



East Carolina University | Board of Trustees
Health Sciences Committee Meeting | November 19, 2015
Agenda - Revised

- I. Approval of September 24, 2015 Minutes Action

- II. Health Sciences Division - Dr. Phyllis Horns Discussion
 - A. Health Sciences Research & Innovation Update – Dr. Kathy Verbanac

 - B. Brody School of Medicine Update - Dr. Paul Cunningham
 - 1. ECU Physicians Financial Performance - Mr. Brian Jowers
 - 2. Review Performance Indicators - Dr. Nicholas Benson
 - 3. \$8M Planning Workgroup Update - Mr. Gary Vanderpool
 - 4. Update on Huron Consultation - Dr. Nicholas Benson & Mr. Brian Jowers

- III. Closed Session

- IV. Health Sciences Informational Updates Information
 - A. College of Allied Health Sciences
 - B. College of Nursing
 - C. School of Dental Medicine
 - D. Laupus Library
 - E. Brody School of Medicine

East Carolina University
Board of Trustees
Health Sciences Committee
November 19, 2015

Session	Health Sciences Committee
Responsible Person	Vern Davenport, Chair
Agenda Item	I.
Item Description	Approval of minutes – September 24, 2015
Comments	
Action Requested	Approval
Disposition	
Notes	

Health Sciences Committee – Open Session
ECU Board of Trustees
September 24, 2015
Murphy Center

Board Members Present:

Edwin Clark
Mark Copeland
Vern Davenport
Deborah Davis
Leigh Fanning
Max Joyner
Mark Matulewicz
Bob Plybon
Danny Scott
Terry Yeargan

Others Present:

Michael Abramowitz
Chancellor Ballard
Bill Bagnell
Elizabeth Baxley
Michelle Brooks
Sylvia Brown
Paul Cunningham
Greg Hassler
Phyllis Horns
Chris Locklear
Cheryl Marsh

Ron Mitchelson
Rick Niswander
Donna Payne
Wayne Poole
Mary Schulken
Dan Sweat
Michael Van Scott
Gary Vanderpool
Mike Waldrum
Amanda Williams

Recorder: Cindy Reaves

Call to Order and Approval of Minutes:

Mr. Davenport called the meeting to order at 3:00 pm., and read the conflict of interest statement required by the State Government Ethics Act. Mr. Davenport acknowledged his concurrent service on the Wake Med Board of Trustees and his commitment to avoid any Conflicts of Interests in the execution of his trustee duties. No conflicts were identified. The minutes of April 23, 2015 were approved.

Vidant Health CEO Update:

Dr. Mike Waldrum, CEO of Vidant Health, gave an assessment of his first few months in his role. He has learned that there are unique strengths in this setting, reflected on where we are and the healthcare system that has been built in eastern NC. He feels that all strategies from both BSOM and Vidant Health have to rely on a shared model to be successful. His goal is to build a shared governance and accountability. Dr. Waldrum has been working with leadership to revise their mission and vision to promote education and to signify the collaborative efforts of Vidant Health and ECU/BSOM & Health Sciences.

College of Nursing Update:

Dr. Brown presented an update on the College of Nursing including its recent accomplishments, student leadership roles, enrollment trends and many other noteworthy achievements. The College of Nursing received its CCNE accreditation earlier this year for the maximum number of years allowed for each program. The CON was recognized as a National Hartford Center of Gerontological Nursing Excellence and a National League for Nursing Center of Excellence. ECU's Beta Nu Chapter of Sigma Theta Tau International received its 11th Chapter Key Award in November 2013 with only one other chapter in the world earning as many Chapter Key Awards. Three of their faculty have been published in books within the last year. Their global initiatives have included traveling to Nicaragua, Guatemala (Wells Elementary) and Finland. They recently graduated the largest class of RN/BSN students ever and continued high licensing exam pass rates. Some of the challenges that they face are faculty workload, recruitment & retention of faculty, financial constraints & obtaining external grant funding.

ECU Physicians Financial Performance Update:

Dr. Niswander reviewed the financial year-to-date information as of the end of June 2015. The net income before non-recurring items was approximately \$2.4M. Over a 12-month period, the cash reserves had increased from 75 days to 83.2 days. The total operating revenues were improved and the total operating expenses had decreased. There are a lot of positive changes in the ECU Physicians Practice Management Indicators with a 9.4% improvement in Pro-Fee Collections and a 7.5% improvement in total Emergency Med and Med Direct visits.

Coastal Plains Network & Medicare Shared Savings Program ACO Update:

Mr. Sweat presented an overview of the Coastal Plains Network & Medicare Shared Savings Program ACO, in which BSOM recently became a participant in collaboration with Vidant. Some of the guiding principles for ACO's include putting the beneficiary and family at the center, remembering patients over place and time and attending

carefully to care transitions. The benefits of the Coastal Plains Network would be to help ECUP focus on patient centeredness, ambulatory quality performance improvement, care transformation, allow them to participate in a premier PACT collaborative and obtain the software, CareEvolutions, for data reporting.

Division Updates:

Additional informational updates on the College of Allied Health Sciences, College of Nursing, Laupus Library, School of Dental Medicine and the Brody School of Medicine were included in the board packets.

Dr. Horns reminded members that Mr. Lawrence Davenport was hosting an Oyster Roast Social Event for ECU and VH/VMC Boards and Senior Leadership on October 7th and to please RSVP if you haven't already done so.

Closed Session:

Action: A motion was made by Chairman Davenport that the Health Sciences Committee go into closed session. Ms. Davis read the motion to go into closed session:

1. Prevent the disclosure of confidential information under N.C. General Statutes §126-22 to §126-30 (personnel information);
2. Consider the qualifications, competence, performance, character, fitness, or conditions of appointment of one or more prospective and/or current employees and/or to hear or investigate a complaint, charge, or grievance by or against one or more individual employees;
3. Consult with an attorney to preserve the attorney-client privilege; and
4. Prevent the disclosure of information that is privileged or confidential pursuant to law or not considered a public record within the meaning of Chapter 132 of the General Statutes, specifically to:
 - (a) Prevent the disclosure of financial terms and/or other competitive health care information directly related to the financial terms in a health care services contract between a hospital or medical school and a managed care organization, insurance company, employer, or other payer, as provided under N.C.G.S. § 131E-99; and
 - (b) Prevent disclosure of one or more reports regarding assessment of information technology networks under N.C.G.S. § 147-33.111 and to maintain the confidentiality information related to security features of networks and/or systems as provided in N.C.G.S. § 132-6.1(c).

Action: Motion passed.

Action: A motion was made by Chairman Davenport to go back into open session at 4:30 p.m. Motion passed.

Action Items:

The Health Sciences Committee reviewed one initial appointment with permanent tenure for Dr. David W. Paquette. A motion was made to approve the initial appointment with permanent tenure as approved by the Chancellor and as presented in the Board materials. Motion passed unanimously.

Meeting adjourned at 4:30 p.m.

