing as a career, and (7) cross-cutting issues. Absent new faculty, the state may be unable to expand the production of new nurses, and absent the production of new nurses, North Carolina may have insufficient nurses to meet the demands of the nurse workforce environment. In addition, efforts need to be made to smooth the transition from school-to-work, so that nurses are better prepared to assume clinical responsibilities. Finally, the Task Force recognized that North Carolina needs to address workplace issues in order to retain nurses in their jobs and the profession.

In total, the Task Force made 47 recommendations, which, if implemented, would expand the numbers, educational level, and retention of nursing personnel. The 16 *highest priority* recommendations are identified in shaded cells. Recommendations that require legislative action are separately noted, as are those that can be addressed through educational institutions, employers, foundations, the NC Board of Nursing or other organizations. The full text of all recommendations can be found in the corresponding chapter listed after the summary recommendation (for example, Rec. #4.1 refers to the first recommendation in Chapter 4). We hope that segmenting the Task Force recommendations in this way will facilitate a more systematic response to the findings and recommended actions discussed throughout this report.

	ACTION TO BE TAKEN BY ORGANIZATION, INSTITUTION OR GROUP						
RECOMMENDATIONS	**Legislature**	**Educational Institutions or AHEC**	**Employers**	**Nursing Community**	**Foundations**	**Board of Nursing**	**Other**
Nursing Faculty Recruitment/Retention							
Priority Recommendation:							
The Faculty Fellows Program (as proposed in House Bill 808 in last session of NC General Assembly) be enacted and funded to support the effort of BSN nurses who wish to pursue MSN degrees in preparation for nursing faculty careers. (Rec. # 3.25)	✓				✓		
Other Recommendations:							
The NC General Assembly should increase funding to the NC AHEC to offer off-campus RN-to-BSN and MSN nursing programs using a competitive grant approach which is available to both public and private institutions statewide. (Rec. # 3.20)	✓	✓			✓		
Nursing doctoral programs should be expanded. (Rec. # 3.21)	✓	✓			✓		

RECOMMENDATIONS	ACTION TO BE TAKEN BY ORGANIZATION, INSTITUTION OR GROUP						
	Legislature	Educational Institutions or AHEC	Employers	Nursing Community	Foundations	Board of Nursing	Other
RN Education Programs							
Priority Recommendations:							
Production of prelicensure RNs should be increased by 25% from the 2002-2003 graduation levels by 2007-08. The NC Community College System (NCCCS), UNC System, private colleges and universities, and hospital-based programs affected by these goals should develop a plan for how they will meet this increased production need and report to the NC General Assembly in the 2005 session. Greater priority should be placed on increasing production of BSN-educated nurses in order to achieve the overall Task Force goal of developing a nursing workforce with a ratio of 60% BSN: 40% ADN/hospital diploma graduates. (Rec. # 3.1a-c)	✓	✓				✓	
Nursing education programs in the community colleges should be reclassified as "high cost" (therefore increasing per capita funding of these programs). (Rec. # 3.6)	✓						
The NC General Assembly and/or private philanthropies should invest funds to enable NC community colleges to employ student support counselors specifically for nursing students and to provide emergency funds to reduce the risk of attrition for students in ADN and PNE programs. (Rec. # 3.8)	✓				✓		
The NC General Assembly should restore and increase appropriations to enable UNC System institutions to expand enrollments in their prelicensure BSN programs above current levels. These funds should be earmarked for nursing program support and funneled to university programs through the Office of the President of the UNC System. Funds should be allocated on the basis of performance standards related to graduation rates, faculty resources, and NCLEX-RN exam pass rates. (Rec. # 3.15)	✓						
The NC General Assembly and private foundations are encouraged to explore new scholarship support for nursing students in NC's schools of nursing. (Rec. # 3.19)	✓				✓		
Nurse Scholars Program should be expanded, per-student loans increased and new categories of eligible students added (as specified in Chapter 3). (Rec. # 3.24a-f)	✓						
Private institutions offering the BSN degree should be encouraged to expand their enrollments. (Rec. # 3.17)		✓		✓			
NC residents with a baccalaureate degree who enroll in an accelerated BSN or MSN program at a NC private college of nursing should be eligible for state tuition support equivalent to students in these institutions pursuing the initial undergraduate degree. (Rec. # 3.18)	✓						
The Comprehensive Articulation Agreement between community colleges and UNC System campuses should be further refined and implemented fully. a. Associate Degree nursing curricula should include non-nursing courses that are part of the Comprehensive Articulation Agreement (CAA) between the NCCCS and the UNC System. b. The UNC System and Independent Colleges and Universities offering the BSN degree should establish (and accept for admission purposes, UNC System-wide) General Education and Nursing Education Core Requirements for the RN-to-BSN students who completed their nursing education in a NC community college or hospital-based program after 1999. (Rec. # 3.28a-b)		✓					

