The University of North Carolina

GENERAL ADMINISTRATION

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TO: Members, Committee on Educational Planning, Policies, and Programs

FROM: Alan Mabe

SUBJECT: Plan for Expansion of Medical Education in North Carolina

You have for your consideration a plan for the expansion of medical education in North Carolina in order to provide more physicians in North Carolina and a better distribution of those physicians to the most underserved areas of the State.

This is a general plan for the expansion of medical education in North Carolina developed cooperatively by East Carolina University Medical School and the University of North Carolina at Chapel Hill Medical School. Teams from the two schools have been working hard to craft a proposed plan that will meet the needs of North Carolina.

This plan is reminiscent of the Plan for Dentistry, which was also developed by the two schools. This proposal seek support for the general plan and not, at this point, specifically for any of the individual components. If this plan is approved, a planning process would ensue that would focus on developing the plan in greater detail. Eventually each component of the plan, if pursued, would be brought to the Board for review and action based on the type and merits of the proposal.

The plan is for UNC Chapel Hill to expand by 70 students by class and develop facilities in Charlotte and Asheville to accommodate 50 and 20 of those students respectively for their third and fourth years of medical education. The plan is for ECU to expand from the current 73 in each class to up to 120 medical students or an increase of 47 per class. How those students at ECU would spend their third and fourth years is still in the planning stages.

The plan includes a role for expanded graduate medical education to provide more residencies in North Carolina since the place of residency is a high predictor of where one engages in medical practice. A task force representing all the medical schools in North Carolina is working on a plan to increase residencies in North Carolina and to seek federal and state funding for this expansion. AHEC will be a key collaborator for both campuses in planning and supporting the proposed expansions.

Appendix A provide a brief description of medical education in NC; Appendix B provides a tentative budget to communicate the magnitude of this undertaking; and Appendix C reports on preliminary work to build and expand cooperation among hospitals in North Carolina.

A Plan for Medical Education in North Carolina

Building on strength: responding to North Carolina's need for more practicing physicians

North Carolina is facing a physician shortage, particularly in rural and rapidly growing areas. We propose to address this crucial state concern by expanding the number of medical students and medical residents through a comprehensive plan that leverages the strengths of North Carolina's two public medical schools, Area Health Education Centers (AHEC) and local teaching hospitals, and other clinical sites.

This document reflects a commitment on the part of the University of North Carolina, through its campuses in Chapel Hill and Greenville, to work cooperatively to better understand the nature and scope of current and anticipated demand for medical personnel and together develop coordinated and complementary institutional approaches to respond to these pressing needs for the benefit of the entire state.

Highlights of this plan include:

- UNC at Chapel Hill would expand the medical school enrollment from 160 first year students to 230 first year students on a phased basis, starting in 2009. The additional 70 students will complete their third and fourth year clinical rotations at either the Charlotte Campus (50) or the Asheville Campus (20), starting their regional placements in 2011. This expansion is intended to increase opportunities for physicians interested in serving underrepresented populations in the state, and to offer high-quality health care for those regions.
- ECU would expand its enrollment from 73 to 120. The additional students will complete their third and fourth years at satellite training centers in eastern North Carolina which will be identified in consultation with AHEC and after careful planning and consultation with regional leaders. This expansion will allow the Brody School of Medicine to build on its established strengths in attracting and educating more students to practice in rural, underserved areas of our state. The expansion will also provide increased access to quality healthcare in the region, furthering the mission of the school.
- AHEC would develop an additional center in Elizabeth City and receive sufficient additional recurring funding to provide quality medical education for an increase in medical students and residents across the state as outlined in this proposal. This additional funding will build upon AHEC's existing strengths through increasing the payment for physician preceptors and through increasing the number of physicians employed full-time by AHEC. In addition, AHEC has the potential to serve as an intermediary structure to support clinical and translational research objectives of all health affairs schools in North Carolina.
- Since both the location of medical school education and the location of residency training are major drivers in the decision of where physicians choose to practice, it is as important to

increase the number of residents trained through increasing the funding for residency training in North Carolina. AHEC and other institutions sponsoring graduate medical education must receive additional federal and state funding. The breadth and depth of additional residency positions needed requires careful study by a statewide alliance of residency sponsoring institutions. This will provide cogent data on the types of training needed, i.e., what specialties, the number of positions, the necessary funding for those resident positions, as well as faculty, staff and associated resources.

There remains a pressing demand in the state for increased numbers of other qualified medical professionals (Nurses, Allied Health, etc.). There are ongoing discussions on how to address shortages. For the purpose of this plan, plans for expansion of these disciplines have not been incorporated.