East Carolina University
Board of Trustees
Health Sciences Committee
November 19, 2015

Session	Health Sciences Committee
Responsible Person	Dr. Phyllis Horns, Vice Chancellor for Health Sciences
Agenda Item	II.
Item Description	Health Sciences Division Update
Comments	
Action Requested	Update
Disposition	
Notes	

East Carolina University
Board of Trustees
Health Sciences Committee
November 19, 2015

Session	Health Sciences Committee
Responsible Person	Dr. Michael Van Scott, Interim Vice Chancellor Dr. Kathy Verbanac, BSOM
Agenda Item	II. A.
Item Description	Health Sciences Research & Innovation Update
Comments	
Action Requested	Update
Disposition	
Notes	

East Carolina University
Board of Trustees
Health Sciences Committee
November 19, 2015

Session	Health Sciences Committee
Responsible Person	Dr. Paul Cunningham Dean, BSOM
Agenda Item	II. B.
Item Description	Brody School of Medicine Update
Comments	
Action Requested	Update
Disposition	
Notes	<ol style="list-style-type: none">1. ECU Physicians Financial Performance – Jowers2. Review Performance Indicators – Benson3. \$8M Planning Workgroup Update – Vanderpool4. Update on Huron Consultation – Benson

East Carolina University
Board of Trustees
Health Sciences Committee
November 19, 2015

Session	Health Sciences Committee
Responsible Person	Dr. Phyllis Horns Vice Chancellor for Health Sciences
Agenda Item	III.
Item Description	Closed Session
Comments	
Action Requested	
Disposition	
Notes	

ECU BOARD OF TRUSTEES HEALTH SCIENCES COMMITTEE

November 19, 2015

CLOSED SESSION MOTION

I move that we go into Closed Session:

1. to prevent the disclosure of confidential information under N.C. General Statutes §126-22 to §126-30 (personnel information);
2. to consider the qualifications, competence, performance, character, fitness, or conditions of appointment of one or more prospective and/or current employees and/or to hear or investigate a complaint, charge, or grievance by or against one or more individual employees; and
3. to consult with an attorney to preserve the attorney-client privilege.

East Carolina University
Board of Trustees
Health Sciences Committee
November 19, 2015

Session	Health Sciences Committee
Responsible Person	Dr. Phyllis Horns Vice Chancellor for Health Sciences
Agenda Item	IV.
Item Description	Health Sciences Informational Updates
Comments	
Action Requested	None – Information only
Disposition	
Notes	A. College of Allied Health Sciences B. College of Nursing C. School of Dental Medicine D. Laupus Library E. Brody School of Medicine

ECU Board of Trustees
Health Sciences Committee Meeting
Friday, November 19
3:00 – 4:30 p.m.

Updates from the College of Allied Health Sciences:

Alumnus bequest to support Occupational Therapy students

A graduate of the occupational therapy program at East Carolina who is now a professor and researcher in the field has made a substantial bequest to College of Allied Health Sciences. The gift is from Dr. Randy Strickland, a 1975 graduate from Raleigh who is provost at Spalding University in Louisville, Kentucky. It is also in the name of his wife, Dr. Laura Schluter Strickland, an associate dean and a professor of health and natural sciences at Spalding.

The bequest will be used to establish an endowment providing scholarships for graduate doctoral occupational therapy students, according to Greg Abeyounis, ECU's associate vice chancellor for development. The fund will be named the Dr. L. Randy Strickland and Laura Ann Schluter Strickland Endowment for Occupational Therapy.

Nutrition Science expands clinical opportunities for students

The Department of Nutrition Science relocated this year from east campus to the College of Allied Health Sciences, and the move is already increasing the quantity and quality of clinical experiences for its students. Faculty in the department are collaborating with the Brody School of Medicine's Department of Family Medicine and the Department of Pediatrics' healthy weight group, as well as seeking service-learning and research opportunities with the College of Nursing. The move enables nutrition students to get into patient care settings as early as their sophomore year.

PA Studies professor advances urgent care research

A faculty member in Physician Assistant Studies is prompting emergency department clinicians to thoroughly analyze urinalysis results for the possible diagnosis of serious illnesses.

Natalie Smith, a clinical assistant professor and practicing physician assistant in emergency medicine, was published in the Journal of Urgent Care Medicine after she determined that routine urinalysis results can show an underlying presence of potentially life-threatening diseases. In her article, "Hyperbilirubinemia – An Urgent Care Approach," Smith describes how she was able to link the presence of bilirubin in urine to a serious diagnosis of pancreatic cancer.

Smith is the first professor in the PA Studies department to be published.

Publication prepares future health care managers

Ethics and Professionalism for Healthcare Managers by Elizabeth J. Forrestal and Leigh W. Cellucci, professors in the Department of Health Services and Information Management, discusses a host of difficult decisions that health care managers face every day. Many can be loaded with ethical implications that, if not addressed properly, can evolve into major issues for both the manager and the organization as a whole.

This book prepares new and aspiring healthcare managers to make better decisions through a solid grounding in ethics and professionalism. It uses cases that are based on a variety of health care settings, including hospitals, physician practices, ambulatory surgery centers, home health agencies, and skilled nursing facilities.

Hodson presents Founder's Lecture at NCPTA Fall Conference

Patricia Hodson, PT, DPT, Clinical Professor and Director of Clinical Education in the Department of Physical Therapy presented the Founder's Lecture for 2015 at the North Carolina Physical Therapy Association Fall Conference in Asheville on October 10, 2015.

The Founders Lectureship was established in 1990 as a mechanism to pay high honor to members who have set the standard for effective leadership within the Association and to pay tribute to the dedicated pioneers of physical therapy in North Carolina. Dr. Hodson's lecture was titled "There and Back Again: A Physical Therapist's Journey."

East Carolina University
College of Nursing Updates
November 2015

- The College of Nursing was formally recognized as a Center of Excellence in Nursing Education by the National League for Nursing during an Oct. 2 ceremony at NLN's Education Summit in Las Vegas. Twelve schools received the honor in this cycle, bringing the total number of designees to 41. This is the third time ECU has been named a Center of Excellence. It will carry the designation through 2020. More information: <http://bit.ly/1MeERXL>.
- The U.S. Department of Health and Human Services is giving the East Carolina University College of Nursing a three-year, \$2.5 million grant through its Geriatrics Workforce Enhancement Program. The college will partner with the Brody School of Medicine Division of Geriatrics, the Department of Physician Assistant Studies, the ECU-based North Carolina Agromedicine Institute and multiple regional partners. The grant will allow ECU to implement an interprofessional education model focusing on geriatrics, train primary care providers to meet the specific needs of elderly patients, and deliver community-based programs that address the needs of older adults and their families. News coverage of this grant so far has included:
 - ECU News Services: <http://bit.ly/1jWwIG4>
 - American Association of Colleges of Nursing *NewsWatch* newsletter: <http://bit.ly/1jOB0dL>
 - Associated Press: <http://bit.ly/1jOBmB9>
- The college celebrated the 118 nursing students who earned awards at its annual scholarship dinner on Sept. 25 at Rock Springs Center in Greenville. The event gives donors an opportunity to meet the students who benefit from their generosity. The college gave more than \$260,000 in nursing education scholarships for 2015-2016. More information: <http://bit.ly/1VB4nvi>.
- Nursing faculty members Dr. Elaine Scott, Tomika Williams and Dr. Carol Winters were recognized at the North Carolina Nurses Association annual convention, held Sept. 30-Oct. 2 in Concord, N.C. Scott was named Nurse Leader of the Year. Williams was named Nurse Mentor of the Year. Winters earned the Nurse Educator of the Year Award. More information: <http://bit.ly/1Lx8dDe>.
- Interim Associate Dean for Graduate Programs Dr. Sonya Hardin is a member of the 2015 class of North Carolina's Great 100 Nurses. She was inducted at the Great 100 Gala on Oct. 17 at the Raleigh Convention Center. More information: <http://bit.ly/1Lx8dDe>.
- Two nursing faculty are involved in projects that earned ECU Interdisciplinary Research Collaboration Awards. Dr. Sonya Hardin is involved in the project "Examination Depth of Edema and Monitoring Assessment in Heart Failure," and Dr. Kim Larson is working on "Community Linkages in Assessing Health in An Emerging Older Latino Population."

