

Plans to Increase Mid-Level Primary Health Care Providers Including Nurse Practitioners, Nurse Midwives, and Physician Assistants

**April 2000
Third Report**

Submitted by the Board of Governors of The University of North Carolina in response to General Statute 143-613 as amended by Chapter 507 of the 1995 Session Laws (House Bill 230) of the North Carolina General Assembly.

This report includes reports from
Nurse Practitioner, Nurse Midwifery and Physician Assistant Programs

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Part I. Executive Summary:

The Legislative Mandate, Progress toward Enrollment Goals, And Statewide Goals

The Legislative Mandate

During the 1995 session of the North Carolina General Assembly, the legislature passed General Statute 143-613, House Bill 230, Section 23A.5, "Primary Care Providers," which mandated several activities designed to increase the number of primary care physicians and the number of mid-level primary care providers in the state. The legislature asked the Board of Governors to:

... set goals for state-operated health professional schools that offer training programs for licensure or certification of physician assistants, nurse practitioners, and nurse midwives for increasing the percentage of graduates of these programs who enter clinical programs and careers in primary care (a copy of the bill is in the appendix).

The Board of Governors has complied with this request and it approved the fourth enrollment report, "Monitoring the Progress of North Carolina Graduates Entering Primary Care Careers," at its November 1999 meeting. The legislature also required the Board to approve actual plans and strategies for increasing enrollment in each primary care program. The Board is required to submit these planning reports biennially. This third report focuses on plans to increase the enrollment in the nurse practitioner, nurse midwifery and physician assistant programs.

Enrollments in the UNC primary care nursing programs have increased since the Board of Governors and administrators started monitoring trends in 1995. For example, **the enrollment of students in the nurse practitioner programs has increased 97% from 182 students in 1995 to 358 students in fall semester 1999. Moreover, according to data from the North Carolina Center for Nursing, the number of mid-level providers who are employed as nurse practitioners in the state has increased from 803 in 1995 to 1,375 in 1998.**

The nursing deans and the director of the physician assistant program conscientiously used a variety of strategies and interventions to accomplish these results. As discussed in their updated plans in Part II, the results were accomplished by curricular changes to emphasize primary care rather than clinical specialties, by an internal reallocation of resources to train or hire more primary care faculty, through AHEC support for clinical placement and preceptor training and by commendable efforts to secure external funds to support primary care education from the Duke Endowment, the Kellogg Foundation, the Robert Wood Johnson Foundation, the Kate B. Reynolds Foundation and federal grants. This report on mid-level providers complements reports to increase the number of primary care physicians.

The overriding objective of the activities and plans approved by the Board of Governors remains clear: to improve health care delivery in the state by increasing the number of primary care providers with a special emphasis on meeting the needs of the underserved areas. We are pleased to report progress toward this objective.

Progress Toward Enrollment Goals

The University of North Carolina has eight academic programs that prepare mid-level health providers. Six master's programs prepare nurse practitioners and these are located at East Carolina, The University of North Carolina at Chapel Hill, The University of North Carolina at Charlotte, The University of North Carolina at Greensboro, The University of North Carolina at Wilmington and Western Carolina University. Several of these programs also offer post-master's certificates and

distance learning options. The University of North Carolina has one nurse midwifery program at East Carolina University and, one baccalaureate physician assistant program at East Carolina. Duke University also offers a master's nurse practitioner program with several program options. Approximately 198 students are enrolled in the program and 78% are North Carolinians. Duke and East Carolina University have combined resources to offer distance learning nurse practitioner and physician assistant programs to students in a 32 county region in eastern North Carolina.

When the 1995-96 baseline was established, UNC institutions enrolled 182 nurse practitioner students. The total enrollment increased to 256 students in 1996-97 and in 1997-98, the enrollment dropped slightly to 247 students. In 1998-99, enrollment soared to 339 students. During the fall 1999 semester, there were 358 students enrolled in nurse practitioner programs. UNC institutions have exceeded the projected goal of 209 students by the year 1999-2000.

Since many primary care nursing students are part-time graduate students, increases in graduation rates will be reflected after three or four years of study. In 1995-96, the deans projected that the number of students graduating from these nurse practitioner programs would increase from 47 students to 106 graduates by 1999-2000. In 1998-99, 128 students graduated from UNC nurse practitioner programs and this result exceeds the target.

In 1993-1994, East Carolina University offered the only UNC program in nurse midwifery and it was started with an enrollment of 16 students. Enrollments in this program have fluctuated from a high enrollment of 25 students in 1997-1998 to 19 students in 1998-99. According to the North Carolina Center for Nursing, the number of midwives practicing in the state has increased from 98 in 1995 to 137 in 1998.

The Board of Governors authorized East Carolina University to offer a physician assistant program in February 1996. Administrators admitted the first class of 19 students in May 1997. The University currently enrolls 22 students on-campus and it has expanded to include a distance learning option for eight place-bound students in rural counties in eastern North Carolina.

Statewide Goals

University administrators from the mid-level primary care programs, staff from AHEC, staff members from the North Carolina Center for Nursing as well as UNC General Administration staff will continue to monitor enrollment trends and the supply of mid-level primary care providers. We will also monitor: the statewide demand or need for mid-level primary care practitioners; assess the need for additional faculty; monitor access to clinical training; assess the need for trained clinical preceptors; and, assess the need for additional funding in order to expand on-campus or off-campus programs. With the annual enrollment report to the Board of Governors each fall, we will also monitor the placement of primary care practitioners five years after graduation. Even with tremendous progress, nursing administrators will continue to work to make certain that the shift of faculty and resources to mid-level primary care education does not create shortages in other areas of nursing.

ACTUAL & PROJECTED ENROLLMENTS in ON-CAMPUS NURSE PRACTITIONER PROGRAMS									
	Actual 93-94	Actual 94-95	Baseline Actual 95-96	Actual 96-97	Actual 97-98	Actual 98-99	Actual 99-00	Projected 99-00	
			%chg	%chg	%chg	%chg	%chg	%chg	
ECU	N/A	6	12 100%	31 158%	32 3%	56 75%	42 -25%	30	
UNC-C	N/A	N/A	16 N/A	30 88%	48 33%	60 25%	60 0%	48	
UNC-CH	44	89	115 29%	121 22%	107 15%	129 21%	118 -9%	90	
UNC-G	N/A	34	39 15%	74 90%	60 -19%	74 23%	75 1%	41	
UNC-W	N/A	N/A	N/A N/A	N/A N/A	N/A N/A	20 N/A	29 45%	N/A	
WCU	N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	34 N/A	N/A	
Totals:	44	129	182 41%	256 41%	247 -4%	339 37%	358 6%	Goal: 209	

Note: Several of the nurse practitioner programs have been established since the baseline was set in 1995-96; projections are not applicable (N/A) to these programs.

ACTUAL & PROJECTED DEGREES CONFERRED in ON-CAMPUS & DISTANCE LEARNING NURSE PRACTITIONER PROGRAMS									
	Actual 93-94	Actual 94-95	Baseline Actual 95-96	Actual 96-97	Actual 97-98	Actual 98-99	Projected 99-00		
			%chg	%chg	%chg	%chg			
ECU	N/A	6	6 0%	N/A N/A	12 N/A	18 50%	15		
UNC-C	N/A	N/A	N/A N/A	N/A N/A	12 N/A	22 83%	24		
UNC-CH	12	28	26 -7%	60 131%	55 -8%	64 16%	43		
UNC-G	8	14	15 7%	24 60%	20 -17%	24 20%	24		
UNC-W	N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A		
WCU	N/A	N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A		
Totals:	20	48	47 -2%	84 79%	99 18%	128 29%	Goal: 106		

ACTUAL & PROJECTED ENROLLMENT in the NURSE MIDWIFERY PROGRAM							
	Actual 93-94	Actual 94-95	Baseline Actual 95-96	Actual 96-97	Actual 97-98	Actual 98-99	Projected 99-00
ECU	16	17	20	24	25	19	30
			18%	20%	4%	-24%	Goal: 30

ACTUAL & PROJECTED DEGREES CONFERRED in the NURSE MIDWIFERY PROGRAM							
	Actual 93-94	Actual 94-95	Baseline Actual 95-96	Actual 96-97	Actual 97-98	Actual 98-99	Projected 99-00
ECU	8	8	10	11	12	9	14
			25%	10%	9%	-25%	Goal: 14

PROJECTED ENROLLMENT in the PHYSICIAN ASSISTANT PROGRAM				
	Baseline Actual 97-98	Actual 98-99	Actual 99-00	Projected 00-01
ECU	19	49	54	90
		158%	10%	Goal: 90

Note: This baccalaureate program was authorized by the Board of Governors in February 1996; the first class of students was admitted during the 1997 summer term.