Background: Demographic and workforce drivers for the increased production of physicians who practice in North Carolina

The North Carolina Institute of Medicine (NCIOM), the National Institute of Medicine and the Association of American Medical Colleges all predict a deficit of physicians by the year 2020. These groups have also identified a crisis in primary care, with fewer physicians going into this field, as well as major problems arising from the geographic distribution of physicians.

Predicted physician shortages do not affect all states equally. States like North Carolina with a high growth rate and a large rural population will bear a disproportionate burden of the physician shortage. According to the 2007 State Physician Workforce Data Book from the Center for Workforce Studies at the Association of American Medical Colleges, North Carolina ranks 29th in the national rankings of physicians per 100,000 population in the state and 34th for primary care physicians per 100,000. Eight of the ten counties in NC with the smallest proportion of primary care physicians are in eastern North Carolina. (For example, Hyde County has no practicing physicians.)

With a projected population growth of 52% from 2000 to 2030, the state will be heavily impacted by the predicted shortages. If the number of medical students who graduate and go on to practice in North Carolina is not increased, the state will be more heavily dependent on importing physicians to meet health care demands.

North Carolina has a strong tradition of medical training, but the state's need for doctors will soon outpace the current system. The four medical schools in North Carolina currently graduate approximately 440 medical students per year, over half of them from the two public schools. The number of students trained in medical schools has not changed significantly in the 30 years since the last medical school opened.

Background: The organization and providers of medical education in North Carolina

Currently, there are two public (University of North Carolina School of Medicine in Chapel Hill, Brody School of Medicine (BSOM) at East Carolina University) and two private (Duke University; Wake Forest University) medical schools in North Carolina. Students attend four years of "undergraduate" medical training, two years of basic science education and two years clinical training in hospitals and other health centers.

Following graduation, students continue their training in residencies in health care institutions. Data show that the location of a physician's residency is one of the most important factors in where a physician chooses to practice.

Full descriptions of the two medical schools, AHEC, and the hospitals involved in this plan are included as Appendix A.

East Carolina University and the University of North Carolina at Chapel Hill: Collaborators in Health Care

A major part of this plan includes cooperative initiatives between North Carolina's two medical schools working together on many areas of educational, clinical and research significance. The plan envisions initiatives and approaches at the two public medical schools that will not be identical, but will be complementary.

Examples of current interaction include:

- The recently signed memorandum of understanding between UNC SOM's Lineberger Cancer Center and the Brody School of Medicine's Leo W. Jenkins Cancer Center, designed to promote collaboration between the clinical and research programs of the two institutions.
- Multiple medical students from BSOM or UNC SOM do elective rotations at the other public medical school each year to enhance the medical education they receive at their home institution.
- Investigators focused on healthcare disparities are collaborating to determine why certain sectors of society receive care more or less than other sectors.
- Scientists from the two schools are collaborating on a proposal to the National Institutes of Health for a Clinical and Translational Science Award.

The Backbone of the Plan: Expansion of the Number of Medical Students in NC

This plan to address physician shortages in NC is built on the foundation of expansion of the number of medical students trained here and the expansion of residencies. The plans at UNC and BSOM are summarized below.

Expansion plan of UNC SOM

The UNC School of Medicine has formed collaborative relationships with the health care leaders in Charlotte and Asheville to explore an expansion of the class size by forming two regional medical school campuses. Under the proposal, 70 medical students in their third and fourth year would obtain their training in Asheville or Charlotte, after spending their first two years in Chapel Hill.

The expanded educational program would work as follows:

- UNC will expand the medical school enrollment from 160 first year students to 230 first year students on a phased basis, starting in 2009.

- The additional 70 students will complete their third and fourth year rotations at either the Charlotte Campus (50) or the Asheville Campus (20), starting their regional placements in 2011.

- The Dean of the UNC School of Medicine will be the Chief Academic Officer and each branch campus will have a regional dean who will exercise educational responsibility under the direction and oversight the UNC Dean.

- The three campuses would share a common curriculum and the same basic educational approach; expected core competencies, pedagogy, faculty requirements, advancement and evaluation methods will be consistent across all three campuses.

- Although the educational methods and curriculum will be consistent, innovations will be encouraged to the advantage of the students, the institution and the community.

