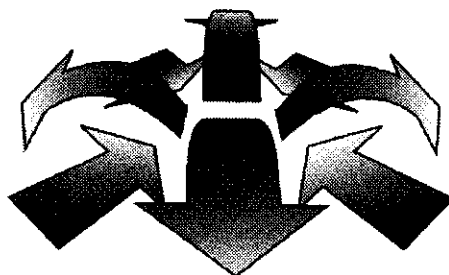


# ***Critical for Care: The South Carolina Nursing Workforce, 2001 & Beyond***



**South Carolina Colleagues  
in Caring Project  
July 2001**

Renatta S. Loquist, MN, RN, FAAN  
Project Director

Mary D. Pease, MS  
Research & Planning Coordinator  
SC Budget & Control Board, ORS

partially funded by the Robert Wood Johnson Foundation

## **Acknowledgments**

The South Carolina Colleagues in Caring Project Coordinating Council and the project staff gratefully acknowledge the commitment and support of numerous individuals and organizations that have contributed to the work of this project over the last 5 years. Countless man-hours have been devoted to task force meetings, completing surveys, participating in focus groups, recruitment initiatives, participating in conferences and workshops, and miles of travel across the state. The results are manifested in the most comprehensive analysis of the SC nursing workforce that has been achieved to date. The Coordinating Council members (Appendix A) have devoted significant time to the coordination of the project and preparation of this report.

Appreciation is extended to the numerous public and private organizations and agencies that have contributed matching funds and in-kind services to sustain this project over the past five years (Appendix D). Without their support, the project could not have been successful. Two state agencies have provided invaluable support to the work of this project. The State Board of Nursing for SC and the SC Budget and Control Board Office of Research and Statistical Services have assisted with data collection and analysis on the nursing workforce. A special thanks to Beth Corley and Mary Pease (ORSS) for their expertise and effort in survey preparation, analysis, and data presentation.

We gratefully acknowledge the Regional Coordinators and Regional Cluster Facilitators (Appendix B) who have maintained dialogue among major stakeholders in their communities to design and implement creative strategies to impact nursing workforce development at the local level. The work of the collaboratives is expected to continue into the future. In addition, numerous individuals have devoted extraordinary time to task force meetings, planning and implementing workforce initiatives in recruitment, workforce modeling and educational mobility. A list of these individuals can be found in Appendix C.

Gratitude is extended to Dean Mary Ann Parsons and the USC College of Nursing for serving as the lead agency for the project and providing invaluable support and resources for the completion of our work. A special acknowledgment to Gene Meding, who has served as the Business Associate over the grant period, providing exceptional administrative support and maintaining a warm and cheerful attitude.

Lastly, we wish to thank Dr. Janis P. Bellack for her five years of leadership as Co-Project Director. Her creativity and expertise in nursing education and nursing workforce development have permeated all aspects of the work accomplished to date. Dr. Marilyn S. Brady joined the project staff at a critical time after Dr. Bellack relocated and has demonstrated exceptional leadership in the design of the Statewide Articulation Plan. She has continued to add her expertise to all aspects of the project.

There are many individuals who have impacted this work over the years that may not be named specifically. This project reflects the collective effort of all the volunteers throughout the project period. Thanks to all of you.

Renatta S. Loquist, MN, RN, FAAN  
Project Director

## Table of Contents

Executive Summary.....	1
Introduction .....	4
Supply of Nurses in South Carolina.....	5
Number of RNs & LPNs in South Carolina .....	5
Net Growth in the Nursing Workforce.....	6
Where Do SC Nurses Come From.....	7
Aging of Nurses .....	9
Impact of an Aging Workforce.....	9
Characteristics of the Aging Workforce .....	10
Retirement Trends .....	10
Diversity of the RN Workforce.....	11
Educational Preparation of RNs .....	12
SC Nursing Education Programs.....	12
Enrollees & Graduates of SC Nursing Programs.....	13
Baccalaureate Degree Nursing Programs.....	13
Associate Degree Nursing Programs.....	14
Practical Nursing Programs .....	14
Current Enrollment in SC Nursing Programs.....	15
Faculty Teaching in RN & LPN Programs in SC.....	15
The Demand for Nurses as Reflected in the Health Care Market.....	16
SC's Population Profile.....	16
Major Employers in SC.....	16
Hospitals as a Major Employer.....	17
Hospital Vacancy and Turnover Rates.....	18
Trends in Utilization of Health Care Services .....	19
Nurse to Population Ratios—Current and Projected.....	20
Projection of SC Nurse Supply Adjusting for Age and Degree.....	21
Impact of Changes in Nurses Recruited from Out of State on Projected Supply.....	23
Reduction of Nurses Recruited from Out of State .....	23
Implications of the Nursing Shortage for SC's Future.....	25
Current Nursing Workforce Development Initiatives.....	26
Recommendations .....	28

## Appendices

Appendix A: Members, SCCIC Nursing Workforce Consortium 1996-1999 .....	30
Members, SCCIC Coordinating Council, 1999-present .....	32
Appendix B: Regional Coordinators 1996-1999.....	33
Regional Cluster Facilitators 1999-present.....	34
Appendix C: Members, SCCIC Task Forces .....	35
a) Recruitment Task Force.....	35
b) Workforce Modeling Task Force .....	36
c) Educational Mobility Steering Committee .....	37
Appendix D: SCCIC Matching Funds Partners .....	38
Appendix E: SC Nursing Programs by Geographic Locations .....	39
Appendix F: List of SC Nursing Education Programs .....	40
Appendix G: Additional Figures & Tables .....	41
Table 1: RNs by Age Replaced by Natural Growth from Out of State, Reactivation & New Licensure, 1992, 1995, & 1998.....	41
Table 2: Trends in RNs Leaving SC Hospital Setting by Age Group .....	41
Table 3: Trends in Nurses Recruited from Out of State to SC Hospitals by Degree, 1994-99 .....	41
Table 4: Distribution of Nurses in SC Hospitals by Highest Degree, 1990-1999 ....	42
Table 5: Average Age of Nurses Graduating from SC Educational Programs, 1995-1999.....	42
Table 6: Trends in LPNs Becoming RNs in SC, 1990-1999 .....	42
Table 8: SC Nursing Faculty by Highest Degree, Average Age, 1997-1999 .....	42
References.....	43

## Index of Figures and Tables

### Figures

Figure 1: RNs and LPNs Employed in South Carolina, 1989-2000.....	5
Figure 2: Annual Gains, Losses and Net Growth of Employed RNs, 1989-1999 .....	6
Figure 3: Annual Gains, Losses and Net Growth of Employed LPNs, 1987-1999 .....	6
Figure 4: Number of RNs Gained in SC by Reason for Gain, 1989-1999 .....	7
Figure 5: Number of LPNs Gained in SC by Reason for Gain, 1989-1999 .....	7
Figure 6: Trends in RNs Lost to Employment By Reason of Loss, 1989-1999 .....	8
Figure 7: Trends in LPNs Lost to Employment By Reason of Loss, 1989-1999 .....	8
Figure 8: Comparison of Age Groups Overtime for Active RNs in SC .....	9
Figure 9: Trends in Enrollment and Graduation from SC BSN Programs, 1989-1999 ..	13
Figure 10: Trends in Enrollment and Graduation from SC ADN Programs, 1989-1999	14
Figure 11: Trends in Enrollment and Graduation from SC PN Programs, 1988-1998 ..	14
Figure 12: Trends in Nurses Employed in SC Hospitals, 1989-2000 .....	17
Figure 13: Supply of RNs by Age 1995-1999 & Projected Supply of RNs by Age 2000-2015 .....	21
Figure 14: Average Age of RNs by Degree 1992-1999, Projected Average Age of RNs by Degree 2000-2015 .....	21
Figure 15: Impact of Decline in RNs Recruited from Out of State to RN Supply Projections .....	23
Figure 16: Impact of 25% Decline in RNs Recruited from Out of State to RN Supply Projections by Degree .....	24
Figure 17: Impact of 75% Decline in RNs Recruited from Out of State to RN Supply Projections by Degree .....	24

### Tables

Table 1: RN Workforce in SC by Educational Level and Age, 1999 .....	10
Table 2: SC Practice Settings Most At Risk for RN Retirement, 1999 .....	10
Table 3: RN Positions Most At Risk for Retirement, 1999 .....	11
Table 4: SC RN and LPN Race and Gender 1990-2000 .....	11
Table 5: Highest Educational Level of RNs in SC, 1990-2000 .....	12
Table 6: Percent of Employed RNs in SC and Nationally by Highest Educational Level, 1999 .....	12
Table 7: Major Employers of RNs in South Carolina, 1990 & 2000 .....	16
Table 8: Major Employers of LPNs in South Carolina, 1990 & 2000 .....	17

Table 9: Turnover Rates SC Hospitals, 1997 .....	18
Table10: SC Nurse to Population Ratio Per 100,000 Population 1989-1999 .....	20
Table 11: Projected SC Nurse to Population Ratio Per 100,000 Population, 2000-2015.....	20
Table 12: Projected Number of RNs in SC by Degree 2000, 2005, 2010 & 2015.....	22
Table 13: Projected No. of RNs lost by 2015, By Age, if Out Of State Recruitment Declines by 25% and 75% .....	24
Table 14: Projected No. of RNs Lost, by 2015, By Degree, If Out Of State Recruitment Declines By 25% and 75% .....	25

## ***Critical for Care: The South Carolina Nursing Workforce, 2001 and Beyond***

### **Executive Summary**

South Carolina, along with the nation, is experiencing an acute nursing shortage that is predicted to become worse over the next 10-15 years. There are multiple inter-related factors contributing to the current & projected shortage:

- a large cohort of nurses reaching retirement age who are expected to leave the profession in record numbers by 2010, seriously impacting the supply;
- a marked shortage of nurses with baccalaureate & higher degrees to practice in an increasingly complex health care delivery system;
- a shortage of qualified nurse faculty limiting the state's ability to increase enrollments in nursing programs;
- a declining interest among young women choosing nursing as a career;
- growth in the aging of the general population with chronic diseases increasing the demand for nursing services;
- work environment issues that negatively impact recruitment & retention.

Despite growth in the RN and LPN workforce over the last 10 years, SC still does not have enough nurses to fill the escalating employer demand. SC ranks 42/50 in the number of RNs per 100,000 population based on 1996 census data. Over the last ten years, less than half of the newly licensed RNs have graduated from SC nursing education programs, indicating a heavy reliance on out-of-state recruitment to meet employer demand for nursing manpower. As the nursing shortage intensifies nationally and internationally, the competition for an adequate nursing workforce will increase. Already states are positioning themselves to offer incentives to retain nurses within their states. Money directed toward scholarships, loan forgiveness programs and tax incentives are being legislated across the nation.

Nursing education programs in the state and nationally are being faced with replacing faculty at an unprecedented rate as faculty reach retirement age. Sixty-eight percent (68%) of the state's PhD prepared faculty are over age 50 years and 36% of all nurse faculty are over the age of 55 years. A survey conducted of SC nursing education programs in Spring 2001 indicated that over 100 faculty vacancies are predicted in the next five years. Maintaining existing enrollments will be threatened without adequate faculty to teach in the state's programs.

By 2015, close to 30% of the SC nursing workforce will be 55 years and older (14,568) while only 6% (7,500) will be under age 30. Because fewer young people choose nursing careers, aggressive efforts to recruit into the profession must be ongoing.

Equally as important to recruitment of young men and women into the profession is a focus on strategies to retain nurses in the workforce. The high-risk, high-stress health care work environment is challenged to create innovative models of care delivery and a work environment that produce quality outcomes of care while providing job satisfaction for employees.

Implications for the projected nursing shortage are serious to the state and its citizens. The nursing shortage impacts the state's economy as well as access, cost and quality of care. Inadequate numbers of nurses translate into delays in getting treatment, shifting of care to family members, and increased costs for health care services due to paying premium prices for temporary staff and the

costs associated with high turnover rates. As family members assume caregiver roles, business and industry will be impacted by loss of productivity of employees.

The South Carolina Colleagues in Caring (SCCIC) Project, a statewide nursing workforce development project partially funded by the Robert Wood Johnson Foundation, has collected and analyzed extensive data from employers, educators, practicing nurses, and the nurse licensure database over the past five years. A summary of the most significant information is contained in the following report. The SCCIC Coordinating Council, comprised of leaders in nursing and health care, recognize the complexity and enormity of the nursing workforce issues. Many of the problems will require collaboration of multiple stakeholders and will need to be addressed at the local level. Public/private partnerships will not only enrich dialogue and promote innovation, but generate resources toward developing strategies to curb the workforce crisis.

The Coordinating Council offers the following recommendations for policy makers to position the state to address the current and evolving nursing shortage.

## Recommendations

### 1. Maintain a permanent state-supported structure for nursing workforce planning and development.

The statewide and national shortage of nurses is predicted to worsen over the next 10 to 15 years and will require a concerted effort on the part of major stakeholders to develop innovative solutions to the complex issues that fuel the shortage of qualified health care providers. State funding must be dedicated to **guarantee a core of basic workforce planning services** supplemented by public/private partnerships to implement projects and initiatives. **Data collection** is critical to the ongoing monitoring and tracking of the workforce supply and demand as well as measuring success of recruitment and retention initiatives. **A permanent state-supported center for nursing workforce planning and development** must:

- have adequate financial resources to assure timely data collection and analysis,
- have adequate staff to develop and implement statewide programs for recruitment and retention and to conduct data collection and analysis,
- be led by a Board of Directors that is representative of the major stakeholders,
- be accountable to the Governor and the General Assembly for progress made in nursing workforce development.

### 2. Develop and implement a statewide plan for recruiting and retaining students in nursing education programs.

**Recruitment and retention initiatives** must be accelerated to offset the number of nurses expected to retire from the profession within the next 10 to 15 years. Aggressive recruitment targeted at elementary, middle, and high school students is essential to compete with other occupations and professions. Mentoring, shadowing, and summer enrichment programs are needed to make nursing more visible and attractive to young men and women of all cultures.

In addition to scholarships and loan programs already available to college students, funding for **Nurse Scholars Programs** should be developed. Both academic and needs-based scholarships are needed with amounts commensurate with the costs of nursing education programs in the state. **Loan forgiveness programs** for nurses who agree to work in underserved areas will serve as an incentive to retain nurses in the state. Incentives to attract men and minorities must be developed.



**3. Maximize enrollments in SC nursing education programs to more closely meet the demand for nurses in the state.**

Nurses prepared at all levels of nursing education are needed to meet the employer and consumer demand for nursing care. However, the state is far below the national average in the numbers of baccalaureate and higher degree-prepared nurses in the workforce while exceeding the national average in the number of associate degree prepared nurses. The state and higher education institutions must **direct adequate funding to nursing education programs** to allow the state to remain competitive regionally and nationally as we seek to produce an adequate nursing workforce. A **review of current state regulatory requirements and policy or position statements** that may impose unnecessary limitations or barriers to increasing the pool of students enrolled in nursing education programs should be conducted.

Funding should be allocated for **incentive grants** to stimulate creativity in nursing curricula that promote educational mobility, use of distance education technology, accelerated educational pathways, and cooperation among the state's nursing programs.

Incentives to increase the number of baccalaureate and higher degree-prepared nurses in the workforce must be implemented. With the state's nursing programs projected to have over 100 faculty vacancies in the next three to five years due to faculty retirements, aggressive efforts directed at **faculty development** must be implemented such as scholarship incentives and loan forgiveness programs for nurses seeking graduate education who agree to teach in the state's public institutions.

**4. Develop programs that will facilitate workforce transition and retention.**

While nursing education is essential to the development of an adequate workforce, the practice environment plays a critical role in the development of satisfying and professionally stimulating work places that retain nurses. One strategy that has proven successful in other states is to fund an **incentive grants** program to

- design successful workplace recruitment and retention programs,
- develop programs that reward excellence in practice,
- build leadership skills in the nursing workforce, and
- assist employers to achieve excellent nursing care environments reflective of national accreditation standards such as the Magnet Hospital status conferred through the American Nurses Credentialing Center.

To build a nursing workforce for the future, reward employers who support employees in educational mobility, recognize advanced education through differentiating practice and pay differentials.

As the single largest employer of nurses, the State of South Carolina must **evaluate the classification and compensation structure for the state's nursing workforce** at all levels to remain competitive in the recruitment and retention of nurses. Immediate action is required to maintain adequate nursing staff in state agencies that provide care to vulnerable populations and the state's public nursing education programs.

## ***Critical for Care: The South Carolina Nursing Workforce 2001 and Beyond***

### **Introduction**

Over the years South Carolina, along with the nation, has experienced periods of acute nursing shortages that have been addressed in a variety of ways. The shortages have been cyclic in nature with only brief periods when the shortages were not as severe. Changes in the health care delivery system, reimbursement systems, and the US economy influence the demand for nurses and other health care providers. The SC Board of Nursing's comprehensive nurse licensure information system maintained by the SC Budget and Control Board Office of Research and Statistics, allows policy makers to monitor the number and types of nurses licensed and trends in nursing employment.

In 1995, nursing leaders, concerned about emerging trends that appeared to have significant impact on the future supply of nurses in the state, approached the Advisory Committee on Nursing (ACON) of the State Board of Nursing for South Carolina (SBON) to obtain support for submitting a grant proposal to The Robert Wood Johnson Foundation's initiative, *The Colleagues in Caring Project: Regional Collaboratives for Nursing Workforce Planning and Development* (CIC). The proposal was one of 20 projects funded nationally, creating the South Carolina Colleagues in Caring Project (SCCIC). In 1999, the Robert Wood Johnson Foundation awarded the SCCIC project a continuing Phase 2 grant that ends June 30, 2002.

The statewide project, housed in the USC College of Nursing, represents a collaborative of public and private nursing education programs, nursing and health care organizations and agencies, and businesses whose purpose is to assess and plan for an adequate future nursing workforce. These partners have contributed both matching funds and in-kind support to the project as well as numerous man-hours dedicated to data collection, data analysis, and problem resolution of critical nursing workforce issues. Over the course of the project, over \$1 million of matching and grant funds have been invested in addressing the state's nursing workforce issues.

Nursing and health care leaders across the state have formed collaboratives to address local workforce issues while statewide task forces and a statewide Coordinating Council have provided leadership on topics such as Recruitment and Retention, Educational Mobility, Workforce Transitions, and Workforce Modeling. With the cooperation of the SC Budget and Control Board Office of Research and Statistics and the SC Board of Nursing, the project has collected an extensive database of both state and national nursing workforce information through surveys, focus groups, regional dialogue and key informant interviews.