Part II. Plans from the Mid-Level Primary Care Provider Programs

East Carolina University Nurse Practitioner and Nurse Midwifery Programs

East Carolina University recognizes North Carolina's need for primary care providers who will practice in underserved areas and we believe that nurse practitioners and nurse midwives, along with generalist physicians, can effectively help meet these needs. Our university has a strong history of responsiveness to the social, educational, and health needs of the greater region and the citizens whom we serve. Indeed, this service philosophy has been one hallmark, which has driven curriculum development on the graduate level. Two of the major concentrations in our graduate program in the School of Nursing are purposefully designed to prepare advanced practice nurses who will deliver primary care with a strong focus on rural underserved populations.

Enrollment

The composition of the graduate student body falls into five major concentrations: Clinical Nurse specialist with options in adult health and community health; Clinical Services Administration; Nurse Midwifery; Family Nurse Practitioner; and, Neonatal Nurse practitioner. During the spring semester 2000, 90 students enrolled which included 38 full-time and 52 part-time. A 1999 AHEC survey of baccalaureate prepared nurses indicated that over 200 nurses in the eastern AHEC alone are interested in master's education. We are currently contacting each of these nurses to facilitate their matriculation into one of our graduate programs.

Nurse Midwifery

The nurse midwifery concentration, which is a two-year program, admitted its first students in fall 1991. Since this time, we have graduated 66 students all of who have passed the national certifying examination. We currently have 12 students enrolled and anticipate admitting another 10 students in fall, 2000. This decline in enrollment in the Nurse Midwifery option follows a national trend for this subspecialty. Plans to increase enrollment in the Nurse Midwifery option include sending recruitment fliers to practicing labor and delivery nurses and making presentations at graduate school recruitment fairs. The faculty are also considering alternatives to the two-year clinical practice requirement for admission to this major. A request for additional funding for the Nurse Midwifery option from the DHHS has been submitted. The program received continuing accreditation by the American College of Nurse Midwifery in 1998.

Nurse Practitioner

The family nurse practitioner (FNP) concentration is in its fourth year of operation. Since the first 6 post-master's students completed the program in summer of 1995, we have had 29 FNP graduates. We have also developed plans of study for additional part-time students who have received nurse practitioner training in a specialty area of advanced practice nursing such as geriatrics or pediatrics and who wish to expand their scope of practice to the family. We currently have 26 students enrolled in the FNP concentration and anticipate admitting another 30 students in the fall of 2000.

Post-Masters Option

There are opportunities in both primary care concentrations for individuals who already hold master's degrees in other nursing specialties to be prepared for career changes as nurse practitioners or midwives. Certificate programs have been designed to accommodate both full and part-time study. We have had approximately 6 post-master's students in the FNP major.

Admissions Policy

Preference for admission to the graduate specialties in primary care is given to candidates “who demonstrate a commitment to practice with underserved populations and who have negotiated employment on program completion in practices within rural areas” (program brochures). Each concentration uses an appointed advisory committee from the community with representative regional membership to study applicant portfolios and to rank those applicants according to the potential to fill unmet health care provider needs. Faculty then use these data along with other academic criteria to select students for admission.

Curriculum Revision

Based on recommendations from the Pew Commission (1995), the American Association of Colleges of Nursing (1996), and from ECU's 1995-2000 Strategic Plan, the faculty designed a curriculum which emphasizes a knowledge base and clinical skills appropriate for advanced practice nursing. Additional focus will be placed on core competencies for nursing graduate students. These will build on such content as pharmacology, health assessment, and pathophysiology. This curriculum approach will enable clinical nurse specialists as well as nurse practitioners and midwives to deliver primary care to special populations like school children, senior citizens, or mental health clients. Computer competence requirements prepare graduates for the changing health care system.

Related Activities and Issues

ECU and Duke University are engaged in a project funded by the Robert Wood Johnson Foundation to explore interdisciplinary models for educating mid-level practitioners (nurse practitioners, nurse midwives, and physician assistants). A major feature of this project is to recruit students from rural, underserved areas and utilize resources in their home communities for training to the greatest extent possible. This initiative “Duke/ECU Partnerships for Training” will positively affect our ability to train more family nurse practitioners and nurse midwives especially by using technology in the delivery of course work. Currently, eleven Family Nurse Practitioner students are enrolled through this project and an enrollment increase is anticipated.

Students in the primary care graduate programs are placed in a variety of community-based settings in rural practices and clinics throughout North Carolina and beyond. These students spend considerable time away from the University developing patient management skills with expert preceptors. The majority of graduates become familiar with the challenges and rewards of primary care delivery in the rural communities. These clinical sites, however, are limited in number. In 1999, the School of Nursing opened a new rural clinical site in Newport, NC, in collaboration with the Carteret County Health Department. This clinic was established with a grant from the Kate B. Reynolds HealthCare fund. The clinic is run by an FNP who precepts students in Primary Care Education Programs. Additional clinical sites are critical for the increasing graduate enrollment.

An over-riding issue, which greatly impacts ECU's capacity to accommodate additional nurse practitioner and midwifery students, is the difficulty in recruiting faculty for these labor-intensive graduate nursing programs. Nursing faculty are quite scarce and primary care faculty, particularly those with doctorates, are at a premium. The ECU School of Nursing instituted a faculty development plan in 1995 to train faculty for practice and teaching in nurse practitioner faculty roles. Six faculty completed this project in fall 1998. As these faculty become acclimated to a faculty role that includes both teaching and clinical practice, ECU's ability to increase enrollment in the Family Nurse Practitioner program will be greatly enhanced.

The University of North Carolina at Chapel Hill Nurse Practitioner Program

Efforts at the UNC-CH School of Nursing in support of primary care education date back to the early 1970s. At that time, the school established one of the first three family nurse practitioner programs in the country--working closely with the State's newly developed AHEC and Rural Health Programs and with the UNC-CH Schools of Medicine and Public Health. By the mid-seventies, family nurse practitioners were working in rural clinics across the State, from Manteo to Murphy. The training program at Chapel Hill and subsequent deployment of nurse practitioners in rural, underserved areas in the State was a model for the country.

Throughout the eighties, the School of Nursing continued to offer a primary care nurse practitioner program. However, during this time, demand for primary care nurse practitioners declined, compared to the previous decade. Even though during the seventies great strides were made in meeting the primary care needs of the State's citizens, changes in the health care system diverted attention from primary care to secondary, tertiary and even quadriary care. Many of the same factors that influenced and attracted physicians to specialty practice also influenced and attracted nurses to specialty practice, and the declining percentage of our students and graduates in the primary care disciplines reflected this trend.

Today in the new millennium, there is once again a compelling need to address the primary care needs of the State. The School of Nursing at UNC-CH has addressed these issues in many ways. In fact, our response to the need for primary care providers pre-dates recent legislative mandates. Thus, this report describes the many changes that have been implemented over the past three years, and reports on the increasing numbers of students and graduates of the School's primary care graduate programs.

Nurse Practitioner Program Curricular Changes

- Graduate program offerings were expanded to include all primary care areas of practice. In addition to the Family Nurse Practitioner (FNP) program, offered at UNC-CH since 1970, a Pediatric Nurse Practitioner (PNP) program was initiated in 1993 and a Women's Health Nurse Practitioner (WHNP) program was offered in 1994. In 1995, an Adult/Geriatric Nurse Practitioner (A/GNP) program was started. Thus, clinical training programs are and will continue to be offered in all areas of primary care practice.
- The FNP curriculum was modified in 1994 in keeping with national standards for nurse practitioner programs--emphasizing advanced pathophysiology and pharmacology as well as more extensive clinical training in community-based and primary care rural settings. All of the nurse practitioner programs offered meet national standards.
- Community-based clinical training experiences have been increased. The General Assembly's funding of the AHEC expansion budget greatly assisted our schools in offering the kind of training so vital to our educational programs. In addition, the funding of preceptors for clinical training of nurse practitioners (along with medical students and residents) increases our ability to enroll more students in our primary care programs. We will continue to place students in community-based clinical training sites in rural and underserved areas of the State.