- East Carolina University Professor of Nursing Dr. Kathleen Sitzman was inducted into the National League for Nursing's Academy of Nursing Education during a ceremony at the NLN's Education Summit on Oct. 2 in Las Vegas. More information: <http://bit.ly/1FVdoOf>.
- "The Essence of Caring" is a collaborative art exhibition organized through the Laupus Health Sciences Library that showcases the work of eight CON faculty members. The exhibit is part of the "Art as Avocation" series and will be on display through Dec. 14 on the library's fourth floor. It includes collections of photography, oil and acrylic painting, textile and graphic design.
- Faculty member Dr. Carolyn Horne presented a talk titled "The History of Amputation: Dr. Robert Liston - Anatomy, Dexterity and Amputations" to the Laupus Library Medical History Interest Group on October 26.
- The College of Nursing will host Diversity Day on Oct. 29. Titled "Checking our Assumptions," the program will provide an opportunity to reflect on stories we create based solely on a person's appearance, actions and speech. This recurring event, presented each time with a different theme, is organized by the college's Diversity Advisory Council.
- The college hosted a Homecoming reception Oct. 16. The event provided an opportunity for alumni, donors and friends to connect with each other as well as faculty and staff.

East Carolina University
School of Dental Medicine (SoDM)
Board of Trustees Update
November 2015

Distinction

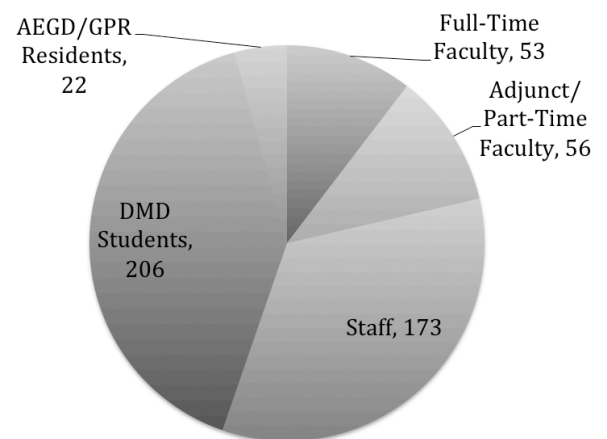
The school has been selected as an Apple Distinguished Program for the academic years 2015, 2016, and 2017 in recognition of its exemplary learning environment, innovation, leadership, and educational excellence. Ours is the only professional school in the country to receive the distinction. The school has received the distinction annually since 2012.

Recent Gifts

An anonymous gift of \$300,000 has been made to the school's Ross Hall Patient Care Fund to help bridge the gap between patients' ability to pay and the cost of educationally beneficial dental procedures. Additional endowments include the Humanitarian Patient Care Fund established by a dental school employee to assist Ross Hall patients with financial need and the Tar River Study Club Endowed Scholarship to assist dental students from the NC Dental Society's Fifth District with financial need.

People

The number of faculty and staff continues to grow in Ross Hall and at community service learning centers (CSLCs) across the state. Eight full-time faculty members have joined the school since March 2015, including Chair of the Department of Surgical Sciences, Director of the Emergency Care Clinic, and Director of Clinics. Faculty directors and assistant directors are now in place at the seven CSLCs currently serving patients. Faculty searches are in progress for the CSLC-Brunswick County, which is scheduled to open in early 2016. To date, the school has treated over 26,000 patients.



Ross Hall Fourth Floor Construction

Construction on the fourth floor of Ross Hall began in September. The new construction adds 34,000 square feet of research space to the building as well as faculty and staff offices, conferencing and continuing education space. The project is scheduled for completion in the summer of 2016.

Fourth Floor Construction Photos



Ross Hall Fourth Floor Schematic



ECU Board of Trustees
Health Sciences Committee Meeting
Friday, November 19
3:00 – 4:30 p.m.

Updates from Laupus Library:

Art as Avocation Series continues for 2015

Laupus Library's Art as Avocation exhibit titled, "The Essence of Caring: A Collaborative Exhibit from College of Nursing Faculty," will be on display through Dec. 14th on the 4th floor of the library. The exhibit showcases a collection of oil painting, photography, acrylic, textiles, and other mediums from six artists from the College of Nursing.

Annual Health Sciences Author Recognition Awards Event to be held Nov. 10

This program provides an opportunity to honor faculty and staff for their published research and scholarly contributions to their area of study. This year, Laupus Library expanded eligibility criteria to include books, book chapters, articles in peer-reviewed journals and other creative works published July 1st of 2014 through June 30th of 2015 for recognition. Creative works are inclusive of, but not limited to, academic abstracts, editorials/letters to the editor, and scholarly reviews in peer-reviewed journals; published educational materials, conference presentations, proceedings papers, and visual media. An awards ceremony will be held Nov. 10th at the Hilton Greenville.

Friends of Laupus Library Membership Campaign 2016

The Friends of Laupus Library are now seeking membership for 2016. Approximately 73 members joined in 2015. Of those, 24 enrolled for the first time. Our goal for 2016 is to increase membership by enrolling at least 100 members. For more information about membership, contact Kelly Rogers Dilda at rogerske@ecu.edu.

Laupus hosts 'Trunk or Treat' event for ECU families

Laupus Library hosted its inaugural Health Sciences 'Trunk or Treat' on October 30 - a family-centered event focusing on our students, faculty and staff with children. Trunk or Treat is a new spin on Trick or Treating where university organizations and departments bring a vehicle, decorate its trunk/tailgate and pass out candy to kids who walk from car to car. Trunk or treating allows kids to have fun without crossing streets or worrying about traffic. It's also a great accessibility benefit for those individuals with disabilities or limitations.

LSTA Access & Digitization Project Grant

Joyner Library was recently awarded a LSTA Access & Digitization Project Grant to hire a Project Archivist to ensure the archival collections of the Country Doctor Museum in Bailey, North Carolina, and Laupus Library become discoverable worldwide.