The information reveals a serious shortage of nurses over the next ten to fifteen years unless immediate action is taken to increase the available supply of nurses with the necessary education and competencies for the emerging health care environment. The current and projected nursing shortage may be attributed to multiple and inter-related factors. The most significant factors include:

- a large cohort of nurses reaching retirement age who are expected to leave the profession in record numbers by 2010, seriously impacting the supply;
- a marked shortage of nurses with baccalaureate & higher degrees to practice in an increasingly complex health care delivery system;
- a shortage of qualified nurse faculty limiting the state's ability to increase enrollments in nursing programs;
- a declining interest among young women choosing nursing as a career;
- growth in the aging of the general population with chronic diseases increasing the demand for nursing services;
- work environment issues that negatively impact recruitment & retention.

This paper presents major trends in the supply of nurses over the past ten years, projections for the future, the implications of the nursing workforce shortages on citizens and health care agencies, and recommendations for the future.

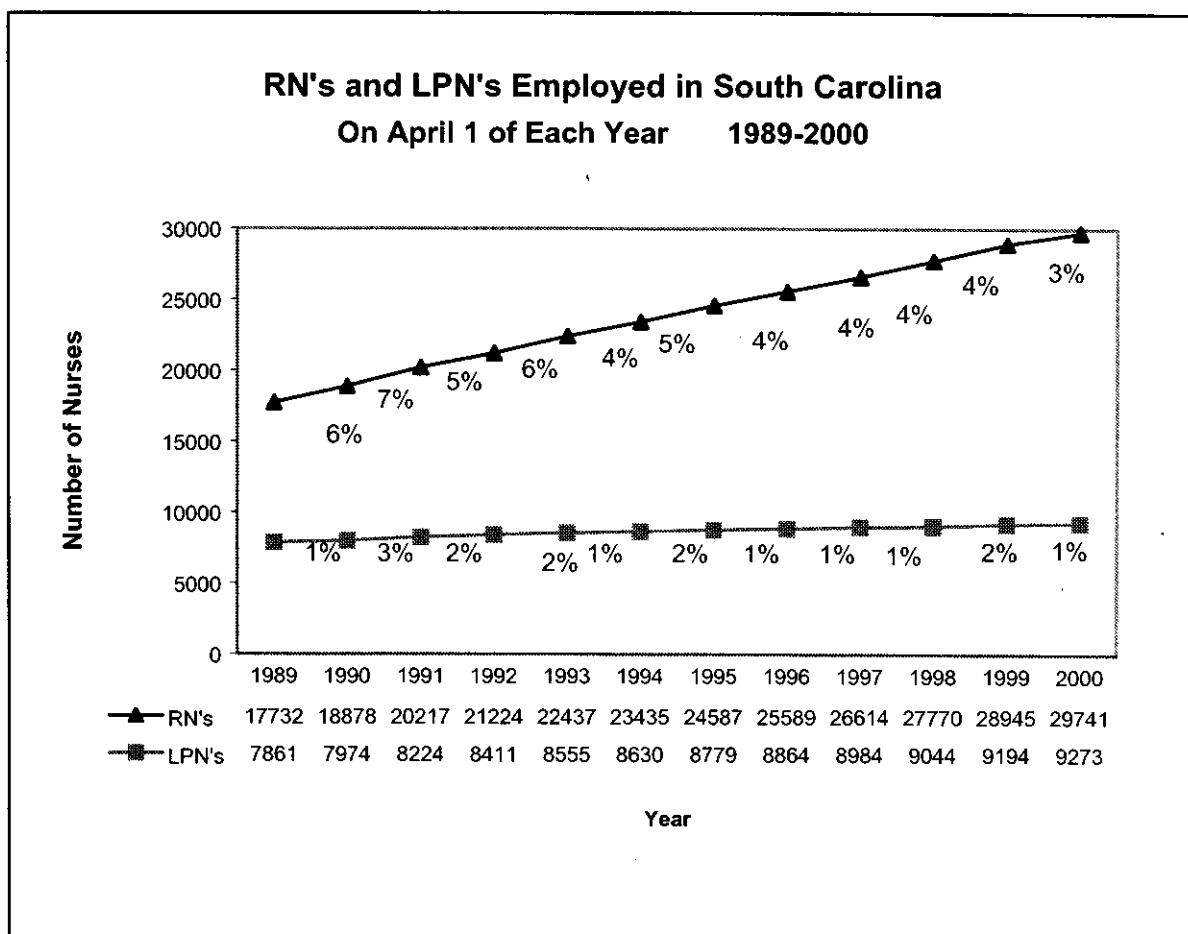
## The Supply of Nurses in South Carolina

The data contained in the Tables and Figures in this report have been provided by the SC Budget and Control Board Office of Research and Statistics (ORS). The data have been extracted from the State Board of Nursing licensure database for the years 1989-2000.

### ◆ Number of RNs and LPNs in South Carolina

In 2000 there were 33,731 Registered Nurses (RNs) and 10,292 Licensed Practical Nurses (LPNs) licensed in SC. Of those, 29,741 RNs (88%) and 9,273 LPNs (92%) were employed as nurses in SC. Nationally, 82% of licensed nurses are currently employed in nursing. In addition, approximately 11 % of SC nurses work for more than one employer. The number of nurses employed in the state has increased an average of 4% each year since 1989, while the rate of increase for LPNs has been 1% a year. This means that the state replaces all the RNs who left the workforce and adds about 1,100 new RNs each year to the job market. In 2000, the percentage of new RNs gained fell to 3%, that may indicate a future decline in the annual gains for RNs. Despite the gains in the number of RNs each year, the supply of nurses is insufficient to meet the growing employer demand and falls significantly short of the regional and national average of RN to population ratios. According to data from the Division of Nursing and the US Bureau of the Census, in 1996 SC ranked 28/50 in the number of RNs employed, and 42/50 in the number of RNs per 100,000 population. SC ranks 25/50 in the number of LPNs employed and 27/50 in the number of LPNs per 100,000 population.

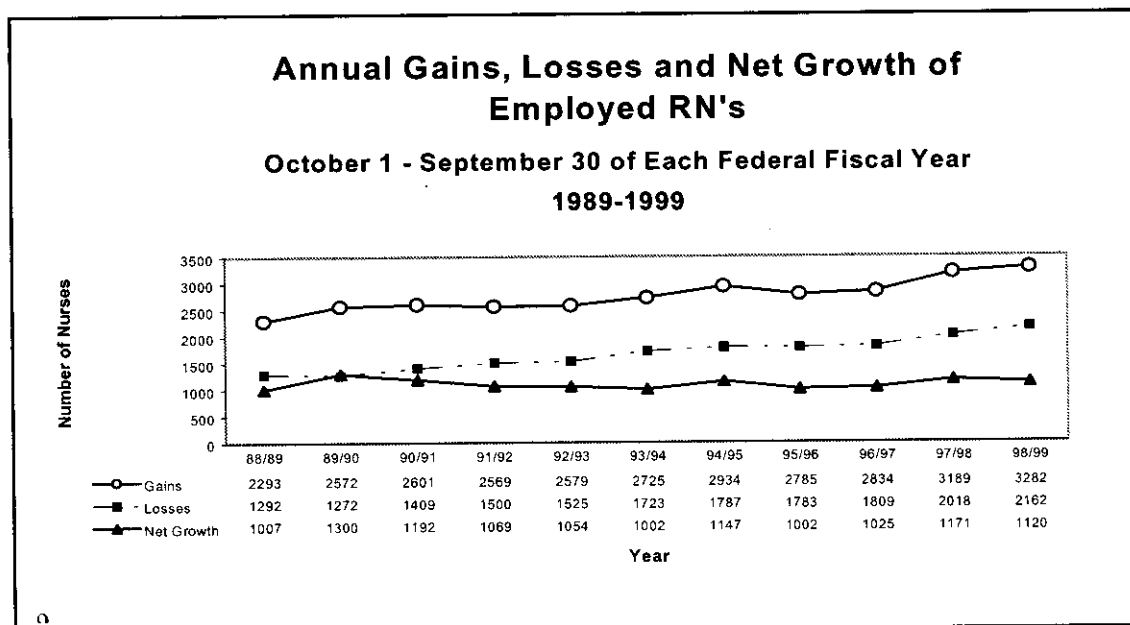
Figure 1: RNs and LPNs Employed in South Carolina, 1989-2000



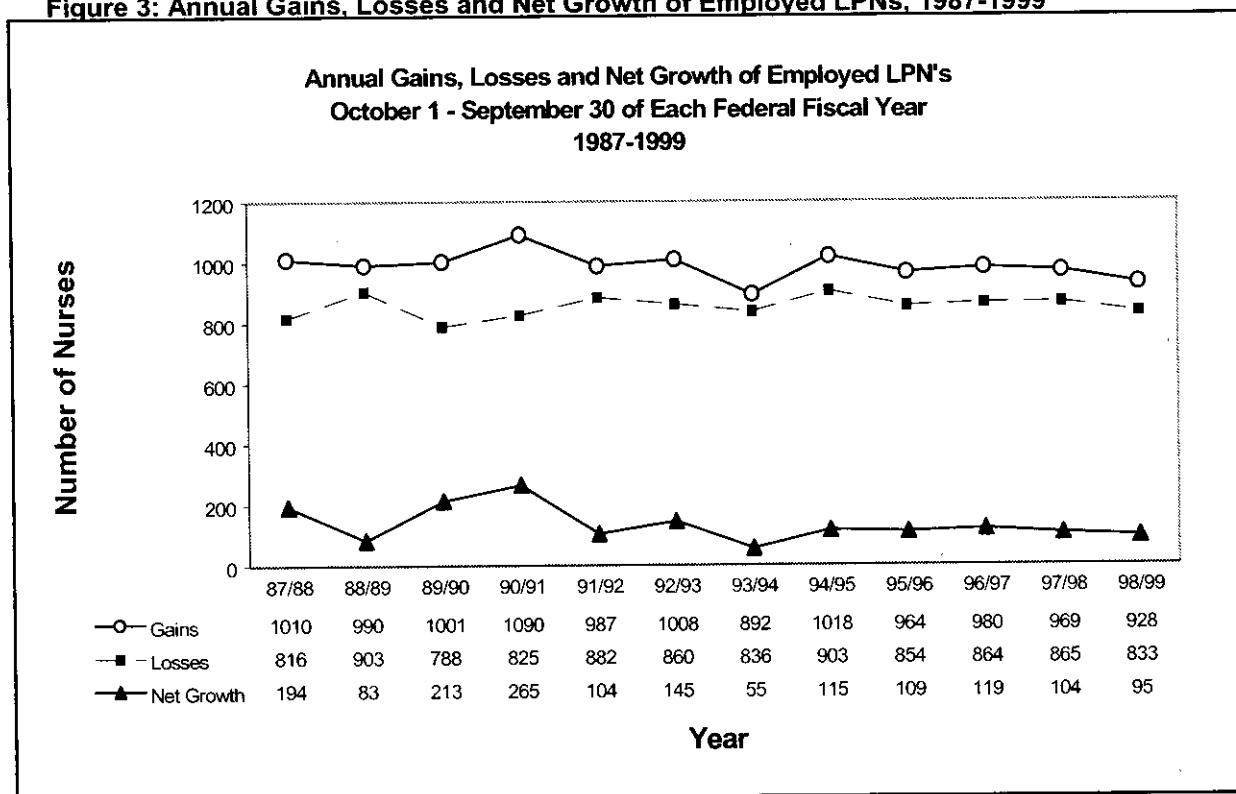
### ◆ Net Growth in the Nursing Workforce

From 1988 to 1998 the net growth rate for the RN workforce has gradually declined from 4.6% in 1988 to 4.0 in 1998. During the same period, the LPN net growth rate has varied from a high of 2.5% in 1988 to a low of 0.6% in 1994. While the net growth rates have fluctuated, the net gain of nurses added each year remains at approximately 1,100 RNs and 100 LPNs. The RN workforce increased at a rate greater than the population for the ten-year period, 1989-1999 (38.6% vs. 11.1%), while the growth in the LPN workforce did not keep pace with the population growth (4.2% vs. 11.1%).

**Figure 2: Annual Gains, Losses and Net Growth of Employed RNs, 1989-1999**



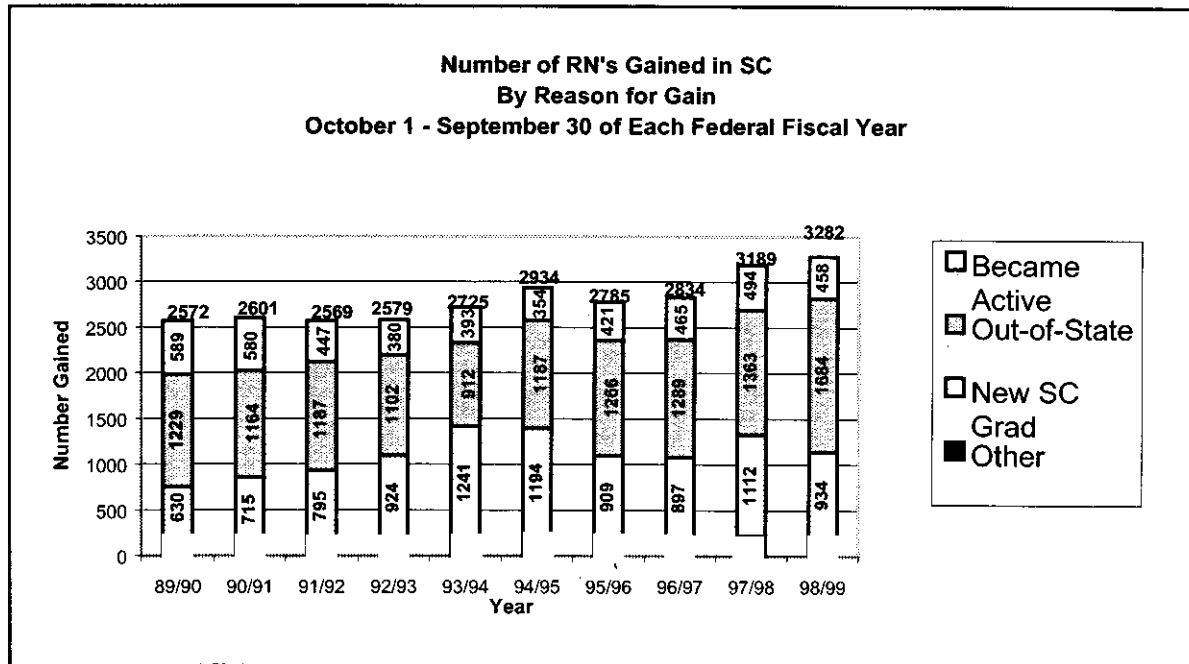
**Figure 3: Annual Gains, Losses and Net Growth of Employed LPNs, 1987-1999**



### ◆ Where do New SC Nurses Come From?

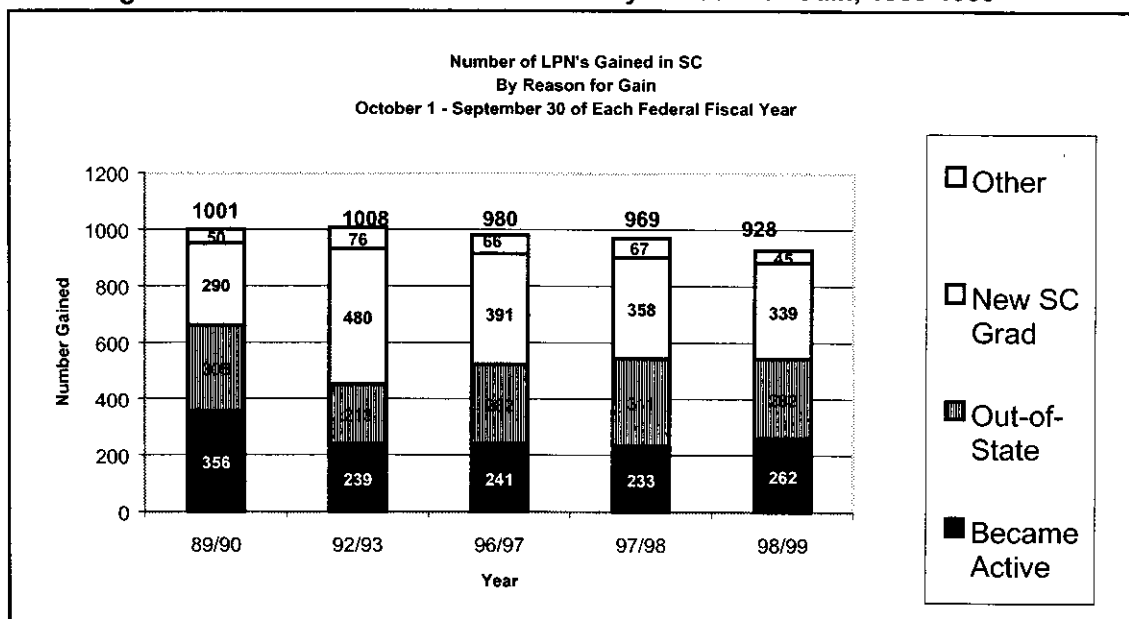
SC recruits heavily from other states to increase the supply of RNs. Of the newly licensed RNs gained in the state, approximately half (50%) come from out-of-state. While the number of new RN graduates from SC nursing education programs has declined over the past five years, the number of nurses recruited into the state has increased. This trend has some serious implications for the state as the nursing shortage intensifies nationally and internationally. Many states are now legislating attractive incentives to keep nurses employed in their own states, i.e. tax credits, loan forgiveness programs, and free tuition for advanced education. South Carolina will need to do the same to remain competitive in out-of-state-recruitment.