Admission Policy Changes

- Admission preference is given to qualified applicants from underserved areas in our State and from under-represented populations, and to those who express a commitment to primary care practice (particularly in rural and other underserved areas or with underserved populations).

- Resources have been re-allocated by decreasing enrollment in our clinical specialty programs in order to accommodate increasing numbers of students in our primary care programs. This change was made with caution and will be monitored over the next five years. As more and more medical-residents-in-training move from hospitals to primary care settings for clinical training, and as managed care changes the face of hospital services, hospitals are turning to advanced practice nurses to meet these challenges. Thus, it is incumbent on nursing schools to find the appropriate balance between preparing nurses for primary care and for other clinical specialties.
- While we have many qualified applicants to our primary care programs, we have limited the number of students admitted based on our capacity. For the 94-95 academic year, we admitted 49 students from 120 applicants; for the 95-96 year, we admitted 61 students from 144 applicants. In 96-97, we admitted 65 students from 124 applicants; in 97-98, we admitted 64 students from 147 applicants; and in 1998-99, we admitted 72 students from 122 applicants.

New Program Initiatives

- We have increased the accessibility of our primary care programs by offering the Family Nurse Practitioner/Primary Care MSN and Post-master's certificates to single cohorts in Asheville in addition to our on-campus MSN and Post-Master's programs. The MSN program in Asheville was funded through the UNC-Asheville Graduate Center, and the post-master's program in Asheville was supported by a grant from the Kate B. Reynolds Foundation. Those programs are now completed, with 21 students completing the MSN program, and 12 completing the post-master's program. The post-master's program, initiated on campus in 1992 for nurses already prepared at the master's level in a non-primary care specialty has capitalized on previous graduate level training by providing a one-year primary care clinical training program to nurses who are then quickly ready to assume clinical practice positions in primary care. In Asheville, the post-master's program and master's programs dovetailed in a cost-efficient way, sharing faculty and some courses.
- In 1992 we initiated Post-Master's Primary Care Nurse Practitioner Programs. A significant number of nurses already prepared at the master's level in a non-primary care specialty now seek further education for careers in primary care. The Post-Master's Programs capitalize on previous graduate level training by providing a one-year primary care clinical training program to nurses who are then quickly ready to assume clinical practice positions in primary care. The Family Nurse Practitioner Post-Master's Program was also imported to Asheville, NC through the support of a grant from the Kate B. Reynolds Foundation. In May 1997, 11 nurses completed the Asheville based post-master's Family Nurse Practitioner Program.
- Now, in Spring, 2000, we are embarking on a new off-campus MSN program at the request of the Wake AHEC. With support from the Provost's Office in a competitive Distance Learning award in October, 1999, pending "Permission to Establish" approval from the General Administration of the University of North Carolina, the entire MSN program, in two advanced practice areas: the Adult Nurse Practitioner program and the management or Health Care Systems program. Also contingent upon sufficient numbers of applicants being admitted to the Graduate School, we will deliver these two advanced practice tracks 1999-2004 to students in the 9-county area served by the Wake AHEC. This year we have combined distance learning strategies with face-to-face teaching in Raleigh and Henderson, with 3 courses open to all eligible learners through the Division of Continuing Education. Response has been overwhelmingly enthusiastic.

Undergraduate Program Curricular Changes

- The undergraduate curriculum was modified 3 years ago to give students more clinical training experiences in community-based settings. These curricular changes were necessary because of the changing role of nurses in a reformed health care delivery system. More and more undergraduates are being employed in non-hospital settings, as compared to two years ago, and students are now being prepared for these new roles and settings.
- Certainly, nurse practitioners, with advanced clinical training, are needed to meet the State's need for primary care services. At the same time, nurses prepared at the baccalaureate level can make significant contributions in primary care settings, and the revised undergraduate curriculum prepares them for such roles. Further, the curricular changes in the undergraduate program will also contribute to graduates viewing primary care as a viable and rewarding career choice--stimulating them to consider advanced graduate-level training as primary care nurse practitioners.

Enrollment and Graduation Trends

- Since 1989, more graduate students have enrolled in primary care programs. From 1989-90 to 1993-94, the increase has been gradual. However, in 1994-95 enrollments in primary care programs tripled compared to 1989-90 enrollments--from 34 students in 1989-90 to 96 students in 1994-95. In 1998-99, 145 students were enrolled in primary care programs, including 22 off-campus students in Asheville. This academic year (1999-2000), 109 students are enrolled in primary care programs.
- Enrollment in clinical specialty programs has declined. Eighty-two (82) students were enrolled in clinical specialty programs in 1989-90; currently, (1999-00), 25 students are enrolled in these programs. In 1993-94, we began limiting enrollment in clinical specialty programs in order to accommodate more students in primary care programs.
- Graduation trends lag enrollment by three to four years because 60%-70% of students are part-time students. Thus, the number of graduates of primary care programs during the last two years does not reflect increased enrollments in these programs. However, there is a marked change in the proportion of graduates of primary care programs compared to clinical specialty programs. In 1992-93, 32% of our graduates completed primary care programs while 68% completed clinical specialty programs. In 1993-94 and 1994-95 combined, the trend reversed, with 61% of our graduates completing primary care programs and 39% completing clinical specialty programs; in 1997-98, 86% of our graduates completed primary care programs while only 14% completed other programs. In 1998-99, 90% of our graduates completed primary care programs.