Ashley Williams has served for the past year at Joyner Library as Project Archivist for the Institute of Outdoor Theatre Archives. She began working as an employee of Joyner Library on the Laupus Library campus as Project Archivist on the LSTA grant-funded project on Oct. 5.

At this time, there are no online records for our archival collections at Laupus or the Country Doctor Museum. Ashley is creating records for our archival materials online, working on selecting and digitizing materials to be featured within the ECU Digital Collections, training a few of us in archival management software, and will be promoting the newly digitized materials and the online records through creating a physical and online exhibit. She is working with both Joyner and Laupus on this project.

East Carolina University

Board of Trustees

Health Sciences Committee

Brody School of Medicine Updates and Highlights

November 19, 2015

Education

❖ Admissions

Competition for admission to the Brody School of Medicine continues to increase, as applications from NC residents for the 2016 entering class currently exceed last year's numbers by approximately 7%. The Admissions Committee has been interviewing 24 to 30 applicants a week since late August, and expects to continue this pace through February in order to give a majority of applicants the opportunity to visit the medical campus while competing for the 80 available positions. The BSOM Admissions Office leadership and staff actively recruit potential applicants as well, and have already made eight undergraduate campus visits across the state so far this academic year. In addition, the annual Pre-Health Advisor's Conference (now co-sponsored by the BSOM and the School of Dental Medicine) recently met for the 22nd year and was attended by 30 faculty advisors from colleges and universities across the state.

❖ Student Affairs

Our M4 students are in the midst of the residency application cycle, interviewing in a broad range of specialties and in programs throughout North Carolina and elsewhere across the country. Students will make final decisions about their residency 'rank list' in February and will learn of their final Match location in mid-March. The Student Affairs office is working with a group of parents to form a 'Brody Parents' Organization' to support the student body. Plans are underway to reach out to all parents of Brody medical students and begin to plan activities that support the students in their education.

❖ Medical Education

BSOM faculty are in the middle of planning for substantial changes in the medical school curriculum, referred to as the "Curriculum 2017" project. The goal of the transformation effort is to update our existing curriculum in both content and process to be consistent with contemporary needs and best practices in pedagogy. The process is complex, as it must insure that the three missions of BSOM remain in the forefront while preparing our students for a rapidly changing clinical practice environment. Among the changes planned are an increased emphasis on the professional development of the students, increased facility with technology, and an enhanced ability to apply the principles of quality improvement to improve patient care. Planning should be completed in March 2016, with the changes implemented over a 1-year period in 2017.

❖ **Graduate Medical Education**

In order to better equip our Program Directors, Program Coordinators and teaching faculty for a competency-based approach to physician training, the Brody/VMC Office of GME has developed the GME Professional Development Series, which provides ongoing educational opportunities in a monthly Lunch and Learn format. The series began in August 2015 and utilizes local experts, as well as multiple instructional approaches, to deliver educational content. Topics offered include the Understanding the Annual Program Evaluation Process, Evaluating Resident Physician and Fellow Professionalism, Optimizing the ADS Update, and Evaluation of the Resident and Fellow Candidate, with each session emphasizing practical application and open discussion.

❖ **Student Development and Academic Counseling**

Eight distinct events covering academic support, wellness promotion, and career exploration have been provided to students this semester. A conference session entitled The Peer Factor as a Pillar of Medical Student Success was presented at the National Resource Center's 22nd National Conference on Students in Transition in Baltimore, MD, describing the Brody P.A.S.S. (Peer Assisted Study Sessions) program. The focus was the positive impact that this peer led program has had on the students' adjustment to medical school. On campus presentations have been made at the Physician Assistant Studies Orientation, Pre-health Careers sections of Introduction to Sociology and the NC Pre-Health Advisors' Conference.

❖ **Clinical Simulation Program**

During the first quarter, over 2,100 learners (medical students, residents, Vidant Medical Center personnel) have participated in skills training and simulated scenarios. We are currently in the process of upgrading to a new, more user-friendly simulator software called LLEAP. In addition, we are in the process of creating an electronic sign in sheets and evaluation form to assist with our efforts to track utilization of the center. We are also working more closely with regional military bases to provide simulation training for medics and other field officers.

❖ **Faculty Development**

The Office of Faculty Development has started a second cohort of LAMP, our year-long onboarding program to welcome new junior faculty to BSOM. We are pleased to have more than 30 new faculty from the departments of Pediatrics, Internal Medicine, Family Medicine, Emergency Medicine, Psychiatry and ObGyn. Each month, these new faculty will engage in sessions designed to help them acclimate and succeed in academic medicine. Upcoming sessions include Goal-setting and Prioritizing as well as Building Skills in People Management.



Research

- ❖ MATCH Wellness ("Motivating Adolescents with Technology to Choose Health"), a middle-school based wellness program that operates under the auspices of Brody's Pediatric Healthy Weight Research and Treatment Center to reach more than 5,000 youth in 34 public schools throughout the Carolinas and Mississippi – was recently awarded \$470,000 by the North Carolina chapter of the U.S. Department of Agriculture's Supplemental Nutrition Assistance Program Education organization to expand into as many as 100 schools by 2018. Another \$750,000 from the Blue Cross and Blue Shield of North Carolina Foundation is helping the program prepare for 10 times that capacity as the USDA explores ways to promote expansion of MATCH into eight southeastern states. MATCH is directed by Brody staffer and former public school teacher Tim Hardison, and supported by the work of ECU pediatrician and obesity researcher Dr. Suzanne Lazorick.
- ❖ The Brody School of Medicine Division of Geriatrics, led by Dr. Kenneth Steinweg, is collaborating with the ECU College of Nursing, the ECU Department of Physician Assistant Studies and multiple regional partners on a three-year, \$2.5 million grant from the U.S. Department of Health and Human Services' Geriatrics Workforce Enhancement Program. The grant will support the implementation of an interprofessional education model focusing on geriatrics, the training of primary care providers to meet the specific needs of elderly patients, and the delivery of community-based programs that address the needs of older adults and their families.
- ❖ Brody patients and faculty – namely, Dr. James Powell, chief of general internal medicine for ECU, and Dr. Paul Bolin, chair of the ECU Department of Internal Medicine – have played a leading role in a landmark nationwide clinical trial that may change the way health care providers treat high blood pressure. Initial findings in the Systolic Blood Pressure Intervention Trial (SPRINT) – showing that more aggressive use of medications to lower systolic blood pressure below common recommendations significantly improves cardiovascular outcomes – led researchers to end the first phase of the trial in September, much earlier than the targeted completion date. The largest study of its kind to date, SPRINT was launched by the National Institutes of Health in 2009. Approximately 250 patient participants – the second largest cohort within the national trial – have been receiving care at Brody, so local investigators are confident in translating the study's results to the patient population in eastern North Carolina.
- ❖ Brody faculty in the Department of Surgery, Drs. Kathryn Verbanac and Nasreen Vohra, along with ECU College of Nursing faculty, are directing two breast cancer community health grants totaling \$100,000 through the Susan G. Komen North Carolina Triangle to the Coast affiliate. Their budget covers more than 200 outreach screening or diagnostic mammograms for uninsured/underinsured women in the region, as well as ultrasound imaging, biopsies, MRI as needed, along with some breast cancer treatments.
- ❖ Brody researchers Dr. Doyle "Skip" Cummings of the Department of Family Medicine, Dr. Hope Landrine of the Center for Health Disparities, Dr. Stephanie Jilcott Pitts in the Department of Public Health, and Angel Moore of the Eastern Area Health Education Center – in partnership with researchers from the University of Alabama at Birmingham

and the University of North Carolina School of Medicine – were recently awarded more than \$9 million to study ways to reduce health disparities related to uncontrolled high blood pressure among African Americans and low-income and rural individuals. They will compare two different strategies designed to improve blood pressure control in primary care practices serving Southeastern African-Americans with low socioeconomic status