**Figure 4: Number of RNs Gained in SC by Reason for Gain, 1989-1999**



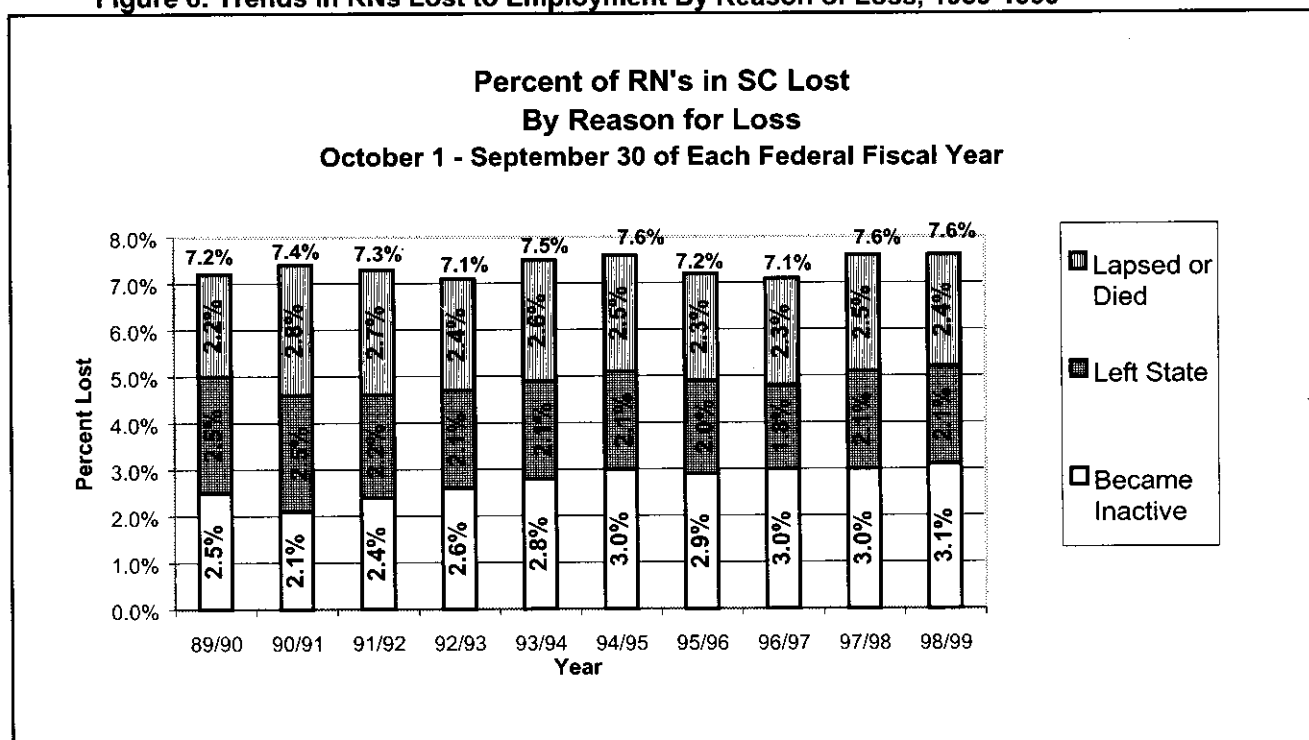
The LPN workforce has grown at a much slower rate in SC. LPNs are less mobile as a group, so that out-of-state recruitment is not as prevalent for this category. The number of new LPNs from SC nursing education programs has declined since 1993.

**Figure 5: Number of LPNs Gained in SC by Reason for Gain, 1989-1999**

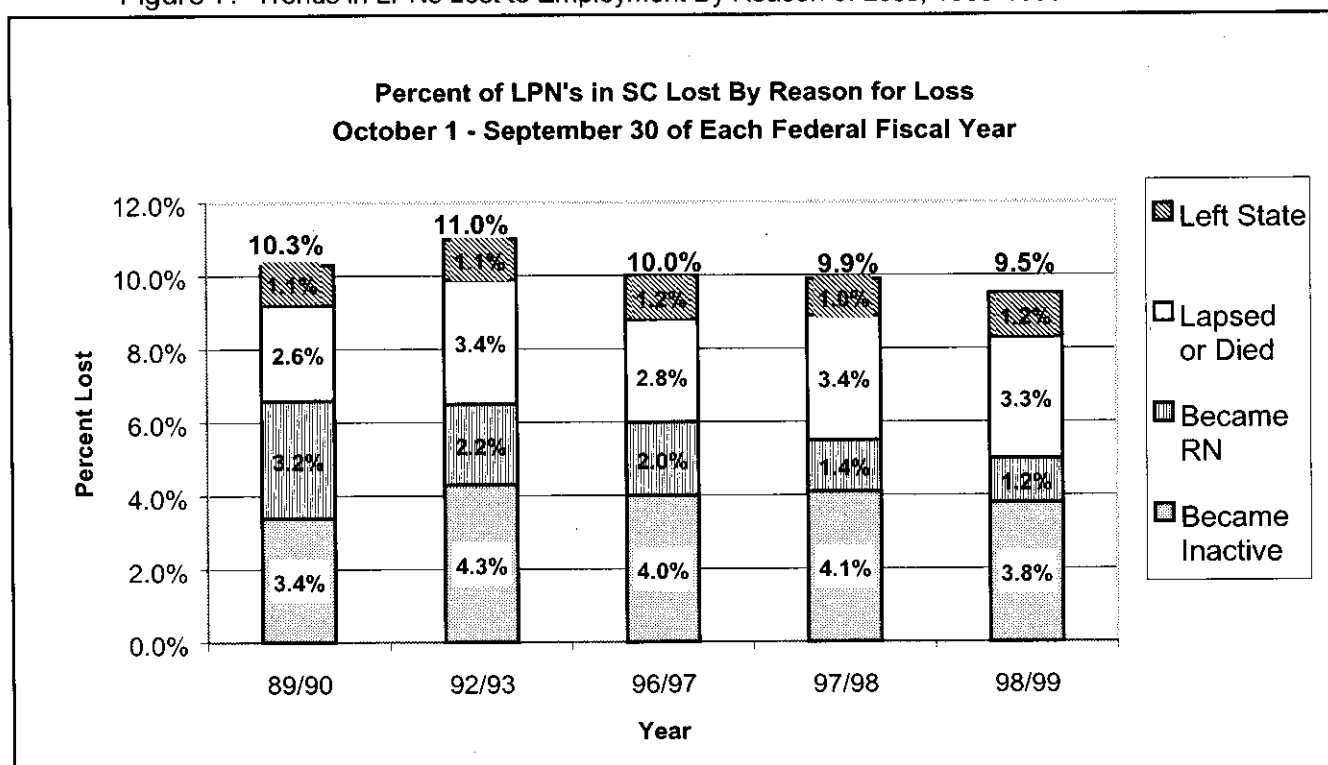


The percentages of RNs and LPNs who leave employment in nursing have remained relatively stable since 1989, 7% and 10% respectively. Placing the license on inactive status accounts for the greatest number of RNs and LPNs who leave the workforce. To compensate for these losses, new nurses are recruited either through newly licensed graduates from SC nursing programs or through the recruitment of nurses from out-of-state. Approximately 3% of the RN and 4% of the LPN workforce place their licenses on inactive status each year.

**Figure 6: Trends in RNs Lost to Employment By Reason of Loss, 1989-1999**



**Figure 7: Trends in LPNs Lost to Employment By Reason of Loss, 1989-1999**

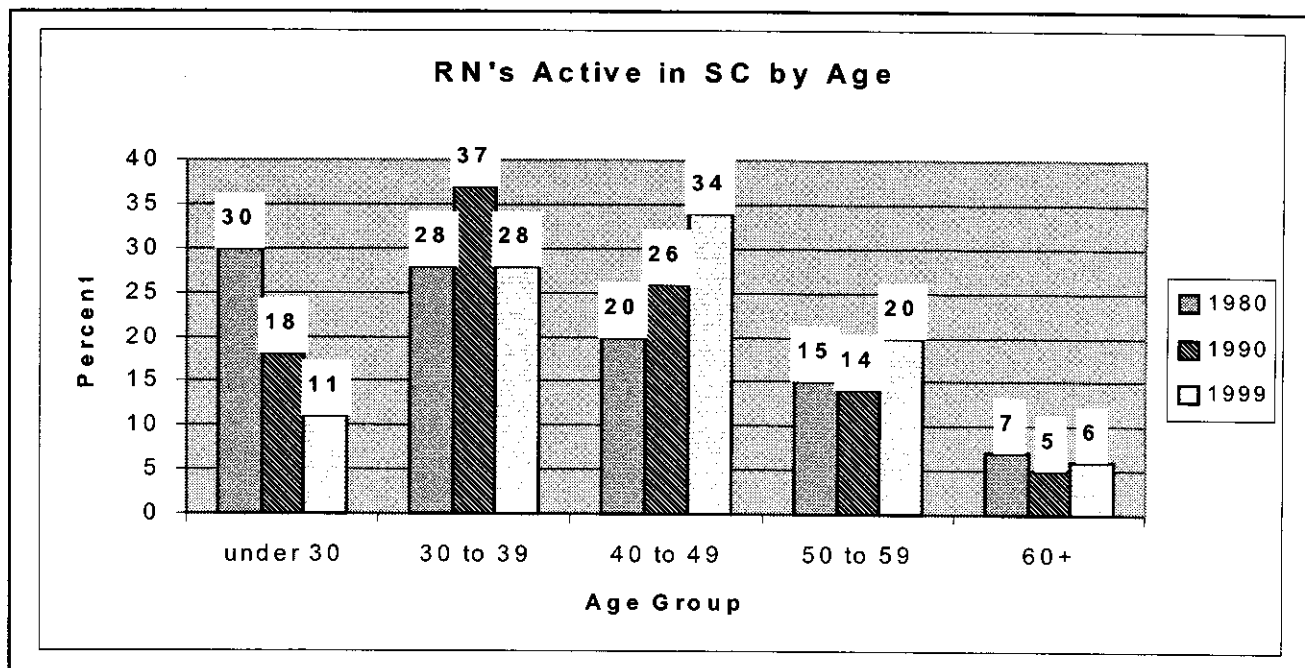


## ◆ Aging of Nurses

The percentage of RNs over age 40 has increased each year while the percentage of RNs under age 30 has steadily declined. According to the Health Resources and Services Administration (HRSA), the RN workforce in the South Atlantic Census division aged significantly between 1988 and 1996. RNs 40 years of age and older in the South Atlantic division increased from 51% to 62%. During this time period in SC, the percentage of RNs 40 years of age and older increased from 42.7% to 55.1%.

Figure 8 demonstrates the shifting of the age of RNs in South Carolina from 1980 to 1999. The only two age categories that are not growing are at both extremes of the charts, the under 30 and the 65 and over age categories.

**Figure 8: Comparison of Age Groups Over Time for Active RNs in SC**



## Impact of an Aging Nursing Workforce

The largest cohort of nurses working in SC has reached an average age of 46 years. As these nurses reach retirement age, it is expected that their participation rate in the workforce will continue to decrease. Over the next 10 to 15 years, more nurses will retire from the workforce than will be entering if current trends continue. Eleven percent of the current workforce is under age 30 and that figure is expected to decline to 6% by the year 2015 if current trends continue. Data show that as age increases, the number of hours worked decreases. The aging of the nursing workforce is significant in that for the first time in nursing history, the shortage of nurses will be linked to a declining number of nurses, in addition to the growing demand which compounds the problem. In the past, the supply of nurses has grown each year. This trend begins to reverse by 2010. One factor that contributes to an older nursing workforce is that new graduate Associate Degree nurses are older as they begin their careers (average of 32 years) leading to a shorter career span. Strategies to motivate young people to enter nursing careers are critical to reverse the trend of workforce aging.

## Characteristics of the Aging Nursing Workforce

When comparing the age of nurses by highest educational level, the findings show that 68% of the doctorally prepared nurses and 38% of master's prepared nurses in the state are over age 50. These nurses represent the nursing faculty in our colleges and universities as well as nurse executives and nurse clinicians. Over the next ten to fifteen years, these nurses will be leaving the workforce. Immediate action is needed to provide for an adequate supply of nursing faculty. Table 1 provides information on the educational level of nurses over age 50.

**Table 1: RN Workforce in SC by Educational Level and Age, 1999**

Highest Degree	Total	% Age 50+	% Age 55+	% Age 60 +
Total	28,945	27%	15%	6%
Doctorate	191	68%	36%	29%
Nurse Practitioner	1,253	32%	15%	6%
Master's	1,185	38%	20%	7%
Bachelors	7,931	15%	7%	3%
Diploma	4,544	67%	47%	25%
Associate	13,802	20%	8%	3%
Practical Nurse	9,194	29%	16%	9%

### ◆ Retirement Trends

After age 50, the percentage of nurses not employed as nurses and not replaced by out-of-state recruitment rises substantially. Additionally, the percentage of nurses retiring from employment at age 55 has increased over the last 5 years. This trend may be due in part to the physical demands placed on nurses along with the stress of the work environment. The practice settings with the largest number of nurses over age 55 are listed in Table 2.

**Table 2: SC Practice Settings Most At Risk for RN Retirement, 1999**

SETTING	TOTAL	# AGE 55 + (%)
Hospital	17303	1903 (11%)
Nursing Home	1345	363 (27%)
MD/Other Office	2017	303 (15%)
DHEC, Excluding Home Health	1014	263 (26%)
Home Health	1746	261 (15%)
School Nurse	666	133 (21%)
Psychiatric Hospital	522	130 (25%)
Occupational Health	298	113 (38%)
Non-DHEC Community Health	273	101 (37%)
Outpatient Clinic	938	94 (10%)
Developmental Disabilities	156	59 (38%)
Hospice	194	40 (21%)
Non-hospital psychiatric	100	32 (32%)
Self-employed	101	26 (26%)



RN positions most at risk for retirement are those that experienced nurses with advanced degrees currently occupy. Positions such as nurse faculty in schools of nursing, nurse consultants, nurse supervisors, nursing instructors in health care agencies, and nurse administrators are at greatest risk. This trend is particularly disconcerting in light of the fact that fewer nurses are returning to school for advanced degrees than 5 years ago as evidenced by declining enrollments in BSN and graduate programs nationwide (AACN, 2001).

**Table 3: SC RN Positions Most At Risk for Retirement, 1999**

<b>POSITION</b>	<b>TOTAL</b>	<b>% Age 55+</b>
Nurse Faculty	538	35%
Nurse Consultant	439	28%
Supervisor/Assistant	2,044	24%
Nurse Instructor	366	22%
Nurse Administrator	1,467	20%
Nurse Anesthetist	566	20%
Clinical Nurse Specialist	168	19%
Head Nurse/Assistant	1,882	18%
Staff/General Duty	21,236	13%
Advanced Practice RN	769	13%
Other	266	23%

#### ◆ **Diversity of the RN Workforce**

Nursing has traditionally been viewed as a female profession resulting in few males choosing nursing as a career. The nursing shortage of the late 1980s began an intensified effort to recruit males and minorities. The number and the percentage of the nursing workforce who are male has increased since 1988 from 2.8% to 5.6% for RNs and 2.1% to 3.7% for LPNs. Nationally the percentage of RNs who are male is 5.4%. These percentages do not represent the population of males in the state, or nationally. With the increased opportunity for women in other professions, there is an urgent need to market nursing as a career to men and minorities.

In 2000, South Carolina's population was 32.8% non-white. The LPN workforce reflects this diversity with 30% of LPNs being non-white. The RN workforce is 12.0% non-white. Nationally, 12.3 % of the RN workforce is non-white and 27% of the LPN workforce is non-white. The lack of gender and racial diversity in nurses in SC is a serious problem for the RN workforce and aggressive strategies must be employed to improve diversity.

**Table 4: SC RN and LPN Race and Gender, 1990-2000**

<b>Race/Gender</b>	<b>RN 1990</b>	<b>RN 2000</b>	<b>LPN 1990</b>	<b>LPN 2000</b>
Percent Nonwhite	9.0%	12.0%	30.0%	30.0%
Percent Male	3.2%	5.9%	2.1%	3.7%

## ♦ Educational Preparation of RNs

Approximately half of the RNs employed in SC hold an Associate Degree in Nursing (ADN) as the highest degree. The state's 13 technical college ADN programs graduate twice as many students each year as the state's 9 BSN programs. Only 6.7% of the workforce hold graduate degrees in nursing. Tables 5 and 6 provide comparisons of the state and national percentages of RNs by highest educational level. While the percentage of ADN-prepared nurses significantly exceeds the national average, the numbers of BSN and MSN-prepared nurses is far below the national average.

**Table 5: Highest Educational Level of RNs in SC, 1990-2000**

Highest Degree	1990 Number	1990 Percent	2000 Number	2000 Percent	% change 1990-2000
<b>Total</b>	18,878	100%	29,741	100%	58%
<b>Doctorate</b>	115	0.6%	189	0.6%	64%
<b>Master's Degree</b>	915	4.8%	1,808	6.1%	98%
<b>Bachelor's Degree</b>	4,662	24.7%	8,622	29.0%	85%
<b>Associate Degree</b>	7,469	39.6%	14,517	48.8%	94%
<b>Diploma</b>	5,716	30.3%	4,599	15.5%	-20%

**Table 6: Percent of Employed RNs in SC and Nationally by Highest Educational Level, 1999**

Highest Degree	South Carolina %	National %
<b>Master's /Doctorate</b>	6.7%	10.4%
<b>Bachelor's Degree</b>	28.6%	33.2%
<b>Associate Degree</b>	48.1%	36.9%
<b>Diploma</b>	16.4%	19.3%

Source: SC data from 1999 Nurse Licensure Database; National data from National Sample Survey of Registered Nurses, HRSA

In 1996, the National Advisory Council on Nurse Education and Practice (NACNEP) in their *Report to the Secretary of the Department of Health and Human Services on the Basic Nursing Workforce* recommended that federal policies be adopted to achieve a basic nurse workforce in which at least two-thirds (66%) of practicing nurses have a BSN or higher degree by the year 2010. NACNEP suggests that the baccalaureate-prepared nurse best fulfills the requirements of the complexity of the future health care delivery system and is positioned to seek advanced education.

## ♦ South Carolina Nursing Education Programs

The state has 22 approved programs leading to registered nurse licensure and 23 approved programs leading to practical nurse licensure. The location of these schools is found in Appendix E. Of the 22 RN programs, 13 are Associate Degree in Nursing (ADN) programs. Eleven ADN programs are located in the state's technical colleges and two are located on USC Regional Campuses. The ADN programs are a maximum of 68 credit hours in length.