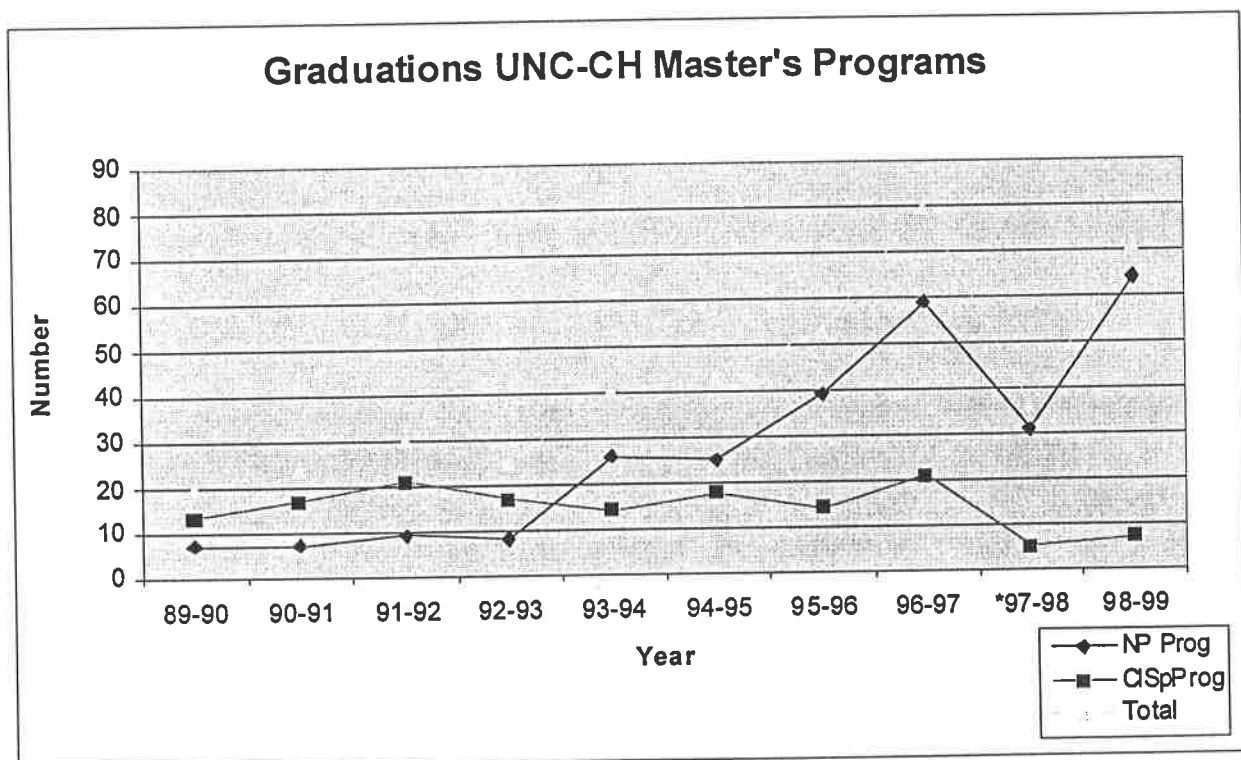
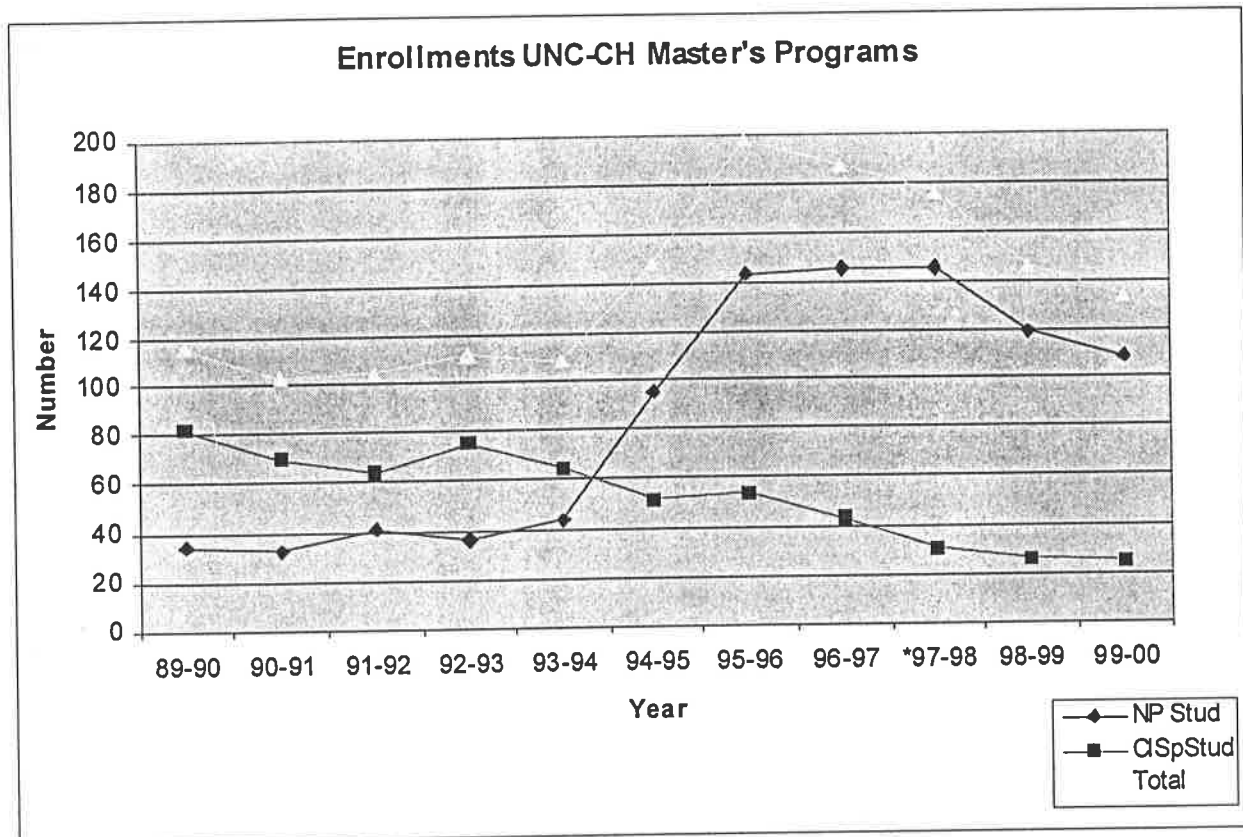
Summary

We instituted changes and strategies that will enable us to increase the percentages of graduates of primary care programs who will pursue careers in primary care, as described above. These include new program initiatives (off-campus offerings and post-master's programs), curricular changes in keeping with trends in health care, and admission policy changes (preference for students from and committed to practice in rural areas and with underserved populations and limits on admission slots for clinical specialty programs). These changes have already resulted in increased enrollments in primary care programs as well as increased numbers of graduates of primary care programs. Thus, our continuing strategy is to continue the changes and initiatives begun several years ago, with one caveat.

The changes described above required considerable reallocation of resources internally in the School of Nursing. We did so because we believed we could best meet our mission and

commitment to the people of North Carolina by realigning our resources to prepare increased numbers of primary care practitioners. At the same time, we extended beyond our resource capacity because we anticipated additional funding from the legislature for expansion of primary care programs. In 1994 the deans of nursing from schools with graduate programs met with the Primary Care Committee of the Health Planning Commission several times. Based on these discussions, we did expect additional funding. Consequently, we targeted enrollment levels on the assumption of additional funding. Since the legislature was unable to provide additional funding for these primary care programs, we may not be able to sustain our current primary care program enrollment levels.

As noted in the final section of this report, the cost of educating nurse practitioners is significant--more than we are budgeted for and more than the cost of educating a typical graduate student. Thus, even though we may have extended our enrollments beyond our resource capacity, we remain committed to the internal reallocations we have made and to increasing the numbers of students in and graduates of primary care programs over 1993 levels.



*Only includes May graduations; previous years include May, August, and December graduations.

The University of North Carolina at Charlotte Nurse Practitioner Program

Background

During the academic years 1993-1995, faculty in the UNC Charlotte College of Nursing engaged in extensive study of needs and trends for health professionals in the state and region as an integral part of the strategic planning process in the College and University for the years 1996-2001. One of the priorities for the College was the need to develop and offer program options that would provide opportunities for nurses to complete graduate study in primary care and to increase the numbers of nurse practitioners in North Carolina, particularly the UNC Charlotte region.

A survey was conducted of RNs in 14 counties in the region, with partial funding support from Charlotte AHEC, to assess nurses' interest in pursuing advanced practice degrees. Analysis of data revealed high interest from the potential applicant pool to pursue graduate study in advanced practice nursing. Seventy-seven percent (77%) of the nurses responding to the survey (N=934) expressed interest in attending graduate school, with the majority interested in programs preparing them to be nurse practitioners. In a companion survey of employers in the region (mailed to 135 nursing directors with a response rate of 47%), employers projected a continuing need for the employment of both nurse practitioners (NPs) and clinical nurse specialists. Data from the survey were utilized, along with other data about regional needs and state and national priorities, in setting program priorities (Academic Plan, College of Nursing & Health Professions, 1996-2001).

The need to develop nurse practitioner education was strongly supported by the University and incorporated as a priority for the 1990's in the campus strategic plan (UNC Charlotte Academic Plan 1996-2001). The importance of health programming for the state and region was further emphasized by the restructuring and expanding the mission of the College of Nursing as indicated by the new name, the UNCC College of Nursing and Health Professions.

Curricular Changes/New Program Initiatives

The curriculum for a specialty concentration to prepare family nurse practitioners (FNP's) within the existing master's program was approved by the College and University during the 1994-95 academic year and the first students admitted in Fall 1995. The model for the curriculum was developed with the long-range view to permit the future development of additional nurse practitioner specialty concentrations for targeted populations. In accord with this view, the NP curriculum was developed by a committee of faculty representatives from all the nursing departments, under the leadership of the Graduate Curriculum Committee.

Based on available data about needs for FNP's in rural settings, and interest from the applicant pool, the FNP concentration was selected as the first NP specialty concentration to be developed. The curriculum model was designed with a plan for a nurse practitioner core, so additional NP programs could be implemented in the future, considering high quality and cost effectiveness. The curriculum was reviewed by external experts who provided on-site consultation in the development of the FNP program. Further, the program was designed to be in accord with state requirements for NPs, guidelines from the National Organization of Nurse Practitioner Faculty (NONPF), and national FNP certification requirements of the American Nurses Association. In support of this program, the Biology Department developed a graduate course in Pathophysiology in addition to the available graduate course in Advanced Physiology.

Following this model, in the fall of 1999 the curriculum for the Adult Nurse Practitioner/Clinical Nurse Specialist Blended Role (ANP/CNS) in Chronic Illness was developed.

The need for this program was based on the results of a Needs Assessment Survey sent to registered nurses in 13 surrounding counties completed in the Summer of 1998, and input from two national consultants. The decision to implement the blended role model for advanced practice was determined by a review of the literature on the advanced practice role and corroborating statements from the American Association of Colleges of Nursing, the American Nurse's Association and the National League for Nursing. The longstanding separation of Clinical Nurse Specialist and Nurse Practitioner roles and responsibilities is dissolving. There is no longer justification for preparing two completely different types of advanced practice nurse; thus blending of the roles allows for optimal use of the expert knowledge and skills of both roles.