- The regional campuses will be able to take advantage of regional training sites to place a special focus on training and supporting physicians who want to work in rural areas, practice primary care medicine, and serve minority and other underrepresented populations

Expansion plan of ECU/BSOM

- The BSOM will expand its first year medical school enrollment from the current 73 to 120 students in a phased process. The timing for increased enrollment will be determined by the fall of 2008.
- The additional students will complete their third and fourth year clinical education at satellite training centers located in eastern North Carolina. Those sites will be identified by early in 2009.
- The Dean of the BSOM at ECU will be the Chief Academic Officer and the administrative responsibility at the satellite training centers will be led by the Dean's Office. The Dean will retain ultimate control and accountability for the educational experiences of medical students and resident physicians at the satellite centers.
- Per the dictates of the Liaison Committee on Medical Education (LCME), the national accrediting body for medical schools, students will receive comparable educational experiences and equivalent methods of evaluation across all the training sites. Faculty representatives from the satellite training centers will be governed by the same standards as all ECU faculty.
- Innovative curricular strategies will be implemented at the satellite training centers. Advanced technology will be used for education and connectedness for students and faculty.
- The Brody School of Medicine has an excellent tradition of graduating physicians who practice medicine in North Carolina and who enter primary care residency programs. This expansion will allow the school to continue cultivating students to enter primary care specialties and practice in rural, underserved areas of the region and state.

A Crucial Next Step: Increasing the Number of Physicians who Complete Training and Practice in the State

Increasing medical school class size is a major step towards getting more physicians for North Carolina, but it will not address the issue of physician shortages comprehensively enough. Before physicians can practice they must receive specialty training in a residency program. Providing this training within our state is essential because studies show that most physicians choose to practice in the geographic area in which they receive residency training.

Graduate Medical Education

After graduating from medical school, physicians continue their training by becoming residents in an accredited graduate medical education program. Residents fulfill three major roles during their training. They are physician-students learning a specialty, they are frontline educators

teaching medical students, and they are practitioners providing medical care to patients. As teachers, residents supervise and instruct students across many disciplines, and assist in the recruitment of students to residency programs, thereby feeding into the pool of regional practicing physicians. Growth in the undergraduate medical enterprise will require growth in the graduate medical enterprise, particularly to fulfill adequately the teaching role of the residents, but also to continue to move doctors through the education system to become practicing physicians.

Under the umbrella of UNC Tomorrow and the UNC General Administration, we propose the appointment of a Graduate Medical Education Task Force to develop a strategy to develop a plan to increase graduate medical education positions for the State. All North Carolina Medical Schools (public and private), Carolina Medical Center, and AHEC will be represented on this body. This group will be charged by President Bowles with developing a strategy for seeking state and federal funds to increase GME slots in the State of North Carolina by January 2009.

A review of disease incidence and physician need in North Carolina shows that a number of residency programs must be developed or expanded. Across North Carolina, cardiovascular disease, cancer, diabetes, obesity and renal disease continue to be major issues. Throughout the state, there are deficits in the number of physicians practicing in numerous specialties, including but not limited to Internal Medicine, Family Medicine, Pediatrics, Cardiology, Psychiatry, Urology, Orthopedics, Neurology, Hospitalist Medicine, and many medical, surgical and pediatric subspecialties. Residency programs in all these areas must be created or expanded.

While the very fact that these physicians complete their residency training in our state will directly increase the likelihood that they will practice in our state, all residency programs in North Carolina should have access to incentives that will further enhance that likelihood. Since the average medical student in the U.S. now graduates with an educational debt load of significantly over $100,000, loan forgiveness programs may be a prominent feature. The General Assembly may need to provide enabling legislation and some funding, while other funding can come from local communities needing more physicians.

Additional infrastructure will be needed to support new or expanded programs. This will include more faculty for the existing programs and new faculty for the added programs. In addition, support staff, educational and clinical space will be needed. Services such as academic counseling and a robust simulation program will be needed to support competency-based training for the resident learners, which is now required for residency program accreditation. These additional faculty and staff positions must be supported financially.

To fill additional positions with the best candidates, an aggressive recruitment program and package that will attract top students from across the nation to complete residency at existent and new residency training sites in North Carolina must be developed. The residency sponsoring institutions need to take the lead in this recruitment, but it will also require direct support from

the medical schools, AHEC, and the General Assembly. This might include financial support for applicant interview trips and signing bonus or loan forgiveness for certain applicants. Development of a regional-based or community-based recruitment package for those who would stay to practice in the state, especially in underserved areas, is a key feature.

AHEC and the existing hospital consortiums in the state must serve as partners in helping to expand GME in the state. Currently, AHEC administers the residency grants program that was put in place in 1974 to expand residency training in primary care. Additional state and federal support would allow the expansion of residency training in specialty areas that are most critically needed in the state. The 2007 NCIOM report on the primary care and specialty workforce in the state identified the highest priorities as primary care, psychiatry, general surgery, and selected other subspecialty areas, particularly in pediatrics. Investments must be made in the existing residency programs in the state to support expansion in these and other critically needed specialty areas. The experience over the past thirty years shows that approximately 50-55% of residency graduates remain in North Carolina to practice. For graduates of AHEC residency programs, the retention rate is approximately 65%. The key is to have physicians in North Carolina who graduate from medical school and complete their residency training here.