There are 9 Bachelor of Science Degree in Nursing (BSN) programs. Two programs are located in private institutions and 7 in public institutions. MUSC College of Nursing offers a satellite program on the campus of Francis Marion University. BSN programs are a maximum of 128 credit hours in length. Each of the BSN programs admits RNs interested in pursuing BSN and higher degrees. While the RN students do not add to the overall supply of nurses, the additional educational preparation provides the nurse with needed competencies to assume positions in community-based practice, complex health care environments, and to obtain graduate education for positions in nursing education, nursing administration, and advanced practice nursing. Given the current age of nurses who hold graduate degrees, the state must support the educational mobility of the current workforce to meet future requirements for faculty and nurse administrators.

Three universities offer Master's in Nursing degrees; one (USC-Columbia) offers a professional doctorate (ND) and two programs (USC-Columbia and MUSC) offer PhD in Nursing programs.

Of the 23 practical nursing programs, 9 are located in career and technology centers, 1 is located in a hospital setting, and 13 are located in technical colleges. The programs in technical colleges range in credit hours from 44-52 credits, while the career and technology center programs typically range from 1324 to 1970 clock hours.

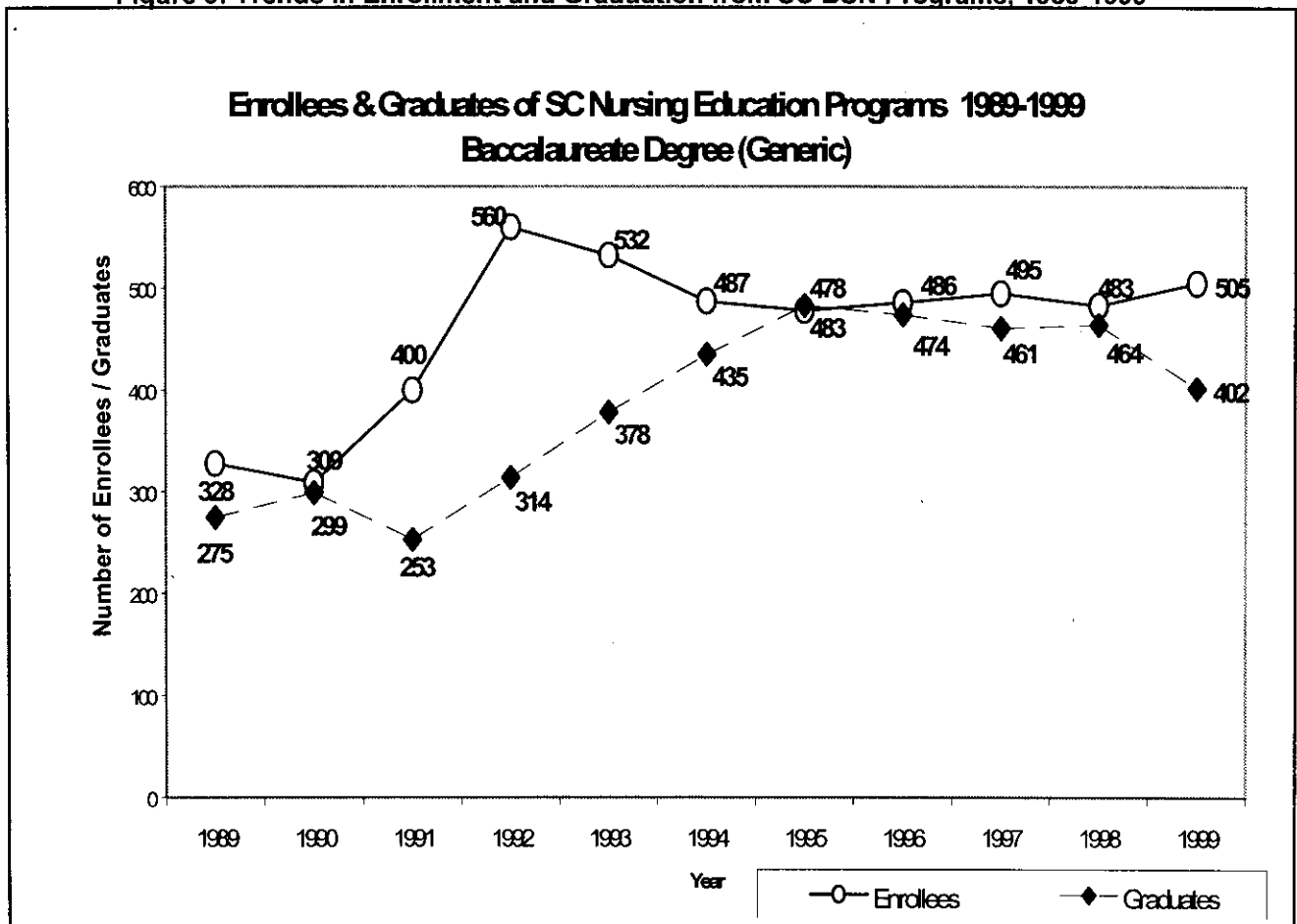
The SCCIC project has completed work on a comprehensive statewide articulation plan that will facilitate educational mobility across all levels of nursing programs. The articulation plan is expected to be approved by the SC Commission on Higher Education by November 2001.

## Enrollees and Graduates of SC Nursing Education Programs

### Baccalaureate Degree Nursing Programs

South Carolina BSN programs leading to initial licensure experienced a peak in enrollment in 1992 that declined yearly through 1995 and has remained relatively constant through 1999. An average of 95% of students admitted to the upper division (junior year) graduate from the program. The number of graduates from BSN programs averages 470 per year. Approximately 70-74% of the graduates become licensed and employed in the state after graduation. In 1998, 74.2 percent of the new 1997 graduates from BSN programs were licensed in South Carolina.

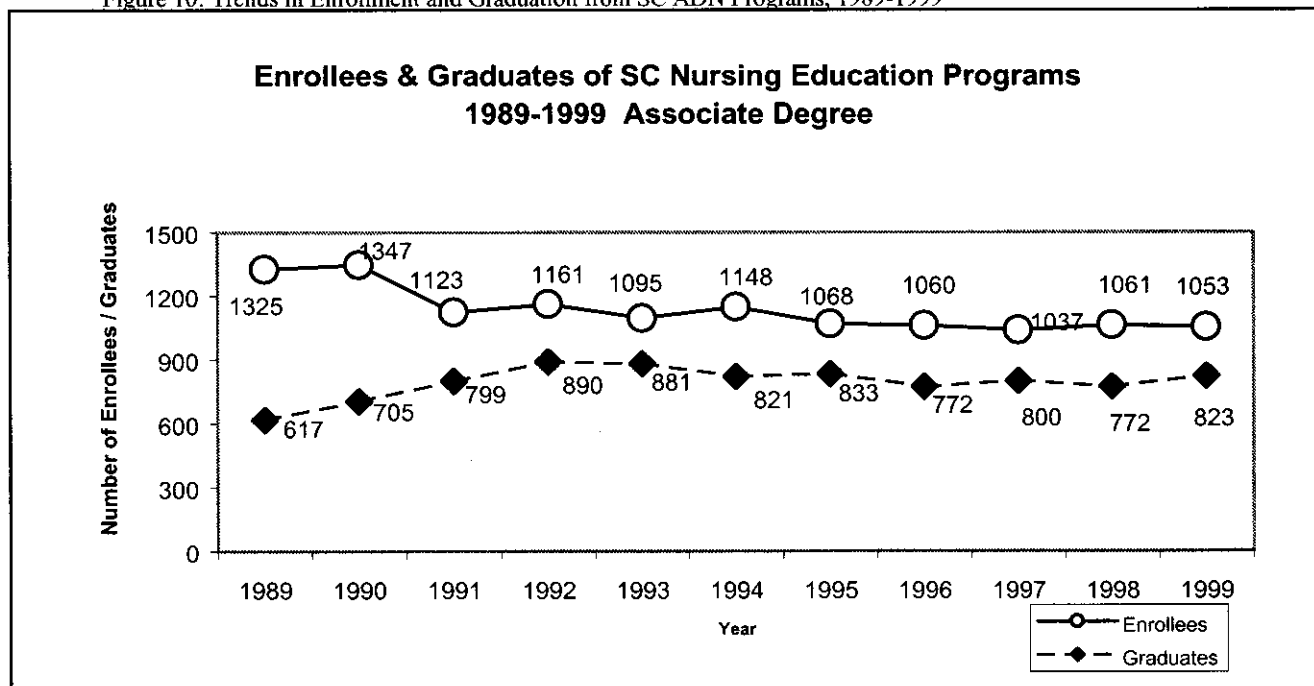
Figure 9: Trends in Enrollment and Graduation from SC BSN Programs, 1989-1999



### Associate Degree Nursing Programs

Enrollments in ADN programs peaked in response to a nursing shortage in 1989-90. The number of enrollees and graduates declined in 1991 and has remained constant since 1992. Approximately 70% of students initially enrolled in ADN programs graduate. ADN programs graduate about 800 students per year. Approximately 87% of the graduates from ADN programs become licensed and employed in the state after graduation.

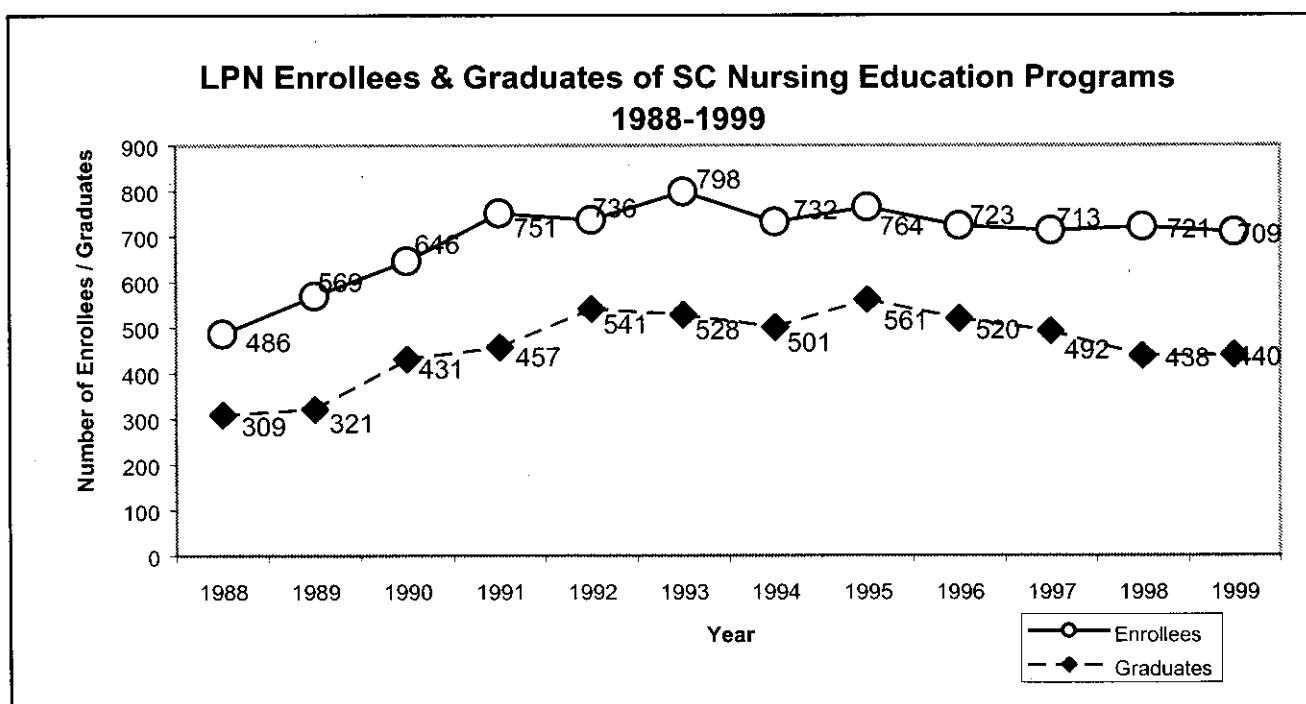
Figure 10: Trends in Enrollment and Graduation from SC ADN Programs, 1989-1999



### Practical Nursing Programs

Enrollment in practical nursing programs peaked in 1993 and has since stabilized at approximately 700 graduates per year. About 60 % of the students initially enrolled graduate from the program. The number of graduates has declined gradually over the last 5 years and is currently about 450 per year.

Figure 11: Trends in Enrollment and Graduation from SC Practical Nurse Programs, 1989-1999



### ◆ **Current Enrollment in SC Nursing Programs**

Enrollments in SC nursing education programs are based on the availability of qualified faculty and clinical resources, campus resources and budget allocations, and on faculty/student ratios imposed by the *Laws Governing Nursing in SC* (Reg.91-29 and 91-30). A SCCIC survey of SC nursing programs conducted in April 2001 indicated that there are 529 slots per year for BSN students, 1315 slots per year for ADN students and 883 slots per year for PN students. Four of the 9 BSN programs reported a waiting list for admission to the upper division (junior year). Seven of the 13 ADN programs reported waiting lists of qualified students for admission to the program. Technical college admissions are made on a first qualified, first admitted basis. Five of the 23 PN programs reported waiting lists for program admission. Most PN programs with waiting lists were located in technical colleges. Student pipeline information is difficult to track due to different methods of coding students across campuses.

While there are 1844 maximum slots per year in all RN programs, an average of 1200 students per year graduate and become licensed in SC. The attrition of students from nursing programs is due to several factors, some of which are related to the academic rigor required to complete the program, financial and family responsibilities, and work commitments. A high percentage of ADN students are over age 30 when admitted and go to school part-time in addition to working and supporting a family. Additional financial support, scholarships, and/or loan forgiveness programs may assist many of these students to devote more time to full-time study, and thus expedite the graduation rate from programs and place more licensed nurses into the labor pool.

In addition to generic students, BSN programs in the state admit RNs with associate degree and diploma education who desire to obtain BSN and higher degrees. There are approximately 300 RN students currently enrolled in SC baccalaureate nursing programs. The majority of these students are enrolled part time. The number of LPNs enrolled in associate degree programs is approximately 100 per year. The number of LPNs seeking RN licensure has declined steadily over the past 10 years. One strategy to boost the number of RNs in the state would be to support LPNs returning to school to become RNs.

### ◆ **Faculty teaching in RN and LPN Programs in SC**

Survey results indicated that in Fall 2000 there were 374 full-time faculty and 187 part-time faculty teaching in all levels of SC nursing education programs. As of fall 2000, there were 30 current vacant positions and 60 faculty that anticipated retiring within five years. In addition, schools reported 18 new FTE positions were being requested to expand enrollments in some programs. Conceivably, 100 nurse faculty positions will need to be filled or replaced within the next few years. These numbers may be conservative, as 68% of PhD-prepared faculty and 38% of master's-prepared faculty are over age 55.

Faculty recruitment and faculty development are two important issues that must be addressed to maintain the current capacity of existing nursing education programs and to plan for any increases in enrollment that may be needed in the future to compensate for fewer nurses being recruited from out-of-state. The number of qualified faculty in programs of nursing significantly affects the number of students that can be accepted into the programs. *The Laws Governing Nursing in SC* require faculty in registered nurse programs to be master's or doctorally-prepared and faculty in practical nursing programs to be BSN prepared. The Board of Nursing regulations governing the approval of nursing education programs (Reg. 91-29, 91-30) also require that a faculty to student ratio of 1:8 be maintained in the acute care clinical area. Educational programs must be able to guarantee that sufficient numbers of clinical faculty are available to meet these guidelines for state approval of their programs.

## The Demand for Nurses as Reflected in the Health Care Market

## ◆ South Carolina's Population Profile

- The US Bureau of the Census predicts that the total population of SC is projected to grow 17% by 2020. This is in addition to 24% growth between 1980 and 2000. Additional health care workers will be needed to serve the growing population. The age 65 population is projected to grow 72% by 2020. This is in addition to the 66% growth between 1980-2000.
- SC ranks above the national average in the rate of deaths due to cancer (40/50), heart disease (40/50), firearms (35/50) and reported AIDS cases (41/50).
- SC ranks 42/50 in the health care expenditures per capita (1994), 29/50 in hospital beds per 100,000 population, and 42/50 in the number of nursing home beds per 100,000 population over age 65.

Source: HRSA, National Center for Health Workforce Information and Analysis, 2000 (URL: <http://www.bhpr.hrsa.gov/healthworkforce/profiles/>)

Each of these trends represents an increased demand for health care services, and nursing services in particular. An aging population with multiple complex health problems will require increased nursing intervention whether it is in the hospital, long term care facility or the home setting. Without an adequate workforce, access to health care will be seriously curtailed. Health care facilities cannot operate without qualified staff to care for patients.

### ◆ Major Employers in South Carolina

The hospital setting remains the principal employer for RNs in South Carolina. The following table shows a comparison of the distribution of RNs by setting in 1990 and 2000. In 2000, physicians offices ranked second and nursing homes ranked third in the number of employed RNs. There was a decline in the number of RNs employed in the health department.

**Table 7: Major Employers of RNs in South Carolina, 1990 & 2000**

	1990			2000		
	No.	Pct.	Rank	No.	Pct.	Rank
<b>TOTAL</b>	18,878	100%		29,741	100.0%	
Hospital	12,434	65.9%	1	18,801	63.2%	1
Health Department	1,228	6.5%	2	1,451	4.9%	4
Physician's Office	1,181	6.3%	3	2,095	7.0%	2
Nursing Home	992	5.3%	4	1,500	5.0%	3
Other Community Health	524	2.8%	5	1,279	4.3%	5
School of Nursing	460	2.4%	6	538	1.8%	8
Other Office	388	2.1%	7	1,013	3.4%	6
Occupational Health	345	1.8%	8	298	1.0%	9
School Nurse	348	1.8%	8	707	2.4%	7
All Other**	978	5.2%	N/A	2,059	6.9%	N/A

\*Percents may not total 100% due to rounding.