Community Service

- ❖ On 7.7.15, Brody endocrinologist Dr. Robert Tanenberg was interviewed by WNCT about precautions that should be taken in extreme heat by people with diabetes.
 - ❖ On 7.9.15, in conjunction with Men's Health Awareness Month, Brody family physician Dr. Jonathan Firnhaber was interviewed by WNCT about the importance of men getting regular physicals and the various screenings recommended at different ages.
 - ❖ From 7.26.15 - 7.31.15, Brody's Department of Pediatrics offered their 30th annual Camp Needles in the Pines for children with diabetes. The residential camp on the banks of the Pamlico River was attended by 75 campers and covered by The Daily Reflector and WNCT.
 - ❖ On 9.11.15, in conjunction with Suicide Prevention Month, psychotherapist Sean Pumphrey, Department of Family Medicine, was interviewed by WITN about suicide prevention.
 - ❖ From September 2015 through the spring of 2016, monthly breast cancer screening events are being held throughout the East for uninsured and under-insured women, thanks to the grant-funded efforts of Brody surgical oncologists Drs. Kathryn Verbanac and Nasreen Vohra. Their work, which also involves faculty from the ECU College of Nursing, was highlighted in several news segments on WNCT throughout the month of October in conjunction with Breast Cancer Awareness Month.
 - ❖ On 10.21.15, Brody transplant surgeon Dr. Carl Haisch was interviewed by WNCT about the need for kidney donors and how the organ matching process works.
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Clinical Practice

- ❖ Brody and Vidant Health are deeply engaged in a consultation with Huron Healthcare aimed at providing recommendations about how the two organizations' physician practices (Vidant Medical Group and ECU Physicians) can become more directly aligned to achieve the mutual goal of providing excellence in patient care for the people of eastern NC. Teams are examining financial data, legal and regulatory issues, and matters important to physicians, such as compensation, reporting structure, and clinical standards. The recommendations, from Huron, that emerge in the late fall will be vetted by the leadership of both organizations.
 - ❖ To date, ECU Physicians has a contribution margin loss of \$2.4 million for the 2016 fiscal year (July 1, 2015 – September 30, 2015).
 - ❖ ECU Physicians cash reserves at the end of September 30, 2015 were \$33.9M or 77 days of cash on hand. The ECU Physicians Board encourages ECU Physicians to have 90 of cash on hand at all times.
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**The Decline Continues:
New Primary Care Physicians from
North Carolina Medical Schools**

October 2015

Warren Newton, MD MPH

Alan Brown, MSW

North Carolina AHEC

Julie Spero, MSPH

**Cecil G. Sheps Center for Health Services Research
Program on Health Workforce Research and Policy**

Submitted by the University of
North Carolina Board Of Governors 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

Monitoring the Progress of Graduates Entering Primary Care

EXECUTIVE SUMMARY

In 1993, the General Assembly mandated an annual report on the progress of medical school graduates going into primary care. North Carolina AHEC, working with the Sheps Center, produces this report using state licensure data bases as well as national data bases. For 2015, we document a decline for the sixth year in a row of state medical school graduates going into primary care: of 427 graduates of the state medical schools matriculating in 2009, only 29% are in practice or training in primary care specialties five years after graduation. Of these, only 59 or 14% percent are practicing in North Carolina and only 11 (or 2.5%) are practicing in one of the 54 rural counties in the state.¹ These findings suggest that attention should be paid to the pipeline of primary care providers for the state; a key first step will be to increase the numbers of community based primary care residencies and other opportunities for primary care training in the state.

Introduction

This report presents trends of entry into primary care in North Carolina by graduates of the four schools of medicine in the state. In 1993, the North Carolina General Assembly expressed its interest in expanding the pool of generalist physicians for the state. In Senate Bill 27, as amended by House Bill 729, the General Assembly required that each of the state's four schools of medicine develop a plan with the goal for an expanded percentage of medical school graduates choosing residency positions in primary care. Primary care was defined as family practice, general internal medicine, general pediatric medicine, internal medicine-pediatrics and obstetrics-gynecology. It set the goal for the East Carolina University (ECU) and UNC Schools of Medicine at 60 percent of graduates entering primary care. For the Wake Forest University and Duke University Schools of Medicine, it set the goal at 50 percent.

The Data

This report provides information from the Wake Forest University School of Medicine, the Brody School of Medicine at East Carolina University, Duke University School of Medicine and the University of North Carolina at Chapel Hill School of Medicine. Each of the four schools of medicine has committed to

¹ "Rural" is based on 2013 Core-Based Statistical Area (CBSA) definitions, and includes counties that are "micropolitan" and "outside of CBSAs." Using this definition, NC has 54 rural counties.

developing a common database to track medical students. At the request of the four schools, the AHEC Program has assumed responsibility for developing and managing the common database in association with the Sheps Center for Health Services Research at UNC-CH. The development of a common database to track medical students has required a complex process of merging two national data sets, a state data set, and files in alumni and student affairs offices of the four medical schools. The national data sets include the graduate medical education tracking file of the Association of American Medical Colleges and the physician master file maintained by the American Medical Association. The state data set used is the North Carolina Medical Board's file for physicians licensed in North Carolina. The format for the information on medical students is consistent with and comparable to the baseline information provided in the May 1994 report "Expanding the Pool of Generalist Physicians for North Carolina." In addition, because of their importance in the care of rural and underserved communities, we have included data on general surgery and psychiatry.

While the original mandate of this report was specific to the four NC medical schools, new programs will also be monitored. Our intent is to include Campbell University School of Osteopathic Medicine as its graduates enter residencies in 2017 and into practice in 2020. Given that residency placement is a major driver of practice placement, and that AHEC residencies preferentially keep graduates in state, we will also begin to track placement in residencies in North Carolina as a key outcome of North Carolina medical schools.

While we have historically examined NC medical school graduates at five years following graduation per legislative requirements, many physicians are just completing residency or specialty training at this point in their career trajectory and may not have settled in a permanent practice location. This is particularly the case for general surgeons, who complete a five-year residency before entering practice or continuing specialty training. As a result, our results may inflate the numbers of physicians practicing in a particular specialty or in North Carolina. A better metric might be retention at ten years following graduation from an NC medical school. Resources permitting, we will test this metric.