Area Health Education Center

Experiences in the NC AHECs, in both inpatient and outpatient settings, are an essential part of the clinical curriculum for medical students. The bulk of the AHEC clinical experiences occur in the clinical years. Large numbers of students complete the required clerkships in medicine, pediatrics, obstetrics and gynecology, psychiatry, and family medicine in AHEC settings. These students are taught by both full-time AHEC-based medical faculty as well as community preceptors. (Preceptors are healthcare professionals with the clinical experience and educational skills to teach students. In this paper, physician preceptors are the key resource. However, nurses, pharmacists and many other healthcare professional serve as preceptors for AHEC.) Medical students from both BSOM and UNC-CH complete clinical rotations (required clerkships, acting internships, electives) in the clinical facilities of the North Carolina regional AHECs that operate residency programs.

Although the current capacity in the AHECs to expand is slightly less than 200 student months, several AHECs and their partner hospitals are growing new programs or expanding existing programs. Hospitals are adding additional beds, and some AHECs are considering adding additional residents to current programs, as well as starting new residencies.

With the expansion of medical school classes (and increasing need from other health professional programs), additional faculty and staff positions employed by AHEC are essential to support the enrollment increases. Both UNC SOM and BSOM use the AHEC system extensively. Given the increased needs from both schools as well as other schools across the state, more housing options for students at sites remote from their home campuses must be

secured. At least 7-8 additional apartments throughout the system will be needed to accommodate just the BSOM expansion. Housing for medical students educated in Charlotte and Asheville must also be included. Across the state, AHECs are currently stretched to the limit in terms of staff to manage these apartments. This is a resource intensive activity requiring scheduling, coordination of maintenance, and other logistical support for student housing.

Nearly 2,200 community preceptors are under contract with AHEC to teach medical students from all four medical schools in NC. Additionally, other health professional students (e.g. nurse practitioner, PA, pharmacy, etc.) are taught by these community preceptors. This broad array of community preceptors is compensated at the rate of $450 per month of student teaching. This rate has held steady for the last 10 years, and in fact was reduced during the budget crisis of 2000 from $500 to $450 per month. There is overwhelming consensus that $450 per month is inadequate compensation to attract physician preceptors in adequate numbers; in part, this is reflected in the inability to recruit additional physician preceptors in adequate numbers. AHECs have indicated the growing difficulty in recruiting and maintaining a core group of preceptors at the current payment rate. As a result, it is vital that North Carolina significantly increase the compensation rate to sustain a strong cadre of high quality community physician preceptors for medical students throughout the AHEC system.

Budget requirements

UNC School of Medicine

The creation of these two new regional campuses for UNC SOM will require both capital funding and recurring funding. The phasing in of the full number of new students, and the establishment of the new campuses fall into three basic phases: 1) Planning and Construction, 2) Increase Preclinical Capacity at UNC and 3) Creation of Regional Clinical Education Programs. The overall budget needs are $40 M in recurring funds and $239 M in non- recurring funds.

The recurring needs for the expansion of the class and the regional campuses will be phased in over a 6 year period, starting with $3.6 M in FY 2009 and reaching a level of $40.2 M with full enrollment of the additional 280 students (70 per class) in FY 2015.

The largest component of recurring needs is salary for the additional faculty to teach and supervise the students, and a limited number of administrative staff to support students and teaching. The total additional FTE’s (including all faculty and staff in all three locations) requested ranges from 6.22 in the first planning year to 199.3 in the FY 2015.

Adequate facilities capable of supporting the increased class size will require construction/renovation of an education building in Chapel Hill, construction of a clinical education facility in Charlotte, and renovation of the current MAHEC facility in Asheville. This totals $239M in non-recurring funds.

The expansion of the class is dependent upon capital support for these facilities. Assuming funding availability, for Chapel Hill, the most optimistic construction window is 2007-2012; for Charlotte, the window is 2008/9-2012; for Asheville, the window is 2008-2011. It is expected that all locations are capable of supporting a phased introduction of students.

Brody School of Medicine

For the Brody School of Medicine, the new expenses associated with this significant increase in medical student enrollment will be focused on two areas: growth at the Greenville campus to accommodate the additional students for their first two years; and creation of satellite training centers in the region as locations for the third and fourth year of medical education for students. Similar to the growth at UNC SOM, the BSOM expansion will be divided into three phases: 1) Planning for growth in Greenville and for the creation of the satellite centers; 2) Increasing the resources to provide high quality teaching in the preclinical years; and 3) Establishing the satellite training centers which will be the focal points for the clinical years. The overall budget needs are $31.5 million in recurring funds and a total of $150 million in non-recurring funds. (Please note that as of February 11, 2008, these are near-final figures. The process of clarifying the budget projections will be completed in the next few weeks. Further, the cost of establishing the satellite learning centers has not been developed.)