\*\*Includes: Self-Employed, Private Duty, Supplemental Staffing Agency, Hospice, Freestanding Outpatient Clinic, Insurance companies, Other

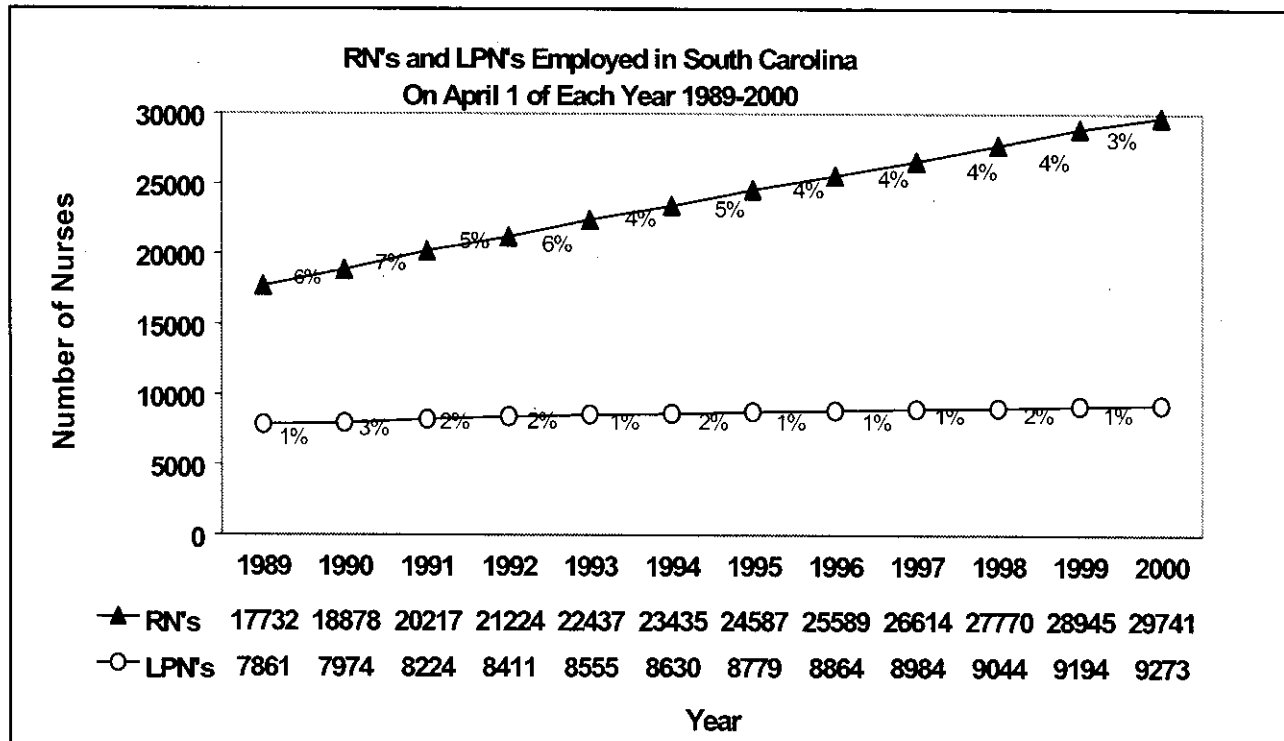
Table 8: Major Employers of LPNs in South Carolina, 1990 &amp; 2000

	1990			2000		
	No.	Pct.	Rank	No.	Pct.	Rank
<b>TOTAL</b>	7,861	100.0%		9,194	100.0%	
Hospital	3,793	47.6%	1	2,619	28.2%	2
Nursing Home	1,862	23.4%	2	2,950	31.8%	1
Physician's Office	996	12.5%	3	1,803	19.4%	3
Other Office	189	2.4%	4	264	2.8%	5
Occupational Health	99	1.2%	5	92	1.0%	7
School Nurse	91	1.1%	6	187	2.0%	6
Other Community Health	76	1.0%	7	275	3.0%	4
Health Department	31	0.4%	8	59	0.6%	8
School of Nursing	2	0.0%	9	4	0.0%	9
All Other**	835	10.5%	N/A	1,020	11.0%	N/A
*Percents may not total 100% due to rounding.						
**Includes: Self-Employed, Private Duty, Supplemental Staffing Agency, Hospice, Freestanding Outpatient Clinic, Insurance companies, Other						

The major setting of practice for LPNs has changed dramatically from 1990-2000. Nursing homes replaced hospitals as the major employer of LPNs. Other major employers of LPNs include physicians offices and community settings.

#### ◆ Hospitals as A Major Employer of Nurses

Figure 12: Trends in Nurses Employed in SC Hospitals, 1989-2000



### Hospital Vacancy and Turnover Rates

Registered Nurses constitute the largest single profession working in hospitals in SC and nationally. The success of hospitals in recruiting and retaining nurses varies widely across South Carolina. Vacancy rates are difficult to track due to fluctuations across time and the variation among employment settings. The SCCIC project gathered vacancy and turnover rate information in 1997 from employers. Turnover rates found at that time are summarized in Table 9. The data show that, for those hospitals reporting, turnover rates for both RNs and LPNs range from a low of 1% to a high of 89% for RNs and 86% for LPNs.

**Table 9: Turnover Rates SC Hospitals, 1997**

	<b>RN</b>	<b>LPN</b>
Total	22.6%	18.3%
Lowest	1.0%	0.0%
Highest	89.3%	86.5%
Median	24.5%	17.9%

Based on the average reported state turnover rate of 24.5% for RNs, a facility could conceivably hire enough nurses to replace their entire RN workforce every four years. Both state and national data collected on why nurses leave a position indicate that high turnover rates are generally linked to high nurse to patient ratios, inadequate support systems, mandatory overtime, lack of respect and autonomy in practice, and compensation issues. Data from the Office of Research and Statistics indicate that in the years from 1994 to 1999 an average of 2000 RNs left the hospital setting each year (Appendix G, Table 2). Over this five-year period 10,000 RNs moved to other health care settings to practice nursing.

The work environment plays a significant part in both the recruitment of individuals into the profession and the retention of licensees in the workforce. As the demographics of the profession and the population change there will need to be serious attention paid to creating work environments that attract and retain nurses over time. The South Carolina Hospital Association has convened a task force to devise strategies to impact vacancy and turnover rates in the state's acute care facilities.

As previously stated, hospitals rely heavily on out-of-state recruitment and new graduate nurses to fill vacancies. As evidenced by Figure 4 (page 7), there is an inverse correlation between graduation rates from SC programs and the number of nurses recruited from out-of-state. As the numbers of graduates from SC nursing education programs decreases, the numbers of nurses recruited from out-of-state increases. In 1989-90 during the last nursing shortage, out-of-state recruitment declined by one-third over a three-year period. It is safe to expect that as the shortage of nurses intensifies throughout the nation that out-of-state recruitment will once again become difficult and competitive.

A 30% decrease in the number of nurses recruited from out-of-state coupled with the retirement of a large cohort of the state's current workforce creates a serious shortage of nurses for the future.



## ◆ Trends in Utilization of Health Care Services

### **Inpatient Hospitalization**

The demand for nurses in the hospital setting is driven by a variety of market forces. Utilization of hospitals for inpatient services has declined over the past years while the use of the emergency room has increased. Though the average length of stay in SC hospitals has decreased from 6.4 days in 1988 to 5.1 days in 1999, the rate of hire for RNs has increased. Several factors play a major role in the increase in the number of nurses hired. These factors include the increase in the severity of illness of the patient, the increased discharge and patient turnover rates, and the increase in outpatient services. Hospitals have recently been experiencing higher than usual occupancy rates that also drive the demand for nursing services.

According to the SC Joint Annual Report of Hospitals, the rate of hospitalization also increased from 105 per 1,000 population to 114 per 1,000 population. This means that the number of people receiving inpatient hospital care is increasing faster than the growth in the population. These hospital discharge figures do not include newborns.

### **Emergency Department Visits**

More South Carolinians visited the emergency room in 1999 than in the past four years. Both the number of emergency department visits and the rate per 1,000 population have increased annually since 1996 (SC Joint Annual Report of Hospitals, 1999). This increase in utilization means that more nurses are required to care for the increasing case loads in the emergency room departments. The rate of increase in emergency rooms visits (22.3%) out-stripped the rate of increase in the general population (3.9%) for 1996-1999. At the current rate, there will be an emergency room visit for every person in South Carolina over the next three to four years.

### **Long Term Care**

According to a report from the American Association of Retired Persons (2000), SC ranked 42/50 in the number of nursing home beds per 100,000 population over age 65 (37.9 beds for SC and 52.7 beds for US). The SC Certificate of Need process caps the number of nursing home beds to 39 per 100,000. With the anticipated 72% growth in the number of age 65+ in SC to the year 2020, it is expected that the long-term care industry will experience critical shortages of nursing staff at all educational levels. Nurses are the major providers of care along with nursing assistants in the long-term care setting.

The American Health Care Association (ACHA, 2001) has released a report stating that an additional 60,000 newly licensed nurses are needed by January 1, 2002 to optimally staff the nation's skilled nursing facilities. Studies conducted by the association indicate that "on average, quality of care is seriously impaired below certain minimum ratios of 2 hours per resident per day for nurse aides, 45 minutes per resident per day for licensed nurses (RN or LPN), and 12 minutes per resident per day for RNs". The association is lobbying Congress to impose mandatory staffing ratios (Reuter's Medical News, Feb. 2001).

### **Home Health Care**

In 1997, the average number of home health visits per person in SC was 45.7 (SCB&CB, ORS, 1997). The number of patients served was 88,711, an increase of 60 percent from 1993. The number of home health visits has increased by 68 percent from 1993 to 1997 (2,417,241 to 4,055,843). Some of the reasons for the increase in demand for home health services include prospective payment systems which encourage patients to reduce the length of stay by using home health services, changes in employee benefit plans to include incentives for using home health services, and increase in physician acceptance of home health services.

The US Bureau of Labor Statistics reports that there were nearly 3,900 people employed in home health care in SC in 1998, 3% of SC's health services sector workforce. This is significantly lower than the national average of 6% employment in home health care among health services workers. South Carolina ranked 44/50 among states in percent of health services workers employed in home health care. Home health care per capita employment in SC rose 310% from 1989 to 1998, while the national home health care per capita growth rate rose 149%.

### **Nurse to Population Ratios – Current and Projected**

Overall, the ratio of RNs to total population and to the 65+ population has increased annually since 1989. In 1996, the national RN to population ratio was 798 per 100,000 (HRSA, 2000) while SC's ratio was 684 per 100,000 (ORS, 1996). In order for SC to meet the 1996 national standard an additional 4,103 RNs would be needed in the workforce. Given that the RN to population ratio has substantially increased since 1996, the state would need to add significantly more than 4,100 nurses to the current supply to come up to the national standard.

The ratio of LPNs to total population increased slightly through 1995 and has remained constant through 1999. The ratio of LPNs to population 65+ has been decreasing since 1989 caused by the fact that the population 65+ has grown faster than the supply of LPNs, 22% vs. 17%, for the same period. Table 10 shows the growth in the SC nurse to population ratios for the period 1989-1999.

**Table 10: SC Nurse to Population Ratio Per 100,000 Population 1989-1999**

<b>Ratio</b>	<b>1989</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
<b>Total</b>											
RN/Pop	513	540	568	589	617	639	665	684	702	723	745
LPN/Pop	227	228	231	234	235	235	237	237	237	236	237
<b>65+ Pop</b>											
RN/Pop	4582	4758	4973	5091	5258	5384	5543	5656	5773	5940	6114
LPN/Pop	2031	2010	2023	2018	2005	1983	1979	1959	1949	1935	1942

Table 11 shows that the projected supply of RNs to population ratio will continue to increase through the year 2015. As long as South Carolina remains successful at recruiting nurses from other states and maintains the number of new graduates from the state's educational programs, the ratio of nurses to population will increase, but at a much slower rate than is needed to keep the state at the national average. If either or both of these recruitment efforts falter, this trend could be quickly reversed causing a major crisis in the supply of nurses.

**Table 11: Projected SC Nurse to Population Ratio Per 100,000 Population, 2000-2015**

<b>Ratio</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>
<b>Total</b>				
RN/Pop	793	957	1058	1112
<b>65+ Pop</b>				
RN/Pop	6401	7466	7619	6979

### ◆ Projection Of SC Nurse Supply Adjusting For Age and Degree

The source of the data used for the SC Supply Projection Model to project the number of RNs is based on information from the SC Nurse Licensure database. The model projects the supply of RNs based on historical trends to the year 2015.

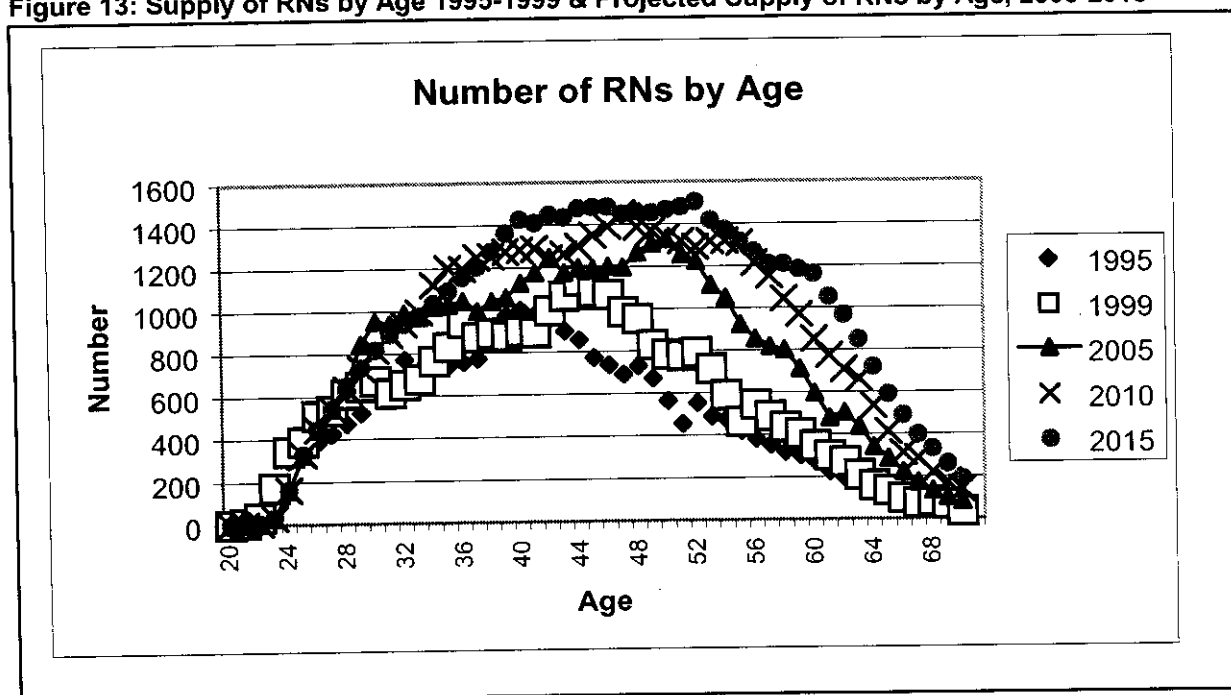
The distribution of nurses by age and by degree category for the years 1997 through 1999 was used to generate the average percentage of losses for nurses by age and degree category. The number of new nurses gained from South Carolina educational programs and the number of new nurses recruited from out-of-state and those re-entering the workforce during 1997-1999 was used to estimate the percentage of gains for nurses by age and degree category. The three year (1997-1999) average number of nurses by age and degree for each category was used to estimate the total number of nurses both lost and gained to the profession. Based on this model, it is assumed that graduation rates and out-of-state recruitment rates will remain relatively constant into the future. Should either assumption prove incorrect, the projections do not hold true.

This Supply Projection Model assumes that:

- The number of new nurses from South Carolina educational programs will not significantly increase or decrease over this time period. A review of the existing data for nursing education programs demonstrates that these assumptions have held true from 1992 through 1999 in South Carolina. The model does not factor in the impact of a faculty shortage to maintain current enrollments in SC programs, or adequate financial resources for nursing education.
- The number of new nurses recruited from out-of-state will be similar by age and degree category of those recruited over the past three years.
- The basic educational preparation for nurses will remain a two-year Associate Degree in Nursing, or four-year Bachelor of Science in Nursing degree.
- The supply of diploma nurses recruited from out-of-state will remain the same. This assumes that the number of diploma nurses available will remain the same.

The following chart shows the projection of RNs by age through the year 2015.

**Figure 13: Supply of RNs by Age 1995-1999 & Projected Supply of RNs by Age, 2000-2015**



The number of RNs who are 55 years of age and over will continue to increase both in numbers and as a percentage of the workforce. By 2015, 27.1% of the RN workforce will be 55 years of age and older as compared to 14.1% in 1999.

In 1999, 11% of RNs were under the age of 30. By the year 2015, only 6% of RNs will be under the age of 30. During this same period, the population over the age of 65 in the state is expected to grow by 47%. Consequently, the supply of RNs to care for the increasing elderly population will be increasing in age with a greater percentage approaching retirement age themselves.

The following chart projects the supply of RNs by degree and age through 2015.

Diploma, master's, and doctorally-prepared nurses with an average age of almost 54 will be the oldest degree categories of nurses in 2015. The degree category with the lowest average age will be the baccalaureate-prepared nurse with an average age of 44.

**Figure 14: Average Age of RNs by Degree 1992-1999, Projected Average Age of RNs by Degree 2000-2015**

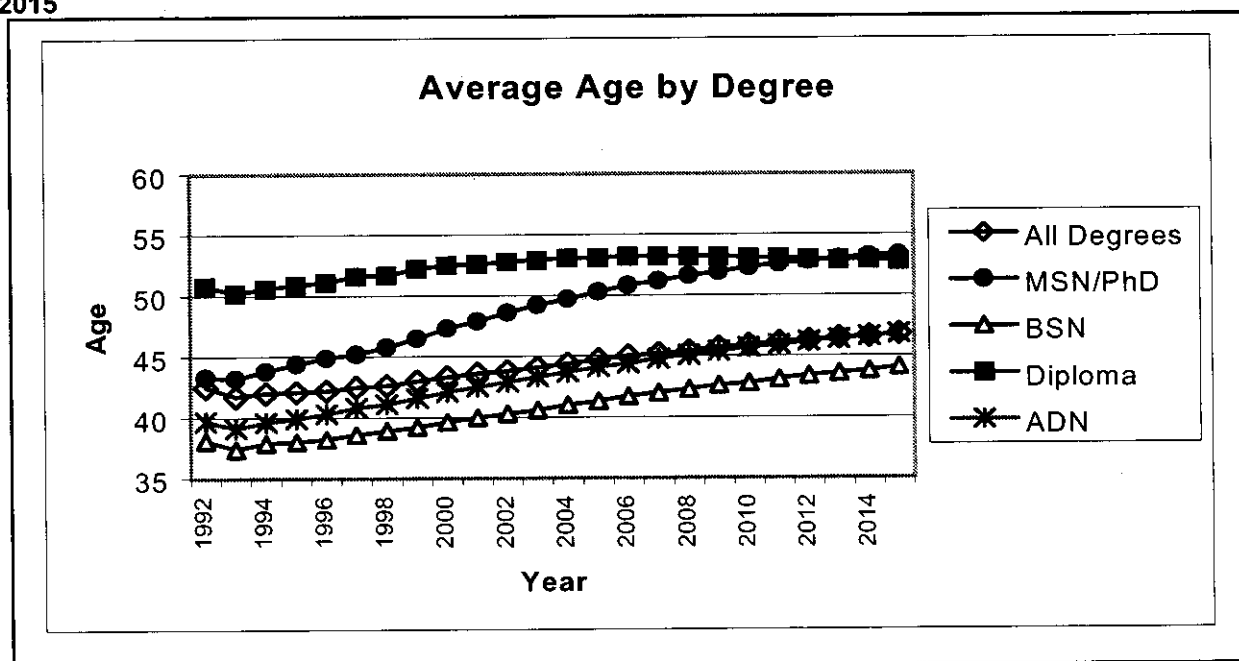


Table 12 shows the projected number of RNs in SC by degree, by age group from 2000 through 2015.