Chronic illness is the number one health problem in the United States with nearly 50% of the population having one or more chronic illnesses. The graduates of this program will identify high risk behaviors that can lead to chronic illness, teach health promotion and disease prevention, identify patients with chronic illness, collaborate with patients and families to manage care, develop healthy lifestyles, and prevent acute episodes of illness and further disability. They will be eligible to take the national certification exams as an Adult Nurse Practitioner and Clinical Nurse Specialist in Medical Surgical Nursing or Gerontology. The program is also being planned to utilize the basic core NP courses developed for the FNP concentration focused on the primary care of adults. The current curriculum (CNS in Care of Chronically Ill) will be phased out as the ANP/CNS specialty is implemented.

Enrollment

The first class of FNP students was admitted in Fall 1995, after the concentration was publicized only by the survey of interest and word-of-mouth. This class was limited to 16 part-time students selected from an applicant pool of 35. Current admission policies give preference to nurses from rural areas or nurse shortage areas in North Carolina and to nurses who indicate a special commitment to practice with underserved or rural populations. Nurses in the UNC Charlotte region and the state continue to express high interest in nurse practitioner programs. To date, approximately 348 nurses have expressed interest in nurse practitioner offerings at UNC Charlotte by phone or in person.

Only students planning to pursue the FNP concentration on a part-time basis were admitted for the first class to give ample time to develop instructional materials and clinical sites. The College sought and was awarded partial funding support by Charlotte AHEC to assist with providing release time (from full-time teaching) for one of the faculty to collaborate with C-AHEC in the development of clinical placement sites for NP practice and internships. This work has been highly successful, with our current Preceptor File numbering 135. The collaborative arrangement with ORPCE and AHEC has greatly facilitated the structuring of clinical experiences in primary care for these students and the staff at AHEC, together with the ORPCE funding for preceptors, have been essential to our success.

The first class of students included three students from Mecklenburg County and 13 from counties surrounding Mecklenburg, all with large rural populations. This class was comprised of 15 women (94%) and one man (6%). The racial/ethnic composition was 19% (n=3) minority (one black, one Hispanic American and one Asian Pacific American) and 13 white students. The majority of the first class (n = 12) completed their studies in December 1997 and May 1998; the remainder are currently completing the program (as all were admitted on a part-time basis).

In Fall 1996, additional 14 students were admitted. Small fluctuations in the precise number of students admitted were unintentional and were attributable to students' declining offers of admission and/or withdrawals soon after admission for personal/family reasons. Of these students, 13 were women (93%) and one was a man (7%). The racial/ethnic composition was 14 (100%) white. Five (36%) were residing in underserved counties.

In Fall 1997 an additional 17 students were admitted. Of these students, 15 were women (88%) and two were men (12%). The racial/ethnic composition was 14 white (82%), one black (6%), one Asian/Pacific Islander (6%), and one Native American/Alaskan Native (6%). Five (29%) were residing in underserved counties. In Fall 1998, in order to meet our projected goal for numbers of graduates into the next decade, we offered admission to 26 students. Of these 26, 22 were women (85%) and four were men (15%). The racial/ethnic composition was 24 white (92%), one black (4%), and one Native American/Alaskan Native (4%). Four (15%) were residing in underserved counties.

In Fall 1999, 25 students were admitted. Of these 24 (96%) were white, 1 was Hispanic (4%), 24 (96%) were female, and one was male (4%). Five (20%) were residing in underserved counties. In the first year of enrollment to the Blended Role Program (Fall 1999), 16 students were admitted. Of these 15 were women (94%) and one was male (6%). The racial/ethnic composition was 12 Caucasian (75%), two African American (13%), one Asian (6%), and one Hispanic (6%). Ten (63%) were residing in rural counties. In the second year (Fall, 2000), there is an anticipated enrollment of 24 students with 16 on campus and 8 enrolled in the Distance Learning Program.

The UNCC family nurse practitioners option continues to offer only the part-time option. One reason is because of the intensive nature of the clinical portion of the NP concentration. And, the nursing program works hard to meet the standard faculty/student ratio recommended by the National Organization of Nurse Practitioner Faculty (which is 1:6-8 for clinical courses). Courses are timed in such a way as to ensure that the appropriate number and type of faculty will be available to teach the clinical courses. An option for full-time study is available for Blended Role students.

Continuing Development

Based on the needs of nurses in the region, the FNP concentration was designed to be adaptable, in the future, to post-master's study to enable nurses with MSN's to become primary care practitioners, as well as to facilitate certified NPs without a graduate degree to achieve this credential. The MSN degree, as is well known, has now become the entry level for practice as an advanced practice NP. The post-NP masters as a component of the overall MSN program is still in development at UNC Charlotte. The foremost priority of the College is to maintain a strong generic NP program.

Next, a second specialty concentration in the NP program is the ANP/CNS Blended Role has been implemented. The new Blended Role Program to prepare Adult Nurse Practitioners/Clinical Nurse Specialists is one of only a few such programs in the country and is an innovative way to meet the health care needs of North Carolinians. The expansion of this program through distance learning to surrounding rural areas is also a creative use of existing technologies to reach underserved areas.

A further development of additional specialty options is undergoing continuing analysis, with the likely next specialty Pediatric Nurse Practitioner/School Health and/or Geriatric Nurse Practitioner. In the meantime, we plan to move forward in approximately 1999-2000 with implementation of the post-masters concentration and the post-certificate FNP concentration.

Undergraduate Program Changes

The size of the RN population in the UNC Charlotte region and state who have associate degrees/diplomas in nursing suggests that any plan to develop strategies for increasing primary care nurses must address needs to provide opportunities for nurses to complete baccalaureate degrees.

With this in mind, resources have been increased for recruitment to the RN-BSN program. The number of students in the UNC Charlotte RN-BSN program have increased since the previous Mid-Level Primary Care Report was submitted to the present total enrollment of approximately 50. In Spring 1998, we received final approval at the University level to proceed with implementation of a RN-MSN option for RNs pursuing higher degrees. Although the NP concentration(s) have competitive admissions and will not be directly admitting students via the RN-MSN option, the RN-MSN program will in effect increase the number of nurses in the region eligible to pursue education in primary care advanced practice nursing via the post-masters NP option currently under development.

Reallocation of Resources

In order to respond to the public need for UNC Charlotte to offer nurse practitioner program options, it was necessary to reallocate resources within the College. This was accomplished by a careful analysis of existing programs and the decision to decrease resources available for clinical specialist education, shifting some resources to NP education. The Parent Child specialty concentration program was phased out, and the last students completed that program in the 1998-99 academic year. Further, the Nursing Administration masters program was re-designed as a dual degree program with the new Health Administration program. The dual degree program was approved in academic year 1995-96, and there are currently nineteen students in that program. Four will graduate in May 2000.

Faculty Resources

In academic year 1996-97, three College faculty were awarded Kellogg Fellowships to support education in primary care, namely, education to become Family Nurse Practitioners. One attended the University of Texas at Galveston, and two attended the University of Tennessee at Memphis. The University shared in the cost of providing each of these faculty with a full year's release time to pursue this education. All three faculty have returned to UNC Charlotte as of academic year 1997-98, and all have assumed major teaching responsibilities in the NP concentration. These faculty were provided with 20% release time per semester for their first four semesters after returning from their fellowships to support the development of their practice in primary care. In addition, in Fall 1998 an Adult Nurse Practitioner with 24 years teaching experience in baccalaureate and higher degree programs and 22 years experience as a nurse practitioner was recruited to assume teaching and administrative responsibilities in the NP Programs. In the Spring of 1999, a faculty member in the Department of Adult Health Nursing completed an Adult/Geriatric Nurse Practitioner program and is now certified.

Space and Equipment Resources

After two years of planning and significant structural renovations, in academic year 1997-98, the College opened its first fully operational advanced practice-nursing lab, with two fully functional examining rooms, a waiting area, a Lab Director's office, diagnostic, and storage space. Currently, advanced practice health assessment labs are conducted in this space and further utilization in the advanced practice concentrations, possibly as a direct primary care site, is anticipated.