Further discussion and planning is needed to develop an exact timeline, but it is anticipated that the BSOM growth can be phased in over the next several years. The delineation of additional recurring funding needed for each year is under development.

As with any clinical education program, the largest portion of the increase in recurring funding will be the additional faculty and staff needed. The preliminary outline of the new FTE's in Greenville, counting both faculty and staff, is 173.5 when the program is fully realized (not including the AHEC positions noted below). They account for $20.8 million in recurring funds and $17.3 million in start-up funds.

As previously noted, the expansion of medical student class size requires a similar increase in the number of residency slots for specialty training, based on the fundamental concept that physicians tend to settle for their medical careers in the area where they complete residency training. The expense of adding 66 residency training positions in primary care and specialty areas needed in the eastern region is $6.9 million in recurring funds.

The existing physical facility at the Brody School of Medicine in Greenville cannot accommodate more than 80 students and has no space for the additional faculty and staff required for this expansion. A new facility and renovation of the Brody Medical Sciences

Building will be required to accommodate the growth. The projected cost for this is $150 million.

The satellite training centers will rely on AHEC physician preceptors across the medical specialties. These physicians will work in local communities, have thriving clinical practices, and be directly involved in the clinical teaching of medical students. In selected sites, new residencies may be developed that benefit from the regional resources of the community hospital, the physician workforce, the patient population, and the community leaders. The projected cost for these faculty, staff, student housing and related expenses is $3.7 million in recurring costs.

When comparing the budget request from UNC SOM and the Brody School of Medicine, it is important to note that the existing base budgets for the two schools are not proportionate in terms of medical student enrollment now. The reason for this difference is two-fold: (1) the class size at UNC SOM is currently more than double the class size at ECU (160 @ UNC SOM vs. 73 @ ECU), which results in significant economies of scale; and (2) ECU's mission is based upon a heavy concentration of primary care education and recruiting disadvantaged students into medicine, which requires more faculty time per student for precepting/mentoring/evaluating, and, therefore, is more costly than the instructional costs for a traditional medical school.

Areas for Enhanced collaboration

Educational

- Recruitment of undergraduate students with highest potential for success in the science and art of medicine, focused on UNC institutions and other colleges/universities in NC and adjacent states
- Reconsideration of the prerequisites for entry into medical school, with the potential of decreasing the amount of required basic science course time in the medical curriculum, and replacement with electives or curriculum to strengthen preparation in the art of medicine. This change will likely require extensive coordination both with undergraduate institutions and with all of the medical schools in the state. It would have to be done in a manner consistent with LCME requirements for accreditation.
- Offering joint distance education didactics, reaching medical students at all regional campuses
- Securing new funds for graduate medical education programs
- Communication between the Admissions Offices of both institutions to minimize intrusions into the student applicant pools of each school
- Promote collaboration between the simulation centers under development at both schools to support medical education

- Strengthening of NC statutes that allow loan-forgiveness programs so that local communities can recruit and retain physicians

Clinical

- The recently signed Memorandum of Understanding between the Lineberger Cancer Center and the Leo W. Jenkins Cancer Center, will promote collaboration in clinical care and research in cancer, benefitting the people of NC
- Identify clinical specialties where sharing of physician resources makes geographic, financial, and logistical sense
- Develop a statewide healthcare delivery network providing enhanced access to care for all of North Carolina, as led by Gary Parks and Dave McRae

Research

- Consideration of collaboration among cardiovascular clinical and research programs (at ECU, to be coordinated by W. Randolph Chitwood, Jr., MD, FACS)
- Explore the utility of research partnerships in metabolic diseases, to include bariatric surgery, diabetes, obesity, and related clinical disorders

Impact(s) of this plan on North Carolina's need for adequate physician coverage

The development of regional campuses, plus expanded and additional clinical sites and residencies also contributes to economic development. AAMC data indicates that direct and indirect economic impact of academic medical centers totaled $14 billion and 108,000 jobs in 2005. Currently North Carolina ranks 10th in the nation in terms of the total economic impact of academic health centers. With the addition of new academic health centers to the state, this impact should increase.