The Entry of Medical School Graduates into Careers in Primary Care

The General Assembly established goals for each of the four schools of medicine for entry of their graduates into primary care careers. For the UNC School of Medicine and the Brody School of Medicine at East Carolina University, the

General Assembly established a target of 60 percent of the graduates to enter careers in primary care. For the Duke and Wake Forest University Schools of Medicine, the target set was 50 percent of graduates in primary care. Our major emphasis is retention in primary care after completion of residency education.

Retention of Graduates in Primary Care: Class of 2009

The most valuable measure of the choice of primary care careers is retention of graduates in primary care after residency. Table 2 shows the graduates and the percentage that remained in primary care five years (in 2014) after graduation.

The total number of medical graduates in 2009 was 427. Of the 423 graduates in 2009 who are still in training or practice as of 2014, 121 (or 29 percent) remained in one of the four primary care specialties.

Figure 1 shows the trend in the percentage of physicians who graduated from NC medical schools practicing in primary care five years after graduation from 1990 - 2009. While the percentage of graduates who remained in primary care gradually increased for all NC medical schools during the 1990's, there was a decline starting with 2003 graduates; and the downward trend continues for 2009 graduates. Currently, 43 percent of ECU 2009 graduates have remained in primary care, 32 percent for UNC, 26 percent for WFU and 18 percent for Duke.

Table 3 shows comparable data for state-supported graduates from Duke and Wake Forest who were in primary care training or practice five years after graduation.

Retention of Graduates in North Carolina

Table 4 describes medical school graduates remaining in North Carolina. The number of 2009 graduates remaining in NC five years later continues to decline from 137 graduates in 2013 to 131 graduates in 2014 (from 33 to 31 percent), and the number of 2009 graduates in primary care training or practice in NC in 2014 decreased from 69 (2013) to 59 (2014) or from 16 to 14 percent). ECU's Brody School of Medicine graduates continue to show the highest rate of retention in North Carolina overall (52 percent) and in primary care in the state (30 percent).

NC Medical Students – Retention in Rural Areas

Table 5 shows the retention of 2009 graduates in rural counties, primary care, and in/out of NC as of 2014. Out of 131 graduates practicing in primary care in NC in 2014, only 11 of these were in rural counties, (a decrease from 16 graduates in 2013). NC has 54 rural (or non-metropolitan) counties based on the 2013 Office of Management and Budget Core Based Statistical Area definition.

Discussion

A key driver of retention of primary care physicians in North Carolina is the availability of community based primary care residencies in the state. Medical students must go through 3 years of training before being able to practice on their own, and the large majority practice for the rest of their life close to their residencies.^{2,3,4} AHEC primary care residencies have a better track record of keeping physicians in the state. Data from the American Medical Association physician master file demonstrate that 50% of active physicians who completed an NC AHEC residency remained in practice in NC, compared to 38% who completed a non-AHEC residency.⁵ Unfortunately however, AHEC residencies have grown only minimally, and the large majority of residency positions have been devoted to subspecialty physicians in large hospitals.

There is a national trend away from primary care that is also influencing the medical students in North Carolina. Factors that deter choices of primary care careers include the high levels of debt being incurred by many students, particularly in private schools; lower salary levels associated with primary care careers; lifestyle choices being made by the current generation of medical students, and, increasingly, students' concerns about the support for primary care in North Carolina. Students are increasingly gravitating to specialties that are more lucrative and also allow them to control their hours and have less call on nights and weekends.

² Dorner FH, Burr RM, Tucker SL. The geographic relationships between physicians' residency sites and the locations of their first practices. *Acad Med.* 1991;66(9):540-4

³ Seifer SD, Vranizan K, Grumbach K. Graduate medical education and physician practice location. *JAMA.* 1995;274(9):685-91.

⁴ Fagan EB, et. al. Family medicine graduate proximity to their site of training: policy options for improving the distribution of primary care access. *Fam Med.* 2015;47(2):124-30.

⁵ Fraher EP, Spero JC. The State of the Physician Workforce in North Carolina: Overall Physician Supply Will Likely Be Sufficient but is Maldistributed by Specialty and Geography. Program on Health Workforce Research and Policy, The Cecil G. Sheps Center for Health Services Research, The University of North Carolina at Chapel Hill. August 2015. Accessed 10/15/2015 at <http://www.shepscenter.unc.edu/wp-content/uploads/2015/08/MedicalEducationBrief-ShepsCenter-August20151.pdf>

An additional trend that further exacerbates the loss of primary care physicians is the declining percentages of internists and pediatricians remaining in primary care careers. Ten years ago over 50 percent of residents choosing internal medicine and pediatrics practiced as generalists. Today many fewer play these roles. This trend further depletes the pool of generalists physicians needed to serve North Carolina's growing population; this is particularly acute for adults.

It is important to remember that general surgeons and psychiatrists are critical members of the health care community in rural and underserved communities. Yet, as Tables 6 through 9 demonstrates, low numbers of students choose these disciplines, and few go on to practice in these disciplines in North Carolina.

Several contextual issues are important to underscore. First, there has been rapid consolidation of hospitals and health care systems over the last several years; this has exacerbated the mal-distribution of primary care providers over the last decade. Most health care systems have not developed a workforce strategy for the primary care and population health needs to drive improvement of health of the population. Second, in terms of the pipeline of primary care providers, in addition to the Campbell School of Medicine, many new NP/DNP and PA programs have opened over the last decade. Many of these graduates are potentially available for primary care; we urge systematic tracking of these new providers. Third, the shortage of community preceptor sites for health care clinicians has become acute over the last year; these community sites play a key role in attracting medical students and other professionals into primary care. Finally, there has been significant uncertainty about the future of primary care in the care of Medicaid patients. With the passage of Medicaid reform by the legislature, the roles and opportunities for primary care may clarify.

Conclusion

Our data suggest that the decline of interest in primary care among North Carolina Medical School graduates continues. This decline matches a national trend, and needs to be monitored since a number of counties, particularly in rural and economically depressed areas of the state, are reporting increasing shortages of primary care physicians over the last several years. Combined with the rapid loss of generalists in internal medicine and pediatrics, these trends do not bode well for meeting the future needs for the state.

North Carolina's rural areas continue to have a higher supply of physicians than

comparable rural areas elsewhere in the country, because of the work of the medical and other health science schools, the North Carolina AHEC Program, the State Office of Rural Health, and related programs, Given the burgeoning need for primary care and population health, however, there will be need for both increased supply and especially better distribution of primary care physicians to meet the goal of improving the health of North Carolinians.

Section I: Medical Students

Table 2
North Carolina Medical Students - Retention in Primary Care Five Years after Graduation
2009 Graduates

School	Number of 2009 Graduates in Training or Practice as of 2014	Number of 2009 Graduates in Training or Practice with an Initial Residency Choice of Primary Care*	Percent of 2009 Graduates in Training or Practice with an Initial Residency Choice of Primary Care*	Number of 2009 Graduates in Training or Practice in Primary Care** as of 2014	Percent of 2009 Graduates in Training or Practice in Primary Care** as of 2014
Duke	102	48	47%	18	18%
ECU	63	35	56%	27	43%
UNC-CH	154	83	54%	49	32%
Wake Forest	104	52	50%	27	26%
Total	423	218	52%	121	29%

*2009 Primary Care Residency Specialty includes Family Medicine, General Pediatric Medicine, General Internal Medicine, Internal Medicine/Pediatrics, and Obstetrics/Gynecology. Source: Association of American Medical Colleges (AAMC). Internal medicine in this case also includes "medicine - preliminary," which likely overestimates the initial primary care figures.