In academic year 1995-96, a master's specialty concentration in community health nursing was implemented, funded by the federal Division of Nursing. This concentration was created to meet needs in the state and region to prepare advanced practice nurses for clinical leadership positions in populations. While not primary care providers, advanced practice nurses in Community Health augment primary care efforts by placing advanced practice nurses in leadership positions in communities, implementing Healthy People 2010 and advocating for patient's needs in relation to primary care. To date, 10 students have graduated from this concentration. Current

plans include outreach to a predominately rural distance-learning site through cooperation with Rowan-Cabarrus Community College.

At the time the last report was submitted, the College was in the early planning phases of a Neonatal Nurse Practitioner concentration in collaboration with a local medical center. Nationally and regionally, the demand for NNP's remains great. However, the clinical component of NNP education is highly specialized and centered in Neonatal ICUs and development of such a concentration would require a partnership with an institution having those resources. At present, the immediate demand for NNP's locally is insufficient for the medical center to commit resources to the clinical education required for this specialty. Therefore at this time, there are no plans to move forward in implementing the Neonatal Nurse Practitioner concentration.

In Fall 1999, a Distance Learning Program was approved by the University. Additional faculty resources as well as technology equipment and assistance will be provided. Eight students will be recruited from Rowan, Cabarrus and Gaston counties for the Blended Role nurse practitioner/clinical nurse specialist Program.

The University of North Carolina at Greensboro Adult/Gerontological Nurse Practitioner Program

The Adult/Gerontological Nurse Practitioner concentration is one of four areas of specialization offered in the MSN program at The University of North Carolina at Greensboro. The other areas of concentration include nurse anesthesia, nursing administration, and nursing education. Additionally, the School of Nursing offers a combined MSN/MBA degree in health management in collaboration with the Bryan School of Business and Economics.

The Gerontological Nurse Practitioner (GNP) concentration was initiated in July 1992 through funding from the Division of Nursing, Bureau of Health Professions, Department of Health and Human Services for a three year time period. Subsequent funding was received from the Division from 1996-1998. The School of Nursing faculty approved a curricular change in 1998 to revise the GNP concentration to a combined adult and gerontological nurse practitioner (ANP/GNP) concentration. This concentration was implemented in Fall 1998. The concentration has a total of 50 credits for the MSN degree and 38 credits for the post masters certificate. Graduates of the program are eligible to sit for the American Nurses Credentialing Center gerontological and adult nurse practitioner certification exams. In 1999, the ANP/GNP concentration was funded by the Division of Nursing for a three-year period.

Graduates and Current Enrollments

As of May 1999, 103 student graduates have graduated from the gerontological nurse practitioner program. Of the twenty-one GNP students who graduated in May 1999, five are currently practicing in health profession shortage areas.

The School of Nursing currently has a total enrollment of 274 graduate students comprised of 267 degree seeking students and 7 post master's certificate students. Eighty-four students are enrolled in the ANP/GNP concentration with 37 full-time students enrolled in the second year of their program, 19 full-time students enrolled in the first year, and 28 part-time students. Approximately 24% of the ANP/GNP students are of diverse origin. The ANP/GNP concentration may be completed in 5 full-time semesters or 8 part-time semesters.

For practicing GNPs who wished to return for the additional adult didactic and clinical experiences, separate sections of classes were offered during the past two years. Sixteen GNPs were enrolled in the 1998-99 year, and 12 GNPs were enrolled during the 1999-2000 year. Successful completion of the adult classes enabled these practitioners to be eligible to sit for the ANP certification exam.

Program Purposes and Challenges

Graduates of the ANP/GNP concentration will possess in-depth knowledge of physical assessment and will be able to manage stable, chronic, and minor acute illnesses or conditions afflicting adults age 16 and older. They will be qualified to function as nurse practitioners in hospitals, ambulatory care settings, rural health clinics, long-term care facilities, home health agencies, and with a physician or group practice. Graduates of the program will be prepared to assume leadership roles in the care of adults and older adults throughout North Carolina.

To date, the School of Nursing has contractual agreements with over 106 nurse practitioners and physicians throughout North Carolina and other states in the country who have agreed to serve as preceptors for our students. The School also has contractual agreements with rural health clinics throughout the State. Each student in one of the courses is responsible for attending a rural health clinic for a 12-hour time frame.

We have experienced difficulty during this academic year placing students in the designated rural health clinics in North Carolina. Many sites were unwilling to take students for the required 12 hours. In the past, many students have chosen to be placed in a rural health site for additional clinical experience because of the initial positive experience they had.

Another continuing challenge is to find new sites for the adult component of the program. Students need to be placed in sites such as family planning, college health, and the health departments. Often the sites already have a number of students in training; thus, space is limited. Also, the retention of preceptors is not always guaranteed. Often a preceptor will agree to serve during one academic year, and then, because of a change in office size, location, or ownership, will be unable to have students return during the following semester. The assistance received from the AHEC ORPCE is beneficial; however, the list of available preceptors is not extensive.

Overall, the School of Nursing has been successful in attracting qualified and diverse applicants to the ANP/GNP concentration, receiving extramural support, hiring well-qualified faculty to teach in the concentration, and placing students with well prepared preceptors. Access to additional rural sites and sites for adult clients will continue to pose a challenge for the program.

The University of North Carolina at Wilmington School of Nursing

In 1997, the School of Nursing at the University of North Carolina at Wilmington received a Department of Health and Human Services (DHHS) grant, to plan, develop, and operate a new Master of Science in Nursing (MSN) program—first track, family nurse practitioner (FNP) preparation. Recruitment of students will be from, and address health needs in, a nine county area of the most southeastern region of coastal North Carolina—an area the federal government has designated as having a shortage of health care providers. Health problems occur at a higher rate in Eastern North Carolina than in other regions of the state, and, in general, the nation. Such problems, especially prominent in rural areas, are similar to those targeted in *Healthy People 2000*.

Authorization to plan the Master of Science in Nursing (MSN) Family Nurse Practitioner (FNP) program was given by the University of North Carolina General Administration in the fall of 1997, and authorization to establish the program was granted in July 1998. In the fall of 1999, the program received approval from the North Carolina Board of Nursing. Members of the accreditation commission from the National League for Nursing conducted the first formal NLNAC review in February of 2000, and recommended the MSN program for the full 5 year NLNAC accreditation. The review team noted the following strengths: 1) high quality faculty; 2) quality program; 3) articulate, motivated, and dedicated students; 4) administrative commitment; and 5) strong student services support. The MSN FNP program has 28 students enrolled: 9 second year full-time; 10 second year part-time; 4 first year full-time; 5 first year part-time.

The University of North Carolina at Wilmington (UNCW) School of Nursing spotlights its inaugural class from the new Master of Science in Nursing (MSN) program. **These nine family nurse practitioner (FNP) graduate students will receive their MSN degrees on May 13, 2000**, having gained the expertise to provide care to underserved populations and individuals across the lifespan. As such, these graduates will be eligible to take the American Nurses Association credential examinations for FNP's. It has not yet been determined how many of these graduates will be practicing in the rural and underserved areas. This information will be available when students are surveyed three months after graduation.

Western Carolina University Nurse Practitioner Program

Background

WCU nursing faculty participated in an assessment of the need for a graduate nursing education program in the western region of the state during academic year 1994-1995. A needs assessment conducted by the Asheville Graduate Center in 1994 identified 177 qualified nurses who wished to enroll in a nursing graduate program which offered the Family Nurse Practitioner (FNP) Track. An additional indication of the need for graduate nursing education in the region was that UNC-Charlotte and UNC-Chapel Hill between 1989 and 1998 offered three off-campus graduate nursing programs in Asheville. The second UNC-Charlotte cohort graduated in 1995, and the UNC-Chapel MSN/FNP cohort enrolled in 1995. Data for the region obtained from the North Carolina Center for Nursing's 1996 survey projected a continuing demand for nurse practitioners from both community and hospital employers. Based on health care trends, health manpower needs, and the demand for a Master of Science in Nursing (MSN) program in the region, faculty participated in the development of a proposal to plan a new degree program. The proposal was supported at all levels of the University, and it was submitted and subsequently approved by General Administration in academic year 1995-96.

A proposal seeking authorization to establish a new MSN program at WCU was submitted in the fall semester, 1997. Permission to implement the program was received in April 1998. Academic year 1998-1999 was the start up year for the program, and the first students were admitted during fall 1999.