The Charlotte and Western NC regions are already expanding rapidly as new jobs and desirable retirement communities attract new residents. During the past ten years, 8,662 new firms have invested $12.8 billion in Charlotte, and during 2006 alone over 12,000 new jobs were added. Charlotte may soon be the largest metropolitan area in the Southeast, with 7.1 million people compared to 7.6 million people within a 100-mile radius of Atlanta. It is the largest city in the United States without its own medical school.

To meet the needs of the growing state population for primary care physicians and for physicians interested in practicing in rural areas of the state, expanding the enrollment of the two state supported medical schools is the clear and logical answer. Regional medical school campuses and satellite training centers across the state can enhance further development in a strong local economy through medical care delivery and become the impetus for the development of post-graduate training programs and biomedical research.

APPENDIX A: The organization of medical education in North Carolina

Private

There are two private medical schools in North Carolina at Duke and Wake Forest University. Between them, they have an entering class of 220. Both institutions have indicated that they are not interested in growing the size of their undergraduate medical education programs.

Public

The University of North Carolina School of Medicine: UNC SOM is one of the top ranked public medical schools in the country. It currently admits 160 students into the first year program. The UNC hospitals sponsor 57 specialty and subspecialty residency programs, with 650 residents currently in training. Students have access to over 200 basic sciences faculty and more than 980 clinical faculty. The medical education program has a full five-year accreditation approval from the LCME.

Brody School of Medicine (BSOM) at East Carolina University: The BSOM is a national leader in primary care and in rural medicine and has been recognized by U.S. News & World Report in their annual rankings of medical schools for both primary care and rural medicine. The school has adhered closely to and demonstrated significant achievements through the tripartite mission given by the NC General Assembly: to educate primary care physicians; to provide access to careers in medicine for minority and disadvantaged students; and to improve the health care services in eastern North Carolina. Pitt County Memorial Hospital, the private teaching hospital, offers 30 specialty and subspecialty residency programs with over 340 residents and fellows in training. The BSOM educational programs received a full eight years of accreditation from the Liaison Committee on Medical Education (LCME) in 2004.

The North Carolina AHEC: NC AHEC is the largest and most comprehensive AHEC Program in the country. Current full-time medical faculty in the AHECs totals 350, and medical residents total 410. Through its regional offices, AHEC supports primary care residency training programs, continuing medical education support, and community-based student training. Currently, 40 % of the clinical curriculum of UNC SOM is offered through AHEC, with UNC students training in six AHEC community hospitals and two state psychiatric hospitals away from the main Chapel Hill academic medical center. AHEC services and resources are used in each year of the medical curriculum at the BSOM starting in first and second years with placement in the community based preceptorships. Across the four years of medical education, 100% of students from the BSOM have clinical experiences at AHEC affiliated sites.

With the expansion of the program in Chapel Hill and Greenville, the following capacity would be folded into the public system.

Carolinas Medical Center (CMC) of the Carolinas HealthCare System (CHS) in Charlotte: CHS is the largest public healthcare system in North Carolina and the third largest in the U.S. The system owns leases or manages 21 hospitals and serves areas in both North and South Carolina. CHS facilities operate over 4,900 beds, including ten nursing home locations. CHS has over 200 healthcare delivery sites, including more than 115 Carolinas Physicians Network medical practices. CMC is the 861-bed flagship hospital and serves as the region's only Level I trauma center. CMC has a long-standing commitment to medical education, sponsoring residency training programs and fellowships in 15 specialty areas, with 207 resident-in-training. The current full time faculty consists of over 200 physicians and CHS overall employs over 1100 physicians.

Asheville Consortium: The three principal partners in Asheville are:

Mission Hospitals: This 750-bed regional referral center has a medical staff of more than 650 physicians in over 50 specialties. In 2006, Mission had approximately 40,600 inpatient discharges, 194,700 offsite outpatient visits, 91,646 emergency visits, and over 40,000 surgeries, more than any other hospital in the state.

Mountain Area Health Education Center: MAHEC, as part of the North Carolina AHEC system, has supported rural primary care and community-based medical education for more than 10 years. MAHEC together with Mission Hospitals has residency programs in Family Medicine, Obstetrics and Gynecology, and Dentistry and fellowship programs in Geriatrics and Maxillofacial Surgery.

The Western North Carolina Health Network: WNCHN is a collaboration of hospitals, county health departments and other health care providers. WNCHN evolved from smaller networks and alliances and now connects all 16 regional hospitals.