**Table 12: Projected Number of RNs in SC by Degree 2000, 2005, 2010 & 2015**

		2000	2005	2010	2015
All Degrees	All Ages	30,597	38,588	44,485	48,560
All Degrees	< 35	6,932	7,886	7,642	7,533
All Degrees	35 to 49	15,053	17,260	19,501	20,613
All Degrees	50 to 59	6,569	10,082	12,271	13,424
All Degrees	60+	2,043	3,360	5,071	6,990
MSN/PhD	All Ages	1,994	2,171	2,249	2,220
BSN	All Ages	8,927	11,884	14,150	15,824
Diploma	All Ages	4,686	4,768	4,673	4,556
ADN	All Ages	14,990	19,765	23,413	25,960

## Impact of Changes in Nurses Recruited from Out of State on Projected Supply

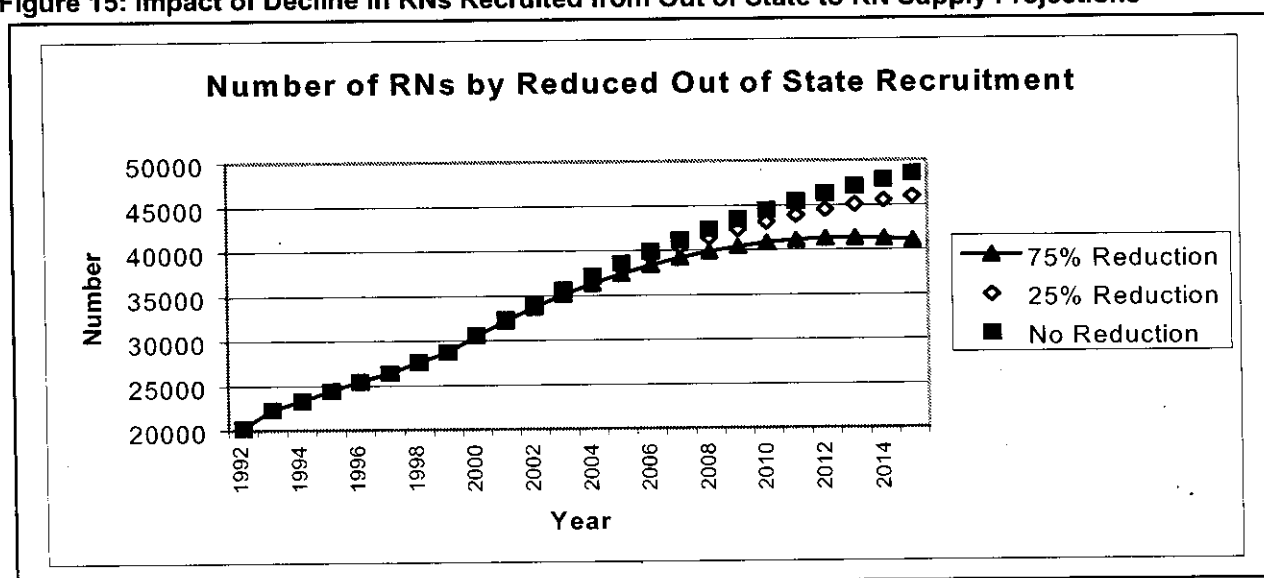
South Carolina relies on recruitment of RNs from out of state to replace nurses who leave employment. An average of 1,200 nurses per year has been recruited from out of state over the last four years. In 1999, the number increased to 1,684. Nursing shortages in other states may make it more difficult for South Carolina healthcare providers to recruit nurses from other states. What happens to the supply projection for registered nurses if the number of nurses recruited from out of state decreases by 25 percent or by 75 percent?

A factor was created to allow for the percentage change in the out-of-state nurses to vary over the course of the projection period. The number of nurses recruited from out of state was reduced over the period of 16 years (2000-2015) using a mathematical model based on an exponential function of year multiplied by a constant. The constant is based upon the number of years in the projection period and the desired percentage change in recruitment over the course of that period. Two different scenarios were run to determine what the impact of 25 percent and 75 percent reductions in nurses from out of state would have on the registered nurse supply projections.

### Reduction of Nurses Recruited from Out of State

Figure 15 shows the results of decreasing the number of nurses recruited from out of state. With no reduction in the number of nurses recruited from out of state, the projected supply of RNs for 2015 is 48,560. If the number of nurses recruited from out of state is decreased by 25%, the projected supply of RNs drops to 45,963 or by 2,597 nurses in 2015. If the number of nurses recruited from out of state drops by 75%, the projected supply of RNs drops to 41,075 or by 7,485 nurses in 2015.

Figure 15: Impact of Decline in RNs Recruited from Out of State to RN Supply Projections



### Impact of Changes in Nursing Recruitment from Out of State on Project Supply Projections 2000-2015 By Age and Degree

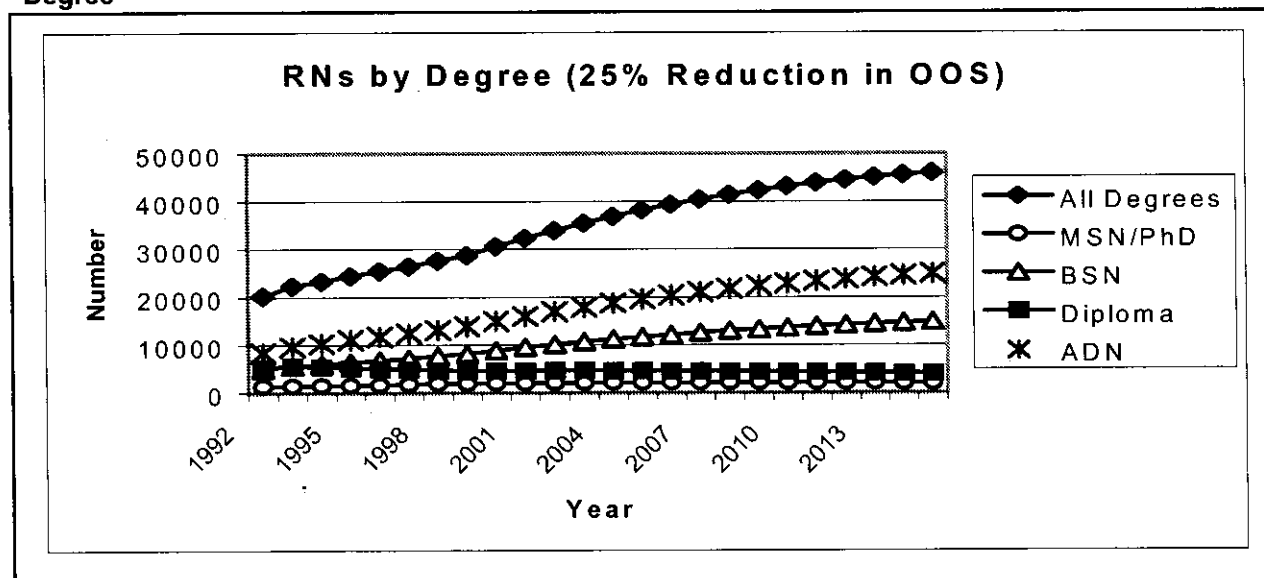
If out-of-state nursing recruitment declines, the reductions in the projected supply of RNs impact age categories differently. Historically, recruitment of out-of-state nurses has focused on nurses over the age of 35. Table 13 shows the potential loss of RNs by age category.

**Table 13: Projected Number of RNs Lost By 2015, By Age  
If Out of State Recruitment Declines by 25% and 75%**

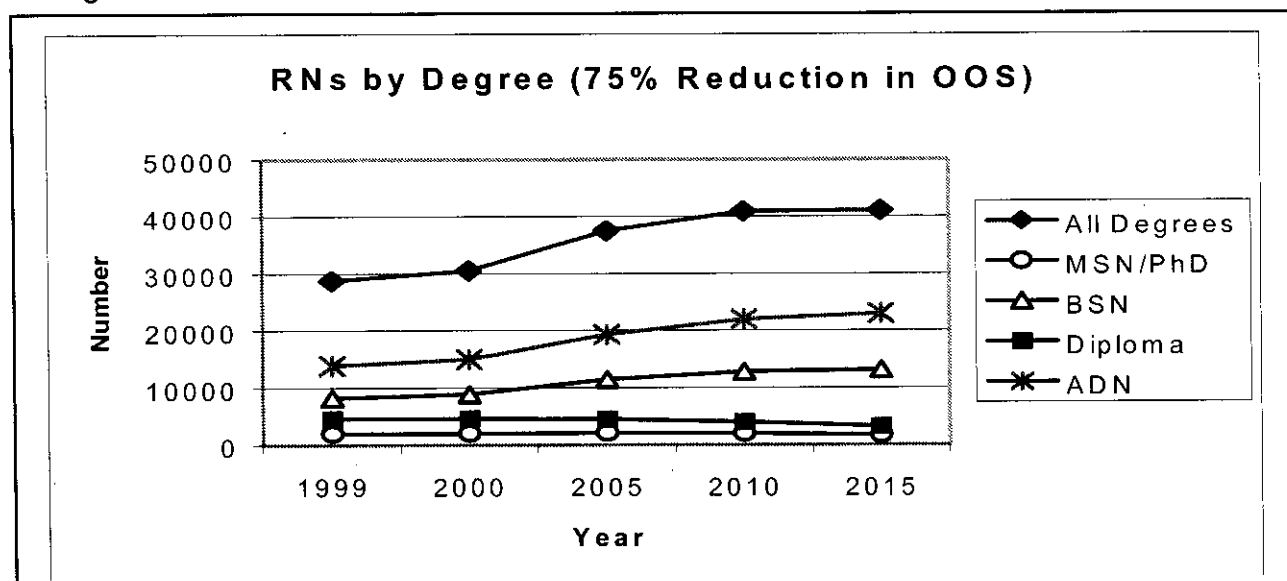
	25% Reduction	75% Reduction
All Ages	2597	7485
Under 35	484	1408
35 to 49	1246	3552
50 to 59	647	1891
60+	220	634

Figures 16 and 17 show the adjusted projections by degree for 25% and 75% reductions in RNs recruited from out of state.

**Figure 16: Impact of 25% Decline in RNs Recruited from Out of State to RN Supply Projections By Degree**



**Figure 17: Impact of 75% Decline in RNs Recruited from Out of State to RN Supply Projections By Degree**



While the reduction in the projected number of ADN graduates exceeds that for BSNs in both scenarios, the BSN number represents a greater percentage of total BSN nurses. The projected supply of BSNs would decrease by 6% under a 25% reduction and 17% under a 75% reduction while ADNs would decrease by 4% under a 25% reduction and 12% under a 75% reduction.

**Table 14: Projected Number of RNs Lost By 2015, By Degree, if out of State Nurse Recruitment Declines by 25% and 75%**

	25% Reduction	75% Reduction
MSN/Ph.D.	158	469
BSN	937	2680
Diploma	450	1300
ADN	1052	3036
Totals	2597	7485

In summary, South Carolina employers would be severely impacted by a decline in the rate of out of state recruitment unless there is an increase in the number of new graduates from the state's educational programs. Strategies are being devised across the nation to motivate nurses to remain employed within the state of graduation. These strategies include loan forgiveness programs, tax incentives and paid tuition for additional education. South Carolina must consider similar incentives in order to attract nurses from out of state.

### **Implications of the nursing shortage for South Carolina's future**

The current and projected nursing shortage has serious consequences for health care facilities, nursing education programs and citizens of SC. In rural counties where hospitals and nursing homes are the major employer for the county, inability to maintain an expected level of service will impact the economy as well as access to care.

The current nursing shortage has already substantially affected health care employers by **increasing costs for nursing services** due to paying premium prices for temporary staff and overtime pay. Human Resource experts estimate the average cost of filling a RN vacancy is \$30,000 to \$50,000, or one year's salary. When considering the hidden costs of lost productivity, the rate could be much higher. Given the fact that 10,000 SC nurses left hospital employment for other settings from 1994-1999, the financial impact to SC hospitals for replacing these nurses could be estimated to be between \$300 to \$500 million. Vacancies that are particularly difficult to fill include specialty areas such as critical care, emergency department, pediatrics, and surgery. SC hospitals have reported bed closures, delays in surgical procedures, and holding patients in emergency departments awaiting beds, all due to nursing shortages. Additionally, increased nurse to patient ratios lead to job dissatisfaction and burnout that further increases the vacancy and turnover rates.

Long-term care facilities are experiencing a rapid rise in patient acuity requiring an increase in the number of RNs and LPNs hired. As baby-boomers reach age 65, **demand for long-term care services** will increase as will the demand for nursing services. An aging nursing workforce in mental health and public health will require replacing close to 50% of the nursing staff in these specialties over the next 10-15 years.

Maintaining enrollments or expanding capacity in SC nursing education programs may be seriously jeopardized as unusually large numbers of master's and doctorally-prepared nurses retire from the workforce. There is an **urgent need for faculty development** to offset the anticipated losses.

Given the fact that the educational process to prepare nurses at the graduate level requires at least 5-7 years, this effort must be begun immediately. Stimulating enrollments and graduations in BSN programs is the first step to increasing the availability of future faculty.

Projections for the future supply of RNs and LPNs indicate that by 2015, close to **30% of the nursing workforce will be 55 years of age and less than 6% will be under age 30**. Immediate measures must be taken to reverse the trends in workforce aging by **recruiting younger populations** into nursing. Demand is expected to continue to exceed the supply over the next 15 years. Supply projections assume that out-of-state recruitment will remain constant. However, this is less likely as other states create greater incentives to retain licensees. SC's nursing workforce could be short by an additional 2600 RNs if out of state recruitment declines by 25% and 7500 RNs if out of state recruitment declines by 75%. Given the fact that the **state is already well below the national RN to population ratio by over 4000 RNs**, this projected deficit is sure to cause serious workforce problems for health care employers.

South Carolina has a relatively **short period of time to act** to reverse some of these negative trends. The state has several **valuable assets** such as a state of the art nursing licensure information system cooperatively managed by the Board of Nursing and the Office of Research and Statistics, the cooperation of employers to provide valuable workforce information, and the nursing leadership in nursing education and practice. The cooperative spirit among the major stakeholders in the state's health care system is a positive force in finding creative solutions to these complex problems.

### **Current Nursing Workforce Development Initiatives**

The South Carolina Colleagues in Caring Project: Regional Collaboratives for Nursing Workforce Development, funded in part by the Robert Wood Johnson Foundation, has engaged numerous partnerships across the state to develop short and long-term strategies to address current issues surrounding the nursing shortage. Major initiatives include:

- **Recruitment**
  - Aggressive recruitment campaign begun in elementary, middle and high schools in cooperation with School-to-Work Consortia across the state.
  - "South Carolina Future Nurses Kid's Club" established on World Wide Web to provide information on nursing careers to young people of all ages.
  - Age-appropriate materials prepared to recruit students into nursing careers.
  - Public Service Announcement produced and aired across state TV stations.
  - Speaker's Bureau formed to identify a cadre of nurses to make presentations in schools and career fairs.
- **Monitoring Supply and Demand (Workforce Modeling)**
  - Collected data through focus groups, key informant interviews, surveys, public hearings, literature review and licensure data analysis to determine current and future trends on the status of the nursing workforce.
  - Initiated a pilot study in cooperation with the SC Budget and Control Board Office of Research and Statistics and SC healthcare employers to collect quarterly data on vacancy rates, turnover and paid nursing hours across major employment settings to monitor the nursing labor market with greater precision.
  - Surveyed nursing education programs to determine current capacity for enrollments and to determine faculty vacancy and turnover rates.



### **Nursing Education**

- Convened nurse leaders from nursing education and practice, along with educational regulatory and oversight agencies, to design a comprehensive statewide articulation model that includes all levels of nursing education to provide a career path for nurses seeking advanced education (Expected approval, November 2001).
- Provided seed money for the design of web-based nursing courses for RNs obtaining BSN education to increase educational mobility for nurses living in rural communities, or who cannot take time away from work.
- Supported the development of seamless curricula to facilitate educational mobility from LPN-ADN-BSN.
- Created differentiated practice model to clarify mission/purpose and competencies of levels of nursing education.

### **Nursing Practice**

- Supported the development of transition programs to facilitate new graduate orientation to the job market.
- Conducted focus groups with employers to learn more about the current work environment for nurses and identify strategies for retention.
- Facilitated local partnerships between nursing education and practice to develop creative strategies for solving local workforce problems.

The SCCIC project grant will officially end on June 30, 2002. The complex problems resulting from the nursing shortage are only now beginning to be felt by the health care system. If prediction models hold true, the intensity of the problems will increase over the next 10-15 years. While there are many initiatives underway both within the state and nationally to ameliorate the potential crisis, there is still much to be accomplished. The solutions will require multiple partnerships and collaboration by all stakeholders.

Because the nursing shortage has the potential to affect the quality of life for all of the state's citizens, there is an important role for public policy in this area. The SCCIC project offers the following recommendations to the Governor and members of the General Assembly to assist in maintaining an adequate nursing workforce for the future.