New Program Initiatives/Curriculum Development

Since this was a new graduate nursing program, both the MSN program and the FNP track were simultaneously developed and implemented. The program is initially being offered on a part-time enrollment basis to students admitted as cohorts. The decision to offer part-time instruction was based on considerations of available faculty resources, the need for continued planning and faculty recruitment, and the students' needs to maintain their employment.

The program was developed with a long-range view of future needs and the potential for adding additional tracks. Nursing faculty with the assistance of an outside consultant developed the FNP curriculum. The curriculum is based on standards for nurse practitioner education published in 1995 by the National Organization of Nurse Practitioner Faculties (NONPF), and the recommendations published by the American Association of Colleges in Nursing (AACN) in the 1996 publication, The Essentials of Master's Education for Advanced Practice Nursing.

The curriculum is organized with 13-17 credits of graduate core courses, 14 hours of advanced practice courses, and 22 hours in the FNP specialty. The program consists of 49 hours for the non-thesis option, and 50-53 hours for the thesis option, and it requires 720 total hours of clinical practice. The program is offered on a year-round basis with 2 courses and 5-8 credit hours per term. Students progress as a cohort and complete the program in three years. A post-MSN option, consisting of 39 semester hours, is available to master's prepared nurses seeking FNP preparation.

Ongoing development of the graduate curriculum continues. A total curriculum review of the graduate and undergraduate programs is to be conducted by the nursing faculty. The department head and faculty are currently developing plans to pursue national nursing program accreditation.

Enrollment

The first class of 30 MSN/FNP students and 4 post-MSN FNP students was admitted in Fall 1999. Advertisement of the program primarily consisted of word-of-mouth, and over 300 inquiries were received. A total of 53 applications for the MSN program were received, and seven applications were received for the post-MSN FNP program.

Admission requirements gave additional weighting to applicants who were residents of western North Carolina, currently practiced as a nurse practitioner, evidenced professional leadership, and who were serving or members of a disadvantaged population (not limited to race or ethnicity). The current class (34 total students) consists of 100% women, and one minority student who is African-American (3%). The program is now in its second semester, and there has been no attrition in the class to date.

Although the majority of students in this class are employed in in-patient settings and some plan to remain where they are following completion of the program, the majority plans to seek employment in community and ambulatory care settings. This is encouraging in terms of the program being able to meet its objective of increasing the placement of nurse practitioners in rural and underserved areas of the region.

Resource Allocation

The program received new funding allocations from General Administration. The largest allocation received was the start up funding awarded in April, 1998 when the proposal to implement the program was approved. On-going allocations support the secretarial, coordinator position, and a significant amount of the operations budget. Enrollment generated funds support the second faculty position; therefore, there has been no significant reallocation of existing funds from WCU. At this point in its development, the graduate faculty consists of one coordinator who has administrative and teaching responsibilities, and one other full-time teaching position. An additional teaching position has been awarded the program and recruitment of an additional faculty member is on going.

Faculty Resources

WCU does not have a specific plan in place for the training and development of nurse practitioner faculty. The current coordinator, who is doctoral prepared, has completed a large portion of the work required to earn the FNP Certificate at the University of South Carolina. To facilitate her progress, she has been awarded a scholarly development leave for Fall, 2000. During this period it is expected that she will complete her program requirements and be prepared to seek national certification as an FNP. The other full-time faculty member in the program is doctoral prepared and nationally certified as a family nurse practitioner. She has had clinical experience in the role of an FNP. Also, she has had substantial experience in the design, development and implementation of nursing programs, including a nursing graduate program with an FNP track.

No other faculty members are nurse practitioners, and none are pursuing NP education. The pool of master's prepared nurse practitioners in the region is increasing, and it serves as a potential resource for faculty recruitment in the future. The outlook for the recruitment of doctoral prepared nurse practitioners is not optimistic at this time. Within the nursing program, there are two faculty members who will be engaged in teaching components of the MSN program core. One faculty member holds the doctorate in nursing and the other will soon complete the doctorate in nursing.

Since the program has just been implemented this year, clinical courses are not offered until later. The clinical sequence for the MSN/FNP students is projected to begin during summer 2001.

The need for qualified FNP faculty will be more critical at that time because of the need to maintain a 1:6 faculty to student ratio.

A significant source of support for the MSN/FNP Program has been the Department's partnership with Mountain Area Health Education Center (MAHEC). In addition to collaborating and sharing resources, MAHEC staff provides the program with referrals, advertising, and survey data. ORPCE, located at MAHEC, initiated collaboration with the program and much valued assistance with identifying and developing clinical preceptor resources.

Space and Equipment Resources

The program is in an acceptable position in terms of having adequate equipment and library resources. Start-up funding allowed for the purchase of necessary furniture, office, and educational equipment. Space needs have presented more of a challenge. The MSN program is offered on the UNC-Asheville campus where space is a serious problem. UNC-A has very limited space that can be made available to other programs. For most of the start up year, the program was located in the undergraduate lab area in Rhoades Hall. This space housed the coordinator, secretary, conference table, and a nursing lab. The program moved to its present location in the Asheville Graduate Center in Karpen Hall when rooms became available in January 1999.

The present facilities are very pleasant, but too limited to serve the program's needs for more than another year. The program occupies three offices for faculty and staff. The fourth office serves the MSN program as a part-time faculty office and workroom. The nursing programs have no designated meeting, conference, or student commons areas. Classrooms are shared with other UNC-A and other WCU programs, which can present challenges in scheduling classes. MAHEC is providing lab space to the program. WCU administration is keenly aware of the space needs of the nursing program. Potential solutions that will substantially improve the facilities available to the nursing programs are actively being pursued by the WCU Administrators.

Summary Statement

The WCU FNP program is in its first year of implementation. The program is offered on a part-time basis to a total of 30 MSN/FNP and 4 post-MSN FNP students. The program has partial on-going funding from new state allocations. Present faculty consists of two positions including the coordinator position. Existing funding and faculty resources are adequate to meet current program needs. Additional faculty and space resources are needed for fall of 2000. Additional qualified faculty will be needed to operate the MSN/FNP clinical track by summer of 2001 in order to deliver a quality program. The search for qualified faculty is a major challenge.

The first class consists of well-qualified students, and there has been no attrition to date. The professional goals of these students are consistent with the program objectives, and it is anticipated that the program will be successful in increasing the placement of nurse practitioners in rural and underserved areas of the western region.

**Duke University
School of Nursing**

The Nurse Practitioner Program

The Duke University School of Nursing offers a graduate nursing program in the state of North Carolina. Although not required by General Statute 143-163(b) to report its efforts to increase the number of primary care providers, these should be of interest as they affect the overall picture of efforts to increase the number of primary care mid-level providers in North Carolina. Over 78 % of our students are North Carolinians.

Nurse Practitioner Programs and Curricular Changes

Duke University School of Nursing offers the following primary care majors: Geriatric Nurse Practitioner (GNP), Adult Nurse Practitioner (ANP), Pediatric Nurse Practitioner (PNP), Family Nurse Practitioner (FNP). The School offers three other nurse practitioner majors—the Acute Care Nurse Practitioner (ACNP), the Neonatal Nurse Practitioner (NNP), and the Pediatric Acute Care Nurse Practitioner (PACNP) - but, for the most part, graduates of these majors provide acute rather than primary care.

As you can see from the accompanying tables, our enrollment in and graduations from the primary care majors has been remarkably stable since 1996. Part of this stability comes from our adoption of innovative teaching approaches and partnerships which take the program to students in rural areas and which have increased the number of Family Nurse Practitioners in underserved regions of the state. Thus we have focused on reaching students in rural and underserved areas rather than continuing to increase our absolute numbers of students.

In 1996, we graduated the first cohort of Family Nurse Practitioner students on our off-campus collaborative program with the Southern Regional Area Health Center (STAHEC). This program was partially funded by the AHEC and was very successful in placing graduates in rural underserved areas. We enrolled a second cohort of 23 students in 1997; these students will graduate this May and early reports indicate that they are finding primary care jobs in their communities.