DRAFT

Consolidated Budget

Additional students/year	Planning Year FY 2009	Partial Enrollment Year 1 FY 2010	Partial Enrollment Year 2 FY 2011	Partial Enrollment Year 3 FY 2012	Partial Enrollment Year 4 FY 2013	Partial Enrollment Year 5 FY 2014	Partial Enrollment Year 6 FY 2015	Partial Enrollment Year 7 FY 2016	Full Enrollment Year 8 FY 2017	Full Enrollment Year 9 FY 2018	Total Requested
Student FTE's											
Chapel Hill		45	50(45)=95	70(50)=120	70(70)=140	70(70)=140	70(70)=140	70(70)=140	70(70)=140	70(70)=140	140
Charlotte				25	55	80	100	100	100	100	100
Asheville				20	40	40	40	40	40	40	40
Chapel Hill - AHEC											
East Carolina - Greenville		7	7(7) = 14	17(7,7) = 31	27(17,7,7)=58	47(27,7,7)=88	47(47,7,7)=108	47(47,7,7)=108	47(47,7,7)=108	47(47,7,7)=108	108
East Carolina - AHEC and Satellites						10	20,10 = 30	40,20=60	40,40 = 80	40,40 = 80	80
Total Additional Student FTE's		**52**	**109**	**196**	**293**	**358**	**418**	**448**	**468**	**468**	**468**
Faculty and Staff											
Chapel Hill		21.17	44.69	56.45	65.86	65.86	65.86	65.86	65.86	65.86	65.86
Charlotte	2.32	4.65	13.94	18.59	40.90	59.49	74.37	74.37	74.37	74.37	74.37
Asheville	3.90	11.10	28.60	42.00	44.60	44.60	44.60	44.60	44.60	44.60	44.60
Chapel Hill - AHEC		1.79	3.67	6.55	9.70	13.18	13.84	14.50	14.50	14.50	14.50
East Carolina - Greenville		45.00	104.00	116.50	116.50	116.50	116.50	116.50	116.50	116.50	116.50
East Carolina - AHEC and Satellites				29.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00
Total Additional Faculty and Staff FTE's	**6.22**	**83.70**	**194.91**	**269.10**	**334.56**	**356.63**	**372.16**	**372.83**	**372.83**	**372.83**	**372.83**
Recurring Request											
Chapel Hill	1,166,506	4,666,023	9,915,299	12,539,937	14,581,323	14,581,323	14,581,323	14,581,323	14,581,323	14,581,323	14,581,323
Charlotte	914,462	1,828,923	2,743,385	3,657,847	8,047,263	11,705,110	14,631,388	14,631,388	14,631,388	14,631,388	14,631,388
Asheville	1,318,823	2,813,490	5,451,136	8,088,783	8,792,155	8,792,155	8,792,155	8,792,155	8,792,155	8,792,155	8,792,155
Chapel Hill - AHEC	207,703	830,811	1,765,472	2,232,803	2,232,803	2,232,803	2,232,803	2,232,803	2,232,803	2,232,803	2,232,803
East Carolina - Greenville	2,000,000	5,906,960	13,030,695	14,247,470	14,247,470	14,247,470	14,247,470	14,247,470	14,247,470	14,247,470	14,247,470
East Carolina - AHEC and Satellites				5,168,100	10,336,200	10,336,200	10,336,200	10,336,200	10,336,200	10,336,200	10,336,200
Total Recurring	**5,607,493**	**16,046,207**	**32,905,988**	**45,934,941**	**58,237,215**	**61,895,061**	**64,821,339**	**64,821,339**	**64,821,339**	**64,821,339**	**64,821,339**
Non-Recurring Facilities Request											
Chapel Hill	139,679,283	-									139,679,283
Charlotte	68,248,595										68,248,595
Asheville	30,831,457										30,831,457
Chapel Hill - AHEC	145,000										145,000
East Carolina - Greenville	150,000,000										150,000,000
East Carolina - AHEC and Satellites											-
Total Non-Recurring	**388,904,335**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**388,904,335**
Recurring and Non Recurring Request											
Chapel Hill	140,845,789	4,666,023	9,915,299	12,539,937	14,581,323	14,581,323	14,581,323	14,581,323	14,581,323	14,581,323	154,260,606
Charlotte	69,163,057	1,828,923	2,743,385	3,657,847	8,047,263	11,705,110	14,631,388	14,631,388	14,631,388	14,631,388	82,879,983
Asheville	32,150,280	2,813,490	5,451,136	8,088,783	8,792,155	8,792,155	8,792,155	8,792,155	8,792,155	8,792,155	39,623,612
Chapel Hill - AHEC	352,703	830,811	1,765,472	2,232,803	2,232,803	2,232,803	2,232,803	2,232,803	2,232,803	2,232,803	2,377,803
East Carolina - AHEC and Satellites	152,000,000	5,906,960	13,030,695	14,247,470	14,247,470	14,247,470	14,247,470	14,247,470	14,247,470	14,247,470	164,247,470
ECU Satellites and AHEC	-	-	-	5,168,100	10,336,200	10,336,200	10,336,200	10,336,200	10,336,200	10,336,200	10,336,200
Grand Total	**394,511,828**	**16,046,207**	**32,905,988**	**45,934,941**	**58,237,215**	**61,895,061**	**64,821,339**	**64,821,339**	**64,821,339**	**64,821,339**	**453,725,674**

* Graduate Medical Education request will be completed seperately.