## Recommendations

### 1. Maintain a permanent state-supported structure for nursing workforce planning and development.

The statewide and national shortage of nurses is predicted to worsen over the next 10 to 15 years and will require a concerted effort on the part of major stakeholders to develop innovative solutions to the complex issues that fuel the shortage of qualified health care providers. State funding must be dedicated to **guarantee a core of basic workforce planning services** supplemented by public/private partnerships to implement projects and initiatives. **Data collection** is critical to the ongoing monitoring and tracking of the workforce supply and demand as well as measuring success of recruitment and retention initiatives. **A permanent state-supported center for nursing workforce planning and development must:**

- have adequate financial resources to assure timely data collection and analysis,
- have adequate staff to develop and implement statewide programs for recruitment and retention and to conduct data collection and analysis,
- be led by a Board of Directors that is representative of the major stakeholders,
- be accountable to the Governor and the General Assembly for progress made in nursing workforce development.

### 2. Develop and implement a statewide plan for recruiting and retaining students in nursing education programs.

**Recruitment and retention initiatives** must be accelerated to offset the number of nurses expected to retire from the profession within the next 10 to 15 years. Aggressive recruitment targeted at elementary, middle, and high school students is essential to compete with other occupations and professions. Mentoring, shadowing, and summer enrichment programs are needed to make nursing more visible and attractive to young men and women of all cultures.

In addition to scholarships and loan programs already available to college students, funding for **Nurse Scholars Programs** should be developed. Both academic and needs-based scholarships are needed with amounts commensurate with the costs of nursing education programs in the state. **Loan forgiveness programs** for nurses who agree to work in underserved areas will serve as an incentive to retain nurses in the state. Incentives to attract men and minorities must be developed.

### 3. Maximize enrollments in SC nursing education programs to more closely meet the demand for nurses in the state.

Nurses prepared at all levels of nursing education are needed to meet the employer and consumer demand for nursing care. However, the state is far below the national average in the numbers of baccalaureate and higher degree-prepared nurses in the workforce while exceeding the national average in the number of associate degree prepared nurses. The state and higher education institutions must **direct adequate funding to nursing education programs** to allow the state to remain competitive regionally and nationally as we seek to produce an adequate nursing workforce. **A review of current state regulatory requirements and policy or position statements** that may impose unnecessary limitations or barriers to increasing the pool of students enrolled in nursing education programs should be conducted.

Funding should be allocated for **incentive grants** to stimulate creativity in nursing curricula that promote educational mobility, use of distance education technology, accelerated educational pathways, and cooperation among the state's nursing programs.

Incentives to increase the number of baccalaureate and higher degree prepared nurses in the workforce must be implemented. With the state's nursing programs projected to have over 100 faculty vacancies in the next three to five years due to faculty retirements, aggressive efforts directed at **faculty development** must be implemented such as scholarship incentives and loan forgiveness programs for nurses seeking graduate education who agree to teach in the state's public institutions.

#### 4. Develop programs that will facilitate workforce transition and retention.

While nursing education is essential to the development of an adequate workforce, the practice environment plays a critical role in the development of satisfying and professionally stimulating work places that retain nurses. One strategy that has proven successful in other states is to fund an **incentive grants** program to

- design successful workplace recruitment and retention programs,
- develop programs that reward excellence in practice,
- build leadership skills in the nursing workforce, and
- assist employers to achieve excellent nursing care environments reflective of national accreditation standards such as the Magnet Hospital status conferred through the American Nurses Credentialing Center.

To build a nursing workforce for the future, reward employers who support employees in educational mobility, recognize advanced education through differentiating practice and pay differentials.

As the single largest employer of nurses, the State of South Carolina must **evaluate the classification and compensation structure for the state's nursing workforce** at all levels to remain competitive in the recruitment and retention of nurses. Immediate action is required to maintain adequate nursing staff in state agencies that provide care to vulnerable populations and the state's public nursing education programs.

## Appendix A

### SCCIC Nursing Workforce Consortium

#### 1996-1999

Mary Adams  
SC Department of Mental Health

Dr. Jan Bellack  
Academic Affairs, MUSC

Dr. Marilyn Brady  
Trident Technical College

Stephanie Burgess  
USC Columbia, College of Nursing

Dr. Pam Cipriano  
MUSC

Dr. Rebecca Collins  
Clemson University

Linda Danielsen  
SC DHHS, Finance Commission

Peggy Deane  
SC Recruitment & Retention Center

Sandra DeWitt  
SC Practical Nurse Educators

Ann Dodd  
SC Dept of Disabilities & Special Needs

Lin Eaddy  
SC Rural Health Association

Robin Elliott  
SC Home Care Association

Gloria Fowler  
SC Organization of Nurse Executives

Dr. Latrell Fowler  
SC Nurses Association

Dennis Gibbs  
SC DHEC Health Licensing

James Hawkins  
Office of the Governor

Muriel Horton  
SC Council of Deans & Directors

Dr. Frankie Keels  
State Board for Tech & Comp Education

Dr. Lynn Kelley  
S.C. Commission on Higher Education

Janie King  
Appalachia Health District I

Dr. Marian Larisey  
MUSC at Francis Marion University

Ann Lee  
SC DHEC, Office of Nursing

Dr. Sylvia Lufkin  
McLeod Regional Medical Center

Dr. Barbara McCant  
SC League for Nursing

Judy McMaster  
SC Mental Health Consortium

Dr. Melodie Olson  
State Board of Nursing

Annette Parnell  
SC DHEC, Office of Nursing

Katheryn Patrick  
Long-Term Care Association

Nancy Reynolds  
State Department of Education

Dr. Sabra Slaughter  
SC AHEC

Peggy Thibault  
Association of Non-Profit Homes for the Aged

Linda Toomer  
SC Primary Care Association

Jac Upfield  
SC Dept of Mental Health

James Walker  
SC Hospital Association

Shirley Wooten-Steedley  
SC Federation of Licensed Practical Nurses

### **Functional Work Group Outcomes & Resources**

George Appenzeller  
SC DHHS, Quality Assurance

Madelon Ceman  
Midlands Technical College

Loretta Forlaw  
MUSC

Barbara Freese  
Lander University

Ann Jonason  
Columbia-Colleton Medical  
Center

Pi Johnson  
Baptist Medical Center

Maureen R. Keefe  
MUSC College of Nursing

Frankie Keels  
State Board for Technical &  
Comprehensive Education

R. Lynn Kelley  
SC Comm on Higher Educ

Barbara J. Kellogg  
State Board of Nursing

Joyce Kelly Lewis  
USC-Columbia, Social Work

Barbara Logan  
Clemson Univ Sch of Nursing

Sheri Michael  
Interim HealthCare of  
Greenville

Scott Moody  
Low Country AHEC

Carolyn Murdaugh  
USC-Columbia, Nursing

Mary Ann Parsons  
USC-Columbia, Nursing

Marie Segars  
McLeod Regional Medical Ctr

Lena Warner  
Greenville Hospital System

### **Functional Work Group Trends**

Judy Baskins  
Palmetto Senior Care

Rebecca Brewer  
Columbia-Colleton Medical  
Ctr

Kester Freeman  
Richland Memorial Hospital

Harvey Galloway  
Companion HealthCare

Donald Guffey  
DHEC, Div of HHS

Jim Hawkins  
Office of the Governor

Pi Johnson  
Baptist Medical Center

William Mahon  
SC Medical Association

Connie McCammond  
Interim HlthCare, Greenville

Lill Mood  
SC DHEC

Dr. Melodie Olson  
MUSC College of Nursing

Mary Pease  
SC Budget & Control Board

Sue Pletcher  
MUSC

Ken Shull  
SC Hospital Association

Darlyn Thomas  
SC DHHS

Sam Waldrep  
SC DHHS

Dr. Jeanne Ward  
Oconee Memorial Hospital

### **Functional Work Group Nursing Workforce Transition**

Jane Anderson  
Interim Healthcare, Columbia

Marian Bennett  
East Cooper Reg Med Ctr

Kathie Bolender  
Anderson Area Med Ctr

Bonnie Haynes  
SC DHEC

Gayle Heller  
Greenville Technical College

Carrie James  
SC State University

Dr. Jean Leuner  
MUSC College of Nursing

Barbara McCant  
Central Carolina Tech Coll

Carol McDougall  
MUSC

Maria Patton  
SC DHHS

Dr. Roseanne Pruitt  
Clemson University

Charyl Schroeder  
Interim HlthCare, Greenville

Shirley Steedley  
Summit Place of Columbia

Beth Stone  
Roper Hosp Sch of Prac Nsg

Shirley Timmons  
SC Recruit & Retention Ctr

Jaclynn Upfield  
SC Dept of Mental Health

Melanie Van Sant  
Midlands AHEC

Buddy Watkins  
SC Hlthcare Recruitment Ctr

**SCCIC Coordinating Council  
1999-Present**

Nancy Allen  
Department of Education, Vocational Education

Dr. Pat Bohannon  
USC, Spartanburg  
Mary Black School of Nursing

Dr. Marilyn Brady  
Trident Technical College

Dr. Pam Cipriano (1999-2000)  
Medical University of South Carolina

Beth Corley  
SC Budget & Control Board  
Office of Research & Statistics

Dr. Kathleen Crispin  
State Board of Nursing

Sandra DeWitt  
SC Practical Nurse Educators

Gayle Heller  
Greenville Technical College  
School of Nursing

Dr. Maureen Keefe  
Medical University of South Carolina  
College of Nursing

Dr. Frankie Keels Williams  
State Board for Technical &  
Comprehensive Education

Dr. Lynn Kelley  
SC Commission on Higher Education

Linda Koucky  
Lexington Medical Center

Ann Lee  
SC DHEC, Office of Nursing

Randy Lee  
SC Healthcare Association

Dr. Sylvia Lufkin  
McLeod Regional Medical Center

Mary Mazzola  
Companion Healthcare

Ruth Mustard  
WJB Dorn VA Medical Center

Dr. Mary Ann Parsons  
University of South Carolina  
College of Nursing

Celeste Phillips  
SC AHEC, MUSC

Marilyn Schaffner (2000-present)  
Medical University of South Carolina

Dr. Jeanne Ward  
Oconee Memorial Hospital

**Appendix B**  
**Regional Coordinators**  
**1996-1999**

Dr. Marilyn Brady Trident Technical College	Low Country Regional Consortium
Dr. Pam Cipriano MUSC Medical Center	Low Country Regional Consortium
Dr. Latrell Fowler Francis Marion University	Pee Dee Regional Consortium
Dr. Sylvia Lufkin McLeod Regional Medical Center	Pee Dee Regional Consortium
Stephanie Burgess USC College of Nursing	Midlands Regional Consortium
Ann Lee SC DHEC, Office of Nursing	Midlands Regional Consortium
Ms. Janie King Appalachia Health District I	Upstate Regional Consortium
Dr. Rebecca Collins Clemson University	Upstate Regional Consortium

## SC Colleagues in Caring Regional Cluster Facilitators

### Statewide Coordinator

Dr. Marilyn Brady  
Trident Technical College  
School of Nursing

### I. Low Country Facilitators

#### Charleston area:

Dr. Jean Leuner  
MUSC  
College of Nursing

Muriel Horton  
Trident Tec College  
School of Nursing

#### Beaufort area:

Dr. Patricia Slachta  
Technical College of the Lowcountry  
School of Nursing

#### Orangeburg area:

Dr. Ruth Johnson & Dr. Sylvia  
Whiting  
SC State University  
School of Nursing

### II. Midlands Facilitators

#### Columbia area:

Stephanie Burgess  
USC-Columbia  
College of Nursing

Dr. Barbara Westphal  
USC-Columbia  
College of Nursing

#### Sumter area:

Laurie Harden  
Central Carolina Tec College  
School of Nursing

#### Aiken area:

Dr. Trudy Groves  
USC-Aiken  
School of Nursing

### III. Pee Dee Facilitators

#### Florence area:

Mary Ellen Howell  
MUSC at Francis Marion  
School of Nursing

Jo Ann Price  
Pee Dee Health District

#### Grand Strand area:

Mary Harper  
Horry-Georgetown Technical College  
School of Nursing

### IV. Upstate Facilitators

#### Greenville area:

Dr. Barbara Logan and Dr. Janet Timms  
Clemson University School of Nursing

#### Spartanburg area:

Dr. Pat Bohannon  
USC-Spartanburg  
Mary Black School of Nursing

#### Greenwood area:

Dr. Carol Scales  
Lander University  
School of Nursing

Debbie Roberts  
Newberry County Hospital



## **Appendix C**

### **Task Force Members**

#### **Nursing Recruitment Task Force**

Melanie Baker  
Midlands AHEC

Teri Beres  
Lexington Technology Ctr, HOSA

Lisa Call  
Central Midlands School to Work Consortium

Mardi Long  
MUSC, College of Nursing

Celeste Phillips  
SC AHEC

Jeff Reece  
Springs Memorial Hospital

Nancy Reynolds  
Reynolds and Associates

Val Richardson  
Palmetto Baptist Medical Center

Parker Sparrow  
The Free Medical Clinic, Inc.

Judy Thompson  
South Carolina Nurses Association

Ann Vaughn  
Greenville Hospital System

Project Staff:  
Renatta Loquist  
Project Director

**Workforce Modeling Task Force**

Pam Cipriano (1999-2000)  
MUSC Medical Center

Beth Corley  
SC Budget & Control Board  
Office of Research and Statistics

Bonnie Haynes  
SC DHEC Office of Nursing

Debbie Herman  
Kershaw County Medical Center

Ann Jonason  
Columbia-Colleton Medical Center

Carolyn Murdaugh  
University of South Carolina  
College of Nursing

Susan Outen  
SC Organization of Nurse Executives

Mary Pease  
SC Budget and Control Board  
Office of Research and Statistics

BJ Roof  
Palmetto Baptist Medical Center

Jac Upfield  
SC Dept of Mental Health

Eleanor Vaughn  
Greenville Memorial Hospital

Jim Walker  
South Carolina Health Alliance

Project Staff:  
Renatta Loquist  
Project Director

**Educational Mobility Steering Committee**

Alice Adkins  
USC Columbia College of Nursing

Sharon Clyburn  
Applied Technology Education Center  
Practical Nursing Program

Vicki Green  
Edisto Health District

Muriel Horton  
Trident Technical College  
School of Nursing

Mary Ellen Howell  
MUSC at Francis Marion  
School of Nursing

Dr. Linda Johnston  
SCNA, Cabinet on Nursing Education

Dr. Marian Larisey  
Charleston Southern University  
School of Nursing

Ruth Mustard  
Dorn Veterans Hospital

Project Staff:  
Dr. Jan Bellack  
Project Co-Director

Dr. Marilyn Brady  
Project Coordinator

Renatta Loquist  
Project Director

## **Appendix D**

### **Matching Funds Partners**

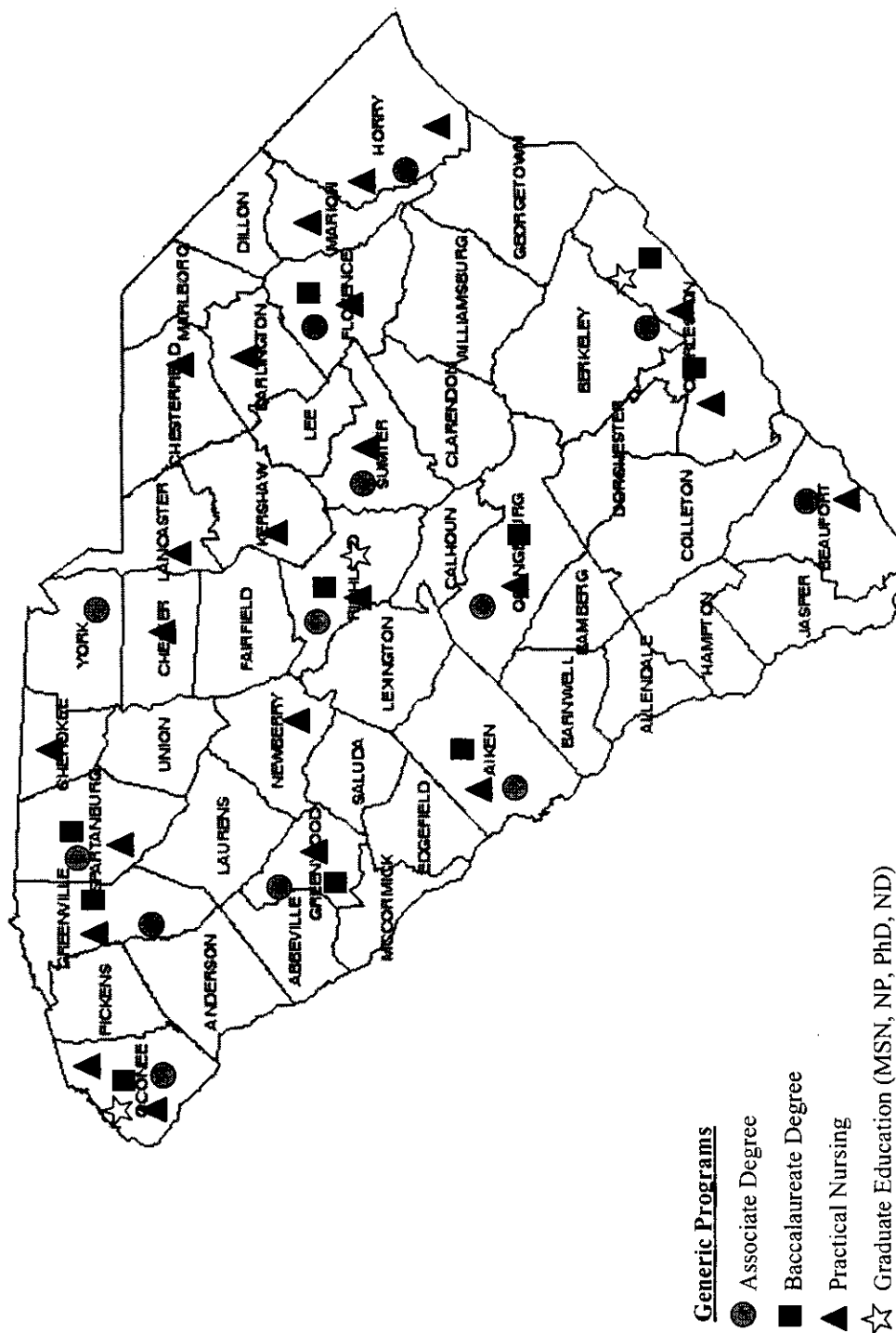
Charleston Southern University School of Nursing  
Chester County Hospital  
Clemson University School of Nursing  
Colleton Regional Medical Center  
Georgetown Memorial Hospital  
Interim Health Care, Columbia, SC  
Lander University  
Lexington Medical Center  
McLeod Regional Medical Center  
Medical University of South Carolina Hospital  
MUSC College of Nursing  
Oconee Memorial Hospital  
Palmetto Health Alliance  
Providence Hospital  
South Carolina Area Health Education Consortium  
South Carolina Council of Deans and Directors of SC Nursing Education Programs  
South Carolina Department of Health and Environmental Control  
South Carolina Department of Health & Human Services  
South Carolina Department of Mental Health  
South Carolina Healthcare Recruitment & Retention Center  
South Carolina League for Nursing  
South Carolina Nurses Association  
South Carolina Nurses Foundation  
South Carolina Practical Nurse Educators  
South Carolina Primary Care Association  
South Carolina State University School of Nursing  
State Board of Nursing for South Carolina  
State Board for Technical & Comprehensive Education  
Trident Technical College  
USC-Columbia College of Nursing  
USC-Aiken School of Nursing  
USC-Spartanburg School of Nursing