In May of 1998, with funding from the Robert Wood Johnson Foundation and the Duke Endowment, we admitted 17 nurse practitioner students from a wider underserved rural area in eastern rural North Carolina; these students will graduate in 2001. This year with support from RWJ, DE and North Carolina AHEC a second cohort (class of 2003) was admitted to this program. Of the 17 students currently matriculated in our "Partnerships in Training" program, 100% are from MUA's and nearly 59% are from HPSA's; of the year 2003 cohort, which will total 19 students, 100% are from MUA's and nearly 53% from HPSAs. These students are taught in their communities using innovative on-line distance learning methods.

As you can see from the attached table, community based clinical experiences have continued to increase. This year, our students have completed almost 100,000 hours at more

than 500 clinical sites, with many of these being in rural and underserved areas. We are grateful for the work of the AHECs in assisting with clinical placement of primary care students.

Enrollment in Nurse Practitioner Majors by Year:

MAJOR	1992	1993	1994	1995	1996	1997	1998	1999
PNP	--	13	31	28	34	25	19	26
ANP	--	22	62	88	58	42	48	45
ACNP	--	--	--	5	9	12	13	22
NNP	--	--	--	--	--	3	6	8
GNP	12	23	23	14	12	16	12	12
FNP	--	--	22	62	84	96	91	85
TOTALS	12	58	138	197	197	194	189	198

Nurse Practitioner MSN Degrees and Certificates by Year:

MAJOR	1994	1995	1996	1997	1998	1999	2000
PNP	0	6	8	13	15	8	9
ANP	2	11	27	35	18	19	31
ACNP	0	0	0	0	6	4	3
NNP	0	0	0	0	0	5	4
GNP	5	9	8	3	5	7	7
FNP	22	0	6	41	37	31	47
PACNP	0	0	0	0	0	0	1
TOTALS	28	26	49	92	81	74	102

Clinical Hours

	AHEC REIMBURSABLE SITES	NON- REIMBURSABLE EXPERIENCES	TOTAL
1997-1998	53,444	4,168	57,612
1998-1999	65,120	7,768	72,888
1999-2000	88,920	10,968	99,888

Sites in Use (SOME SITES PRECEPT MULTIPLE EXPERIENCES SIMULTANEOUSLY)

	AHEC REIMBURSABLE SITES	NON- REIMBURSABLE EXPERIENCES	TOTAL
1997-1998	342	18	360
1998-1999	389	21	410
1999-2000	472	36	508

East Carolina University The Physician Assistant Program

An application and self-study was submitted to the Accreditation Review Committee on Education for the Physician Assistant, Inc. (ARC-PA). The Review Committee recommended provisional accreditation and this was approved by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) in October 1997.

In May 1997 the first class of 20 students was admitted to the program. The first class of 18 students graduated in August 1999. ECU graduates did well on the National Commission on Certification of Physician Assistants Examination with a 94% pass rate (the national average for first-time test takers was 85%). On the surgery section, ECU graduates achieved a 93% pass rate.

In May 1998, 30 students were admitted as the second class into the program. Of the 30 students admitted, 22 will be taught in a traditional classroom setting and eight will receive some traditional training but will receive most of their didactic instruction through distance learning and mentoring in their home communities. The eight students involved in the distance learning group are part of a "Partners in Training Grant" from the Robert Wood Johnson Foundation to train Nurse Practitioners, Nurse Midwives and Physician Assistants using an interdisciplinary approach. This approach is an attempt to allow students from medically underserved counties in North Carolina to take classes and be allowed to live at home, take courses on a part-time basis and continue to work part-time. They will complete the last year of their training as full-time students in clinical settings.

It is expected that by recruiting mid-level practitioner students from rural underserved areas for this Partners for Training Program they will stay in their communities after graduation. This partnership includes PA students and a Nurse Midwife student from ECU and Nurse Practitioners students from both Duke and ECU. The three disciplines will participate in five core courses together and will then pursue their discipline-specific courses. In order to meet accreditation standards, the distance learning and the on-campus courses must be equivalent.

The Duke and ECU Physician Assistant Programs entered into an affiliation agreement to allow selected ECU students who enter the ECU PA Program with a baccalaureate degree to earn a second baccalaureate degree from ECU and take three additional courses from Duke and earn a Master of Health Science Degree. We currently have ten students that are involved in the Duke/ECU master's option. All ECU students are North Carolina residents and it is anticipated that most will remain in North Carolina after graduation. The program emphasis is on Primary Care and administrators have planned various clinical rotations in rural primary health care settings.

There are three other physician assistant programs in North Carolina. All three are private programs and many of their students are non-residents who return to their home states to practice. The ECU PA Program is off to a good start and looks forward to providing primary care providers to North Carolina. The core faculty for the PA Program and the Department Chair all practice clinically at least one day each week to keep skills current, to serve as role models for the students, and, to be active health care providers for North Carolina.

APPENDIX

Primary Care Providers (HB 230)

Sec. 23A.5. G.S. 143-613 reads as written:

"§ 143-613. Medical education; primary care physicians . physicians and other providers.

(a) In recognition of North Carolina's need for primary care physicians, Bowman Gray School of Medicine and Duke University School of Medicine shall each prepare a plan with the goal of encouraging North Carolina residents to enter the primary care disciplines of general internal medicine, general pediatrics and to strive to have at least fifty percent (50%) of North Carolina residents graduating from each school entering these disciplines. These schools of medicine shall present their plans to the Board of Governors of The University of North Carolina by April 15, 1994, 1996, and shall update and present their plans every two years thereafter. The Board of Governors shall report to the Joint Legislative Education Oversight Committee by May 15, 1994, 1996, and every two years thereafter on the status of these efforts to strengthen primary health care in North Carolina.

(b) The Board of Governors of The University of North Carolina shall set goals for the Schools of Medicine at the University of North Carolina at Chapel Hill and the School of Medicine at East Carolina University for increasing the percentage of graduates who enter residencies and careers in primary care. A minimum goal should be at least sixty percent (60%) of graduates entering primary care disciplines. Each school shall submit a plan with strategies to reach these goals of increasing the number of graduates entering primary care disciplines to the Board by April 15, 1994, 1996, and shall update and present the plans every two years thereafter. The Board of Governors shall report to the Joint Legislative Education Oversight Committee by May 15, 1994, 1996, and every two years thereafter on the status of these efforts to strengthen primary health care in North Carolina.

Primary care shall include the disciplines of family medicine, general pediatric medicine, general internal medicine, internal medicine/pediatrics, and obstetrics/gynecology.

(b1) The Board of Governors of The University of North Carolina shall set goals for State-operated health professional schools that offer training programs for licensure or certification of physician assistant, nurse practitioners, and nurse midwives for increasing the percentage of the graduates of those programs who enter clinical programs and careers in primary care. Each State-operated health professional school shall submit a plan with strategies for increasing the percentage to the Board by April 15, 1996, and shall update and present the plan every two years thereafter. The Board of Governors shall report to the Joint Legislative Education Oversight Committee by May 15, 1996, and every two years thereafter on the status of these efforts to strengthen primary health care in North Carolina.

(c) The Board of Governors of The University of North Carolina shall further initiate whatever changes are necessary on admissions, advising, curriculum, and other policies for State-operated medical schools and State-operated health professional schools to ensure that larger proportions of medical students seek residencies and clinical training in primary care disciplines. The Board shall work with the Area Health Education Centers and other entities, adopting whatever policies it considers necessary to ensure that residency and clinical training programs have sufficient medical residency and clinical positions for medical-school graduates in these primary care specialties. As used in this subsection, health professional schools are those schools or institutions that offer training for licensure or certification of physician assistants, nurse practitioners, and nurse midwives.

(d) The progress of the private and (public) State-operated medical schools and State-operated health professional schools towards increasing the number and proportion of graduates entering primary care shall be monitored annually by the Board of Governors of The University of North Carolina. Monitoring data shall include (i) the entry of State-supported medical graduates into primary care residencies, residencies and clinical training programs, and (ii) the specialty practices by a physician and each midlevel provider who were State-supported graduates as of a date five years after graduation. The Board of Governors shall certify data on graduates, their residencies,

residencies and clinical training programs, and subsequent careers by October 1 of each calendar year, beginning in October of 1995, to the Fiscal Research Division of the Legislative Services Office and to the Joint Legislative Education Oversight Committee.

(e) The information provided in subsection (d) of this section shall be made available to the Appropriations Committees of the General Assembly for their use in future funding decisions on medical and health professional education."

Requested by: Senators Martin of Guilford, Forrester, Perdue, Rand, Representatives Gardner, Hayes, Nye, Holmes, Creech, and Esposito.