RECOMMENDATIONS	ACTION TO BE TAKEN BY ORGANIZATION, INSTITUTION OR GROUP						
	Legislature	Educational Institutions or AHEC	Employers	Nursing Community	Foundations	Board of Nursing	Other
Other recommendations:							
Approval for (and funding to support) enrollment growth should be limited to those nursing education programs where attrition (failure to complete) rates are lower than the three-year average attrition rate for that category of education program (BSN, ADN, or PNE) and the pass rates on the NCLEX-RN or NCLEX-PN examination exceed 80%.) (Rec. # 3.2)		✓			✓	✓	
NC BON-approved "slots" should be realigned with current enrollment in NC nursing education programs by 2006. (Rec. # 3.3)		✓				✓	
Clinical facilities, in collaboration with local/regional nursing education programs, should identify and make available more clinical training sites for nursing education. (Rec. # 3.4)		✓	✓				
Nursing education programs and clinical agencies should work together to develop creative partnerships to enhance/expand nursing education programs and help ensure the availability and accessibility of sufficient clinical sites: a. AHEC should convene regional meetings of nursing educational programs and clinical agencies to develop creative educational opportunities for *clinical* nursing experiences. b. Nursing education programs of all types at every level should work together to develop creative educational collaborations with clinical facilities and programs that promote educational quality, efficiency and effectiveness. (Rec. # 3.5)		✓	✓				
An alternative method of financing the expansion of community college-based nursing programs should be considered by the NC General Assembly (instead of the dependence on external resources for such expansions). (Rec. # 3.7)	✓						
Funding should be made available to enable every nursing education program to apply for and attain national accreditation by 2015. (Rec. # 3.9)	✓	✓					
The Community College System should include in the comprehensive data and information system being developed data on nursing student applications, admissions, retention and graduation. (Rec. # 3.10)	✓	✓					
A consistent definition of "retention" (or "attrition") should be developed by the Community College System and used in every community college. (Rec. # 3.11)		✓				✓	
A consistent standard should be developed and used within the Community College System for the evaluation of retention-specific performance criteria for each nursing education program. (Rec. # 3.12)		✓				✓	
The NC General Assembly or private philanthropies should fund the Community College System to undertake a systematic study of the relationship between competitive, merit-based admission policies and graduation/attrition rates. (Rec. # 3.13)	✓	✓					
Admission criteria in community college nursing programs should be coupled with competitive, merit-based admission procedures in all community college-based nursing education programs. (Rec. # 3.14)		✓					
The UNC Office of the President, utilizing data provided by the NC Board of Nursing, should examine the percentage of first-time takers of the NCLEX-RN exam who are BSN, ADN and hospital-based school of nursing graduates. If necessary, the UNC Office of the President should convene the UNC System deans/directors of nursing for baccalaureate and higher degree programs to plan for increases in funding to support enrollment that will assure, at a minimum, a 40% or greater ratio of BSN prelicensure graduates (in relation to		✓					