** 2014 Primary care definitions are based on NC Medical Board licensure data (for NC physicians) and AAMC data (for non-NC physicians) and include Family Medicine (Family Medicine, Family Medicine-Adolescent Medicine, Family Medicine-Geriatric, Family Medicine-Sports Medicine, General Practice; Internal Medicine (Internal Medicine, Internal Medicine-Geriatric, Infectious Disease, Nephrology, Rheumatology); Pediatrics (Pediatrics, Pediatrics-Adolescent, Pediatric Infectious Disease, Pediatrics Nephrology, Pediatric Rheumatology, Pediatric-Sports Medicine); Internal Medicine-Pediatrics (Internal Medicine-Pediatrics, Internal Medicine-Adolescent Medicine); OBGYN (Obstetrics & Gynecology, Obstetrics, Gynecology, Maternal-Fetal Medicine).

Sources:

Duke Office of Medical Education
UNC-CH Office of Student Affairs
ECU Office of Medical Education

Wake Forest University SOM Office of Student Affairs
Association of American Medical Colleges
North Carolina Medical Board

Compiled by:
NC AHEC Program

Cecil G. Sheps Center for Health Services Research

Figure 1

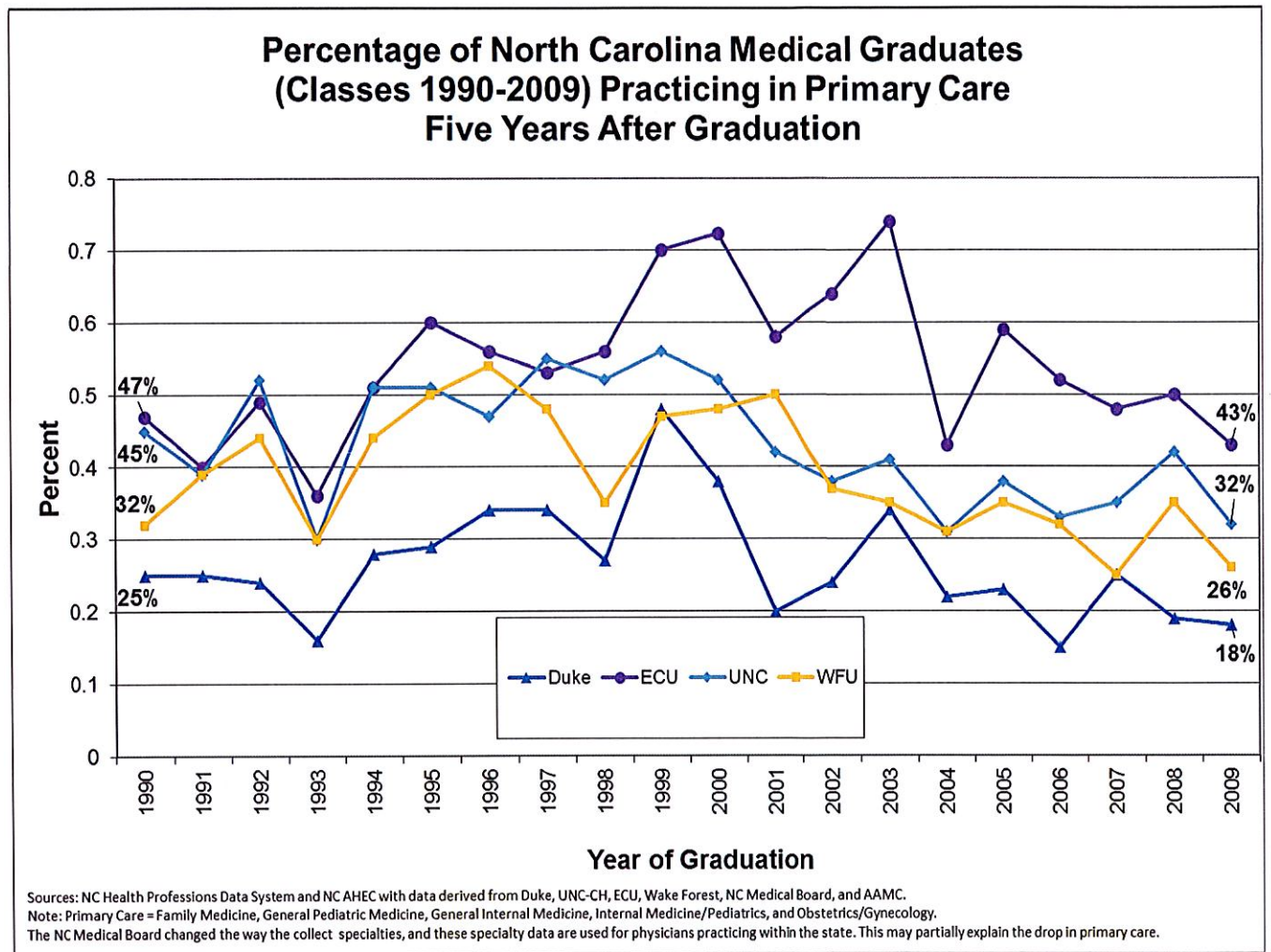


Table 3
 State Supported North Carolinians Attending the Duke and Wake Forest Schools of Medicine
 Choice and Retention in Primary Care Specialties
 2009 Graduates

School	Number of 2009 Graduates in Training or Practice as of 2014			Number of 2009 Graduates in Training or Practice in Primary Care** as of 2014				Number of 2009 State-Supported Graduates in Training or Practice as of 2014				Number of 2009 State-Supported Graduates in Training or Practice in Primary Care** as of 2014			
	Total	in NC		Total	in NC		Total	In NC		Total	In NC		Total	In NC	
Duke	102	23	23%	18	18%	5	5%	14	14%	5	36%	1	7%	1	7%
Wake Forest	104	23	22%	27	26%	10	10%	34	33%	12	35%	9	26%	5	15%
Total	206	46	22%	45	22%	15	7%	48	23%	17	35%	10	21%	6	13%
(<i>% of total grads</i>)										(<i>% of total state-supported grads</i>)					

*2009 Primary Care Residency Specialty includes Family Medicine, General Pediatric Medicine, General Internal Medicine, Internal Medicine/Pediatrics, and Obstetrics/Gynecology. Source: Association of American Medical Colleges (AAMC). Internal medicine in this case also includes "medicine - preliminary," which likely overestimates the initial primary care figures.