### **Other Contributory Partners**

American Classic Tea Company  
Fairfield Memorial Hospital  
South Carolina Budget & Control Board Office of Research & Statistics  
South Carolina Commission on Higher Education  
South Carolina Hospital Association  
South Carolina Medical Association

## Appendix E

# Nursing Program Geographic Location



## Appendix F

### South Carolina Nursing Education Programs

#### **Bachelor of Science Degree Programs**

Bob Jones University  
 Charleston Southern University  
 Clemson University  
 Lander University  
 Medical University of South Carolina  
 MUSC at Francis Marion University  
 South Carolina State University  
 University of South Carolina - Aiken  
 University of South Carolina - Columbia  
 University of South Carolina -  
     Spartanburg

#### **Associate Degree Programs**

Central Carolina Technical College  
 Florence-Darlington Technical College  
 Greenville Technical College  
 Horry-Georgetown Technical College  
 Midlands Technical College  
 Orangeburg-Calhoun Technical College  
 Piedmont Technical College  
 Technical College of the Lowcountry  
 Tri-County Technical College  
 Trident Technical College  
 University of South Carolina - Aiken  
 University of South Carolina -  
     Spartanburg  
 York Technical College

#### **Practical Nursing Programs**

Aiken Technical College  
 Applied Technology Education Campus  
 Central Carolina Technical College  
 Cherokee Sch of Practical Nsg  
 Chester School of Practical Nursing  
 Conway School of Practical Nursing  
 Florence-Darlington Technical College  
 Greenville Technical College  
 Hartsville Practical Nursing Program  
 Horry-Georgetown Technical College  
 Lancaster School of Practical Nursing  
 Marion County School of PN  
 Midlands Technical College  
 Newberry County Career Center  
 Northwestern Technical College  
 Oconee School of Practical Nursing  
 Orangeburg/Calhoun Technical College  
 Piedmont Technical College  
 Roper Hospital Sch of PN  
 Spartanburg Technical College  
 Technical College of the Lowcountry  
 Tri-County Technical College  
 Trident Technical College

#### **Master's of Science in Nursing**

Clemson University  
 Medical University of South Carolina  
 University of South Carolina - Columbia

#### **Doctoral Programs in Nursing**

Medical University of South Carolina -  
     PhD  
 University of South Carolina - Columbia -  
     ND, PhD

## Appendix G

### Additional Tables and Figures

The following data have been provided by the SC Budget and Control Board, Office of Research and Statistics. The data have been extracted from the SC Nurse Licensure database.

**Table 1: RNs by Age Replaced by Natural Growth from Out of State, Re-Activation & New Licensure, 1992, 1995, and 1998**

AGE	1992 % Lost	1992 % Replaced	1995 % Lost	1995 % Replaced	1998 % Lost	1998 % Replaced
Under 30	10%	10%+	9.4%	9.4%	9.5%	9.5%
30-39	7.5%	7.5%+	8.0%	8.0%	8.1%	8.1%
40-49	5.2%	5.2%+	5.4%	5.4%	5.4%	5.4%
50-54	5.3%	5.3%+	5.9%	5.9%	5.4%	5.4%
55-59	6.5%	6.5%+	7.6%	5.3%	7.9%	7.8%
60-64	11.0%	5.4%	14.3%	4.1%	13.8%	5.3%
65-69	21.8%	8.4%	25.2%	8.7%	24.1%	9.1%
70+	27.1%	7.7%	24.1%	6.1%	25.5%	7.6%

Note: A "+" at the end of a replacement percentage indicated that the losses were replaced and additional nurses added for that age group.

**Table 2: Trends in RNs Leaving SC Hospital Setting by Age Group**

Age Group	1994-1995	1995-1996	1996-1997	1997-1998	1998-1999
All Ages	2,156	2,099	2,160	2,171	2,320
Under 30	367	336	391	364	395
30-39	793	738	749	686	759
40-49	575	570	571	620	658
50-59	269	292	294	333	325
60+	152	163	155	168	183
Average Age	40	41	40	40	41

**Table 3: Trends in Nurses Recruited from Out of State to SC Hospitals by Degree, 1994-1999**

Degree Obtained	1994-1995	1995-1996	1996-1997	1997-1998	1998-1999
All Degrees	764	846	809	1,000	1,060
MSN/Ph.D.	35	46	46	49	23
BSN	301	309	320	381	419
Diploma	117	148	109	142	134
AND	311	343	334	427	484

Table 4: Distribution of Nurses in SC Hospitals by Highest Degree, 1990-1999

<b>Percent Distribution of Nurses in SC Hospitals By Highest Degree, 1990-1999</b>		
Degree	1990	1999
Total	100%	100%
AND	34%	44%
Diploma	20%	12%
BSN	20%	27%
MSN+	3%	4%
LPN	23%	13%

Table 5: Average Age of Nurses Graduating from South Carolina Educational Programs, Licensed in South Carolina

Average Age	1995	1996	1997	1998	1999
BSN	28	29	29	28	28
AND	33	33	33	33	32

Table 6: Trends in LPNs Becoming RNs in SC, 1990-1999

Year	Total # Active LPNs	# Becoming RNs 1 Yr later	Percent
1990	7981	195	2.4%
1991	8229	165	2.0%
1992	8416	161	1.9%
1993	8557	138	1.6%
1994	8635	144	1.7%
1995	8789	157	1.8%
1996	8898	137	1.5%
1997	8986	125	1.4%
1998	9044	119	1.3%
1999	9194	121	1.3%

Table 7: SC Nursing Faculty By Highest Degree, Average Age 1997 &amp; 1999

Highest Degree	1997 Number Of Nurses	1997 Percent	1997 Average Age	1999 Number Of Nurses	1999 Percent	1999 Average Age
Total	507	100.0%	48	551	100.0%	49
Dip	28	5.5%	57	24	4.4%	58
Assoc.	18	3.6%	49	16	2.9%	50
BSN	118	23.3%	45	143	26.0%	45
MSN	290	57.2%	48	308	55.9%	50
PHD	53	10.5%	52	60	10.9%	53



## References

- American Association of Colleges of Nursing. (June 2000). Amid Nursing Shortages, Schools Employ Strategies to Boost Enrollment. Retrieved June 2001 from <http://www.aacn.nche.edu/publications/issues>.
- American Association of Colleges of Nursing. (April 1999). Faculty Shortages Intensify Nation's Nursing Deficit. Retrieved June 2001 from <http://www.aacn.nche.edu/publications/issues/IB499WB.htm>.
- American Healthcare Association Health Services Research and Evaluation Department. (2001). Staffing of Nursing Services in Long Term Care: Present Issues & Prospects for the Future. Retrieved June 2001 from <http://www.ahca.org/news/staff-02-2001.htm>.
- American Hospital Association. (2000). *Reality ✓ III: Searching for Trust: America's Message to Hospitals & Health Systems*. Nationwide Focus Group Research findings, 1998-1999.
- American Nurses Association. (February 2001). White Paper on Strategies to Reverse the 'New' Nursing Shortage. Retrieved June 2001 from <http://nursingworld.org/pressrel/2001/sta0205.htm>.
- American Nurses Association. (2001). Federal Nursing Funding Priorities. (n.d.). Received via e-mail April 12, 2001.
- American Organization of Nurse Executives. (2000). Perspectives on the Nursing Shortage: A Blueprint for Action. Executive Summary, AONE, 2000.
- Assuring Quality Health Care for the United States: Supporting Nurse Education and Training*. (2001). Coalition of Nursing Organizations Consensus Document.
- Auerbach, D., Buerhaus, P., & Staiger, D. (2000). Associate Degree Graduates and the Rapidly Aging RN Workforce. *Nursing Economic\$,* Vol. 18, No. 4, 2000.
- Bailey, L., & Sundstrom, K. (1999). *South Carolina Employers and the Nursing Workforce: Demand & Supply Issues in Nursing*. Prepared for the SC Colleagues in Caring Project. January 20, 1999.
- Baumgarten, R. (2001). "New Nurse Staffing Report Shows Worsening Shortages". Press release from the Hospital & Healthsystem Association of Pennsylvania. Retrieved April 11, 2001 from [http://www.haponline.org/hhap/me\\_files/press/2001/Nurse%20Shortage.html](http://www.haponline.org/hhap/me_files/press/2001/Nurse%20Shortage.html).
- Bednash, G. (2000). The Decreasing Supply of Registered Nurses: Inevitable Future or Call to Action? *JAMA*, Vol. 283, No. 22, 2000.
- Buerhaus, P., Staiger, D., & Auerbach, D. (2000). Implications of an Aging Registered Nurse Workforce. *JAMA*, Vol. 283: 2948-2954, June 14, 2000.
- Buerhaus, P., & Staiger, D. (1997). Future of the Nurse Labor Market According to Health Executives in High Managed-Care Areas of the United States. *Image: Journal of Nursing Scholarship*, Vol. 29, No. 4, 1997.
- COR Best Practice Series. (2001). *Nurse Recruitment and Retention Strategies 2001*. COR Health LLC.
- Domrose, C. (2000). Staying Power: Keeping nurses isn't about showing them the money. *Nurseweek*. Retrieved from <http://www.nurseweek.com/news/features/00-07/retain.html>.
- Fagin, C. (2001). *When Care Becomes a Burden: Diminishing Access to Adequate Nursing*. Prepared for the Milbank Memorial Fund, 2001.

Health Resources & Services Administration, Bureau of Health Professions, Division of Nursing. (2001). The Registered Nurse Population: national sample survey of Registered Nurses—March 2000. Preliminary findings, February 2001.

Health Resources & Services Administration. (2001). *State Health Workforce Profiles*. National Center for Health Workforce Information and Analysis. Retrieved June 2001 from [www.bhpr.hrsa.gov/healthworkforce/profiles/](http://www.bhpr.hrsa.gov/healthworkforce/profiles/)

Henshaw, L. (2000). Seeing red from a shortage in white: A look at rising nursing pressures. Retrieved November 29, 2001 from <http://www.healthleaders.com>.

Mercer, W. (1999). Attracting and Retaining Registered Nurses—Survey Results. William M. Mercer, Inc., 1-5, August 1999.

Minnick, A. (2000). Retirement, the Nursing Workforce, and the Year 2005. *Nursing Outlook*, Vol. 48, No. 5, 211-17.

National Advisory Council on Nurse Education and Practice (2000). *A National Agenda for Nursing Workforce Racial/Ethnic Diversity*. April 2000

National Advisory Council on Nurse Education and Practice. (1996). Report to the Secretary of the DHHS on the Basic Registered Nurse Workforce.

National League for Nursing. (2000). *Commission on a Workforce for a Restructured Health Care System: Nursing Supply and Demand*. Retrieved June 1, 2000, from Web site: <http://www.nln.org/infrest3.htm>.

Needleman, J., Buerhaus, P., Mattke, S., Stewart, M., & Zelevinsky, K. (2001). Nurse Staffing and Patient Outcomes in Hospitals. Prepared for the US DHHS, Health Resources and Service Administration, February 29, 2001.

Nevidjon, B., & Erickson, J. (2001). The Nursing Shortage: Solutions for the Short and Long Term. *Online Journal of Issues in Nursing*, Vol. 6, No. 1. Retrieved January 31, 2001 from [http://www.nursingworld.org/ojin/topic14/tpc14\\_4.htm](http://www.nursingworld.org/ojin/topic14/tpc14_4.htm).

The Advisory Board Company. (2000). *Reversing the Flight of Talent: Nursing Retention in an Era of Gathering Shortage*. Washington, DC.

The Robert Wood Johnson Foundation. (2000). The US Nursing Workforce: Aging & Shrinking. *Advances*. Issue 4, 5-6.

Scott, J., Socjalski, J., & Aiken, L. (1999). Review of Magnet Hospital Research: Findings and Implications for Professional Nursing Practice. *JONA*, Vol. 29, No. 1, 1999.

The Association of Maryland Hospitals and Health Systems. (2000). Maryland Facing a Shortage of Nurses. *Health Matters*. Vol. 1, No. 4, 2000.

The 2000 National Healthcare Numbers. (2000). Retrieved June 2001 from <http://www.hrline.com/reports/healthcare-stats-2000.html>.

University Continuing Education Association. (2000). *Lifelong Learning Trends*, Sixth Ed., pp. 33-42, April 2000.

US Department of Health & Human Services Health Resource & Services Administration. (2001). Nurse Staffing & Patient Outcomes in Hospitals. Retrieved June 2001 from HRSA website: <http://bhpr.hrsa.gov/dn/staffstudy.htm>.

US Department of Health & Human Services. (1999). Building successful Organizations: Workforce Planning in HHS. Retrieved June 2001 from HHS website:  
<http://www.hhs.gov/progrog/ohr/wfpguide.html>.

Wiggins, O., & Lewis, L. (2001). Bills aim to help nurse shortage. *The Inquirer*. Retrieved June 2001 from  
<http://inq.philly.com/content/inquirer/2001/03/14/city/SNURSES14.htm>.

---

## Facts about the SC Nursing Workforce

- ▶ South Carolina, along with the nation, is experiencing an acute nursing shortage that is predicted to become even worse over the next 10-15 years.
- ▶ There are multiple inter-related factors contributing to the current & projected shortage:
  - a large cohort of aging nurses who will retire from the workforce in record numbers by 2010, seriously impacting the supply;
  - a marked shortage of nurses with baccalaureate & higher degrees to practice in an increasingly complex health care delivery system;
  - a shortage of qualified nurse faculty limiting the state's ability to increase enrollments in nursing programs;
  - a declining interest among young women choosing nursing as a career;
  - growth in the aging of the general population who have more chronic diseases increasing the demand for nursing services;
  - work environment issues that impact recruitment & retention.
- ▶ SC ranks 42/50 in the number of RNs per 100,000 population. SC would need to add over 5,000 RNs to the workforce today just to meet the 1996 national average ratio that has continued to grow each year.
- ▶ Only 34% of SC RNs have a baccalaureate or higher degree, as compared to 44% nationally.
- ▶ SC relies very heavily on out-of-state recruitment with over 50% of all newly licensed nurses coming from out-of-state. As the nursing shortage worsens, there will be more competition for nursing resources, increasing cost of recruiting and hiring.
- ▶ 68% of PhD-prepared nurses and 38% of master's prepared nurses are over age 50. The largest majority of nurses in this category are faculty in schools of nursing.
- ▶ By 2015 less than 6% (1784) of the nursing workforce will be under age 30 and 27% (8030) will be over age 55.

## How does a nursing shortage impact our state?

The nursing crisis impacts the economy as well as the access, cost, and quality of health care by:

- Delays in surgical and other procedures
- More patients in emergency rooms waiting for beds
- Closing hospital beds and units for lack of staff
- Increased cost of health care to business & industry
- Burden of care shifting to families & communities resulting in loss of productivity on job for caregivers
- Increase in medical errors & negative outcomes of care



## Recommended Actions

- ▶ Maintain a permanent state-supported structure for nursing workforce planning and development.
- ▶ Develop and implement a statewide plan for recruiting and retaining students in nursing education programs to include incentives such as nurse scholars programs and loan forgiveness programs.
- ▶ Maximize enrollments in SC nursing education programs to more closely meet the demand for nurses in the state to include adequate funding for programs and faculty development incentives.
- ▶ Develop programs that will facilitate workforce transition and retention by supporting employers through incentive programs and grants who develop work environments that attract and retain nurses.



The South Carolina Colleagues in Caring Project: Regional Collaboratives for Nursing Workforce Development (SCCIC) is one of 20 national projects partially funded by the Robert Wood Johnson Foundation. Created in 1996 the project is housed in the University of South Carolina College of Nursing and is funded by grant funds as well as matching funds from public and private agencies and organizations. Over the past five years the project has conducted an extensive and comprehensive assessment of the current and future nursing workforce. The goals of the project include:

- Produce the numbers and types of nurses needed to provide care across all practice settings;
- Prepare a nursing workforce with the necessary knowledge, skills, abilities and values for the 21<sup>st</sup> century;
- Create a collaborative, coordinated system of nursing education that enables optimal educational mobility;
- Continue to refine the methodology for estimating supply and demand for nurses in the state; and
- Sustain nursing workforce planning and development in the state.

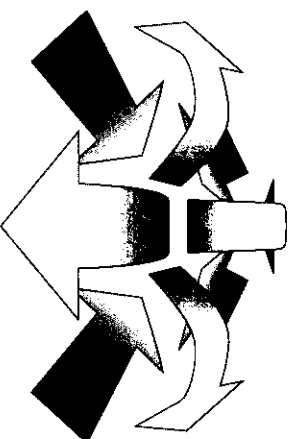
The SCCIC has been structured to provide maximum grass-roots input into statewide nursing workforce planning and development through 11 regional clusters representing nursing education, nursing practice, and representatives from local healthcare agencies and organizations. A statewide Coordinating Council guides the work of the project with four statewide task forces focusing on each of the major goal statements.

For additional information about the SCCIC project or additional nursing workforce information you may contact:

**Renatta S. Loquist, MN, RN, FAAN**  
**Project Director**  
**College of Nursing**  
**University of South Carolina**  
**Columbia, SC 29208**  
**Phone: (803) 777-4499**  
**E-mail: renatta.loquist@sc.edu**

## **Critical for Care: The South Carolina Nursing Workforce, 2001 & Beyond**

### **A Fact Sheet on the Nursing Shortage**



**Prepared by the  
South Carolina Colleagues  
in Caring Project**

**July 2001**

**(partially funded by the Robert Wood Johnson Foundation)**