RECOMMENDATIONS	ACTION TO BE TAKEN BY ORGANIZATION, INSTITUTION OR GROUP						
	Legislature	Educational Institutions or AHEC	Employers	Nursing Community	Foundations	Board of Nursing	Other
ADN and hospital graduates) and, where possible, a gradual increase in the BSN ratio over the next decade. These ratio increases should take into consideration increases in prelicensure BSN program enrollment, as well as ADN-to-BSN and accelerated BSN program productivity. (Rec. # 3.16)							
Hospitals and other nursing employers are encouraged to consider tuition remission programs to encourage their nursing employees to pursue LPN-RN, RN-BSN, MSN or PhD degrees. (Rec. # 3.27)			✓				
An RN-to-BSN statewide consortium should be established to promote accessibility, cost-effectiveness and consistency for these programs. (Rec. # 3.29)		✓					
PN Education Programs							
Priority recommendation:							
Production of prelicensure LPNs should be increased by 8% from the 2002-2003 graduation levels by 2007-08. NCCCS and private institutions affected by this goal should develop a plan for how they will meet these increases. NCCCS should convene this planning group, including representatives of private institutions offering these nursing programs, and a plan should be reported to the NC General Assembly in the 2005 session. Each year thereafter, the PNE programs should provide a status report to the NC General Assembly showing the extent to which they are meeting these goals; and whether production needs should be modified based on job availability for new graduates, changes in in-migration, retention or overall changes in demand for nurses in NC. (Rec. # 3.1d-e)	✓	✓				✓	
Other recommendations:		✓					
All NC BSN and ADN nursing education programs should explore creative LPN-to-ADN and LPN-to-BSN pathways to facilitate career advancement and avoid unnecessary duplication of content in these curricula. (Rec. # 3.30)	✓	✓				✓	
The State Board of Education and the NCCCS should promote dual enrollment programs for PNE programs in high schools. (Rec. # 3.31)	✓	✓					
All PNE programs in NC should seek and attain national accreditation by 2015 with adequate funding provided for faculty resources, student support services, and NLN accreditation application fees. (Rec. # 3.32)							
Nursing Assistant (Nurse Aide) Education Programs							
NC DHHS should develop special designation for licensed healthcare organizations providing LTC services that choose to meet enhanced workplace environmental and quality assurance standards. (Rec. # 4.5)			✓				✓ NC DHHS
The NC General Assembly should appropriate funds to be used as a wage pass-through to enhance the salaries of nursing assistants, especially within LTC facilities that have chosen to enhance workplace and quality assurance standards. (Rec. # 4.9)	✓		✓				
Efforts of NC DHHS, NC BON and NCCCS to create "medication aide" and "geriatric aide" classifications should be encouraged and supported. (Rec. # 3.33)				✓			✓ NC DHHS
NC Division of Facility Services in conjunction with the NC BON should develop a standardized Nurse Aide I competency evaluation program, to include a standardized exam and skills demonstration process. (Rec. # 3.34)		✓					✓ NC DHHS