Appendix C

Opportunities for Strengthening the Partnership
Between
University Health Systems of Eastern Carolina
And
UNC Health Care System

February 12, 2008

The University Health Systems of Eastern North Carolina (UHS) and UNC Health Care System (UNC) have had close working arrangements and partnerships in the past. These relationships have reflected the common mission, vision and principles between the UHS and UNC health care systems and the patients we serve. Both parties now believe that the opportunity exists for capitalizing on our relative strengths and leveraging the investments each entity has made in health care services development in the State. We believe that further collaboration will strengthen each entity and make future partnerships even more productive. The following is a list of opportunities for which plans and programs can be explored.

Joint Programs with Affiliated Schools of Medicine and Health Sciences Schools

- Expansion of Clinical Research and Teaching Programs: Clinical research and teaching programs could be expanded in joint efforts with associated health sciences schools. This initiative could also involve preventive health research programs that focus on important health problems in the State, such as childhood obesity. Efforts in this area would require interest and involvement from the health sciences schools on both campuses.
- Creative Use of Telemedicine between Academic Health Centers: UHS and the Brody School of Medicine have a long history of telemedicine services, and UNC has had limited programs in place. There may be creative ways of linking through telemedicine using joint offerings such as grand rounds, tumor boards, conferencing, or other similar initiatives. There may also be opportunities to involve smaller, rural hospitals through telemedicine.

System Based Initiatives

- Health Careers Development: Both health systems will benefit by finding creative ways to upgrade and cross train staff, thereby creating new models for health professional development. There may be synergies in jointly developing these models for use more widely in the health care system. One example in the early phases of development at UNC involves linking the health unit coordinator and nursing assistant roles in order to provide both career opportunities and also flexibility in staffing.
- Improving Access to Physician Services: UHS has completed a medical staff development plan with identified gaps in key service areas such as urology, pediatric surgery, surgical oncology, cardiology and vascular interventional services. UNC and UHS can explore creative ways to try to address these shortages while recruitment is underway. This may lead to longer-term agreements between the systems to assure access to care in eastern North Carolina.

- Residency Program Expansion: UHS and UNC are growing health systems. This growth can complement the need to respond to the existing and predicted shortage of physicians in North Carolina if the systems could also increase the number of allocated and funded residency positions. At present, there is a limit to the number of residents that can be included under the Medicare payment methodology. This is a health policy issue that the systems can work collaboratively on to try to increase the cap on residency positions for UHS, UNC and also the Carolinas Health System. This can be part of the LLC mentioned later in this paper.
- Building Stronger Specialty Services through Joint Ventures: The recent agreement in cancer program growth and development may also be a model for development in other areas such as heart services, pediatrics, and surgical services. The interest of the affiliated schools of medicine in this type of program development can be explored. Business plans and financing models would be important to the success of such opportunities, and should be considered by the systems.
- Targeted Health Services Support in Rural Areas: UNC is actively working in Dare County to expand and enhance programs that target the early identification, diagnosis, treatment, and survivorship support for patients with cancer. There should be opportunities in Dare County and perhaps in other areas for the two systems to work together to improve services to the citizens of the State. Financing mechanisms, potentially through grant programs, may be an option to support these efforts.
- Sharing Expertise: UHS and UNC both have strong programs in areas that may be of interest to either of the systems. A partnership that includes sharing ideas between the management staffs in areas such as staff and patient satisfaction, staff recruitment and retention, or creative patient education programs may be of interest. Additional areas of interest include creating efficiencies from benchmarking best clinical practice and operational practices.
- Other Concepts: As the partnership grows, the potential for other joint ventures, programs or ideas will certainly occur.

Statewide Health System Implications

- Academic Health Center Development:
  - UHS, UNC, and the Carolinas Health System in Charlotte are considering establishing a Limited Liability Corporation that will enable the three health systems to offer hospital management services to interested hospitals. As the LLC develops, services to physicians may also be developed.
  - The LLC could also evolve to provide a system of affiliated services such as urgent care, diagnostic centers, mobile diagnostic services to physician offices or other services needed in communities.

Summary

UHS and UNC have just begun discussions on each of these areas, and both systems recognize the potential benefits of working together to improve the health care system in North Carolina. These areas of interest can be explored and developed as the partnership evolves.