** 2014 Primary care definitions are based on NC Medical Board licensure data (for NC physicians) and AAMC data (for non-NC physicians) and include Family Medicine (Family Medicine, Family Medicine-Adolescent Medicine, Family Medicine-Geriatric, Family Medicine-Sports Medicine, General Practice); Internal Medicine (Internal Medicine, Internal Medicine-Geriatric, Infectious Disease, Nephrology, Rheumatology); Pediatrics (Pediatrics, Pediatrics-Adolescent, Pediatric Infectious Disease, Pediatrics Nephrology, Pediatric Rheumatology, Pediatric-Sports Medicine); Internal Medicine-Pediatrics (Internal Medicine-Pediatrics, Internal Medicine-Adolescent Medicine); OBGYN (Obstetrics & Gynecology, Obstetrics, Gynecology, Maternal-Fetal Medicine).

Sources:

Duke Office of Medical Education
 Wake Forest University SOM Office of Student Affairs
 NC State Education Assistance Authority

Association of American Medical Colleges
 North Carolina Medical Board

Compiled by:
 NC AHEC Program
 Cecil G. Sheps Center for Health Services Research

Table 4
North Carolina Medical Students-Primary Care Retention in NC
2009 Graduates

School	Number of 2009 Graduates in Training or Practice as of 2014	Number of 2009 Graduates in Training or Practice in North Carolina as of 2014	Percent of 2009 Graduates in Training or Practice in North Carolina as of 2014	Number of 2009 Graduates in Training or Practice in Primary Care** in North Carolina as of 2014	Percent of 2009 Graduates in Training or Practice in Primary Care** in North Carolina as of 2014	Number of 2009 Graduates in Training or Practice in Primary Care** in Rural*** Counties in North Carolina as of 2014	Percent of 2009 Graduates in Training or Practice in Primary Care** in Rural*** Counties North Carolina as of 2014
Duke	102	23	23%	5	5%	0	0%
ECU	63	33	52%	19	30%	2	3%
UNC-CH	154	52	34%	25	16%	3	2%
Wake Forest	104	23	22%	10	10%	0	0%
Total	423	131	31%	59	14%	5	1%

*2009 Primary Care Residency Specialty includes Family Medicine, General Pediatric Medicine, General Internal Medicine, Internal Medicine/Pediatrics, and Obstetrics/Gynecology. Source: Association of American Medical Colleges (AAMC). Internal medicine in this case also includes "medicine - preliminary," which likely overestimates the initial primary care figures.

** 2014 Primary care definitions are based on NC Medical Board licensure data (for NC physicians) and AAMC data (for non-NC physicians) and include Family Medicine (Family Medicine, Family Medicine-Adolescent Medicine, Family Medicine-Geriatric, Family Medicine-Sports Medicine, General Practice; Internal Medicine (Internal Medicine, Internal Medicine-Geriatric, Infectious Disease, Nephrology, Rheumatology); Pediatrics (Pediatrics, Pediatrics-Adolescent, Pediatric Infectious Disease, Pediatrics Nephrology, Pediatric Rheumatology, Pediatric-Sports Medicine); Internal Medicine-Pediatrics (Internal Medicine-Pediatrics, Internal Medicine-Adolescent Medicine); OBGYN (Obstetrics & Gynecology, Obstetrics, Gynecology, Maternal-Fetal Medicine).

***"Rural" is based on 2013 Core-Based Statistical Area (CBSA) definitions, and includes counties that are "micropolitan" and "outside of CBSAs." Using this definition, NC has 54 rural counties.

Sources:

Duke Office of Medical Education
 UNC-CH Office of Student Affairs
 ECU Office of Medical Education
 Wake Forest University SOM Office of Student Affairs

Association of American Medical Colleges
 North Carolina Medical Board
 US Census Bureau, Office of Management & Budget

Compiled by:
 NC AHEC Program
 Cecil G. Sheps Center for Health Services Research

Table 5
North Carolina Medical Students-Retention in Rural Practice
2009 Graduates

School	Number of 2009 Graduates in Training or Practice as of 2014	Number of 2009 Graduates in Training or Practice in North Carolina as of 2014	Percent of 2009 Graduates in Training or Practice in North Carolina as of 2014	Number of 2009 Graduates in Training or Practice in Rural*** Counties as of 2014	Percent of 2009 Graduates in Training or Practice in Rural*** Counties as of 2014	Number of 2009 Graduates in Training or Practice in Rural*** Counties in North Carolina as of 2014	Percent of 2009 Graduates in Training or Practice in Rural*** Counties in North Carolina as of 2014	Number of 2009 Graduates in Training or Practice in Primary Care** in Rural*** Counties in North Carolina as of 2014	Percent of 2009 Graduates in Training or Practice in Primary Care** in Rural*** Counties in North Carolina as of 2014
Duke	102	23	23%	3	3%	1	1%	0	0%
ECU	63	33	52%	5	8%	4	6%	2	3%
UNC-CH	154	52	34%	5	3%	3	2%	3	2%
Wake Forest	104	23	22%	5	5%	3	3%	0	0%
Total	423	131	31%	18	4%	11	3%	5	1%

*2009 Primary Care Residency Specialty includes Family Medicine, General Pediatric Medicine, General Internal Medicine, Internal Medicine/Pediatrics, and Obstetrics/Gynecology. Source: Association of American Medical Colleges (AAMC). Internal medicine in this case also includes "medicine - preliminary," which likely overestimates the initial primary care figures.

** 2014 Primary care definitions are based on NC Medical Board licensure data (for NC physicians) and AAMC data (for non-NC physicians) and include Family Medicine (Family Medicine, Family Medicine-Adolescent Medicine, Family Medicine-Geriatric, Family Medicine-Sports Medicine, General Practice); Internal Medicine (Internal Medicine, Internal Medicine-Geriatric, Infectious Disease, Nephrology, Rheumatology); Pediatrics (Pediatrics, Pediatrics-Adolescent, Pediatric Infectious Disease, Pediatrics Nephrology, Pediatric Rheumatology, Pediatric-Sports Medicine); Internal Medicine-Pediatrics (Internal Medicine-Pediatrics, Internal Medicine-Adolescent Medicine); OB/GYN (Obstetrics & Gynecology, Obstetrics, Gynecology, Maternal-Fetal Medicine).

***"Rural" is based on 2013 Core-Based Statistical Area (CBSA) definitions, and includes counties that are "micropolitan" and "outside of CBSAs." Using this definition, NC has 54 rural counties.

Sources:

Duke Office of Medical Education
UNC-CH Office of Student Affairs
ECU Office of Medical Education
Wake Forest University SOM Office of Student Affairs

Association of American Medical Colleges
North Carolina Medical Board
US Census Bureau, Office of Management & Budget

Compiled by:
NC AHEC Program
Cecil G. Sheps Center for Health Services Research

Table 6

North Carolina Medical Students - Retention in General Surgery
2009 Graduates

School	Number of 2009 Graduates in Training or Practice as of 2014	Number of 2009 Graduates in Training or Practice with an Initial Residency Choice of General Surgery	Percent of 2009 Graduates in Training or Practice with an Initial Residency Choice of General Surgery	Number of 2009 Graduates in Training or Practice in General Surgery* as of 2014	Percent of 2009 Graduates in Training or Practice in General Surgery* as of 2014
Duke	102	11	11%	4	4%
ECU	63	3	5%	1	2%
UNC-CH	154	18	12%	7	5%
Wake Forest	104	