RECOMMENDATIONS	ACTION TO BE TAKEN BY ORGANIZATION, INSTITUTION OR GROUP						
	Legislature	Educational Institutions or AHEC	Employers	Nursing Community	Foundations	Board of Nursing	Other
Transitions from Nursing School to Nursing Practice							
Priority recommendation:							
NC BON should convene a group to study options to improve school-to-work transitions, including: ■ intensive clinical experience in direct patient care during the final semester of study for nursing students, and ■ a supervised/mentored clinical internship experience either pre- or post-licensure. (Rec. # 4.3)		✓	✓	✓		✓	✓
Nursing Work Environments							
Priority recommendations:							
Employers should take steps to create "positive work environments" (meeting several defining criteria). (Rec. # 4.1)			✓		✓		
AHEC and the professional nursing schools should offer educational opportunities for leadership development, conflict resolution and communication skills training, interdisciplinary team building, and preceptor training. (Rec. # 4.2)		✓	✓				
NC BON and Division of Facility Services should implement regulations to prohibit nurses from providing direct patient care more than 12 hours in a 24 hour time period, or 60 hours in a 7 day time period. (Rec. # 4.10)						✓	✓ NC DHHS
Other recommendations:							
NC nursing organization leaders and healthcare trade associations should develop model programs and best practices (e.g., Magnet Hospital principles) for statewide dissemination. (Rec. # 4.4)			✓	✓	✓		✓
Trade associations, AHEC and private philanthropies should take the lead in disseminating best practices that help create a positive workplace culture for nursing personnel. (Rec. # 4.6)		✓	✓		✓		✓
NC Nurses Association should promote consumer advocacy efforts toward a well-educated, adequately staffed healthcare system in the interest of higher quality of care. (Rec. # 4.7)				✓			✓
Philanthropic organizations should support the provision of technical assistance to healthcare organizations as they attempt to make the changes necessary to improve the nursing workforce environment and enhance the quality of patient care. Financial assistance should be targeted to those facilities that would be unable to make these changes without financial assistance. (Rec. # 4.8)					✓		
Advanced Practice Registered Nurses							
The NC IOM should convene a workgroup to study issues specific to the practice of APRNs. (Rec. # 5.1)				✓		✓	✓ NC IOM
Trade and professional associations in NC should initiate an aggressive statewide effort to effect changes in federal and state legislation and regulations that affect Medicare, Medicaid and commercial managed care reimbursement in order to promote the full utilization of APRNs in long-term care and in other health care arenas. (Rec. # 5.2)			✓	✓			✓

RECOMMENDATIONS	ACTION TO BE TAKEN BY ORGANIZATION, INSTITUTION OR GROUP						
	Legislature	Educational Institutions or AHEC	Employers	Nursing Community	Foundations	Board of Nursing	Other
Building an Interest in Nursing as a Career							
Priority recommendation:							
Existing programs via AHEC, the health science programs in community colleges, universities and colleges, the NC Center for Nursing, and employers that target a diverse mix of middle and high school students to encourage them to consider health careers and prepare them for entry into programs of higher learning need to be strengthened and expanded. (Rec. # 3.22a-d)	✓	✓	✓	✓	✓		
Other recommendation:							
High school and college-level guidance counselors should receive additional training in the requirements of NC's nursing education programs, with counselors designated to provide nursing-specific advice to interested students. (Rec. # 3.23)		✓					
Additional Cross-Cutting Recommendations							
Employers of nurses (RN and LPN) who hold licenses in compact states other than NC should be required to report annually the names, states in which licensed, and period of employment of these nurses working in their facilities and programs. (Rec. # 2.1)	✓		✓				✓
Any NC resident enrolled in a public or private nursing education program should receive a state income tax credit to offset their nursing education expenses. (Rec. # 3.26)	✓						

Summary

North Carolina is indeed fortunate to have avoided many of the extreme shortages of nurses reported in other states. Yet, there are important developments on the horizon that have the potential to cause such shortages. Taking action today to expand the production of new nurses, enhance their education, augment school-to-work transitions, and improve the nursing workplace environment can help reduce the likelihood of a future nursing workforce crisis. Some steps will require new financial commitments either from public or private sources. Others will require a renewed commitment on the part of employers, educators, regulators and the nursing community. However, these steps are necessary if we are to recruit and retain well-prepared and motivated nurses who are needed to meet our healthcare needs now and in the future. Nursing, especially nursing at the bedside in hospitals and in long-term care, requires increasingly sophisticated technical skills and continues to demand intellectual, physical and emotional energy beyond what would be required in many other professions and occupations.

It is hoped that the recommendations offered here will help focus the efforts of legislators, educators, employers, the nursing community, trade associations, foundations and the public at large to ensure an adequate supply of well-trained nursing personnel for the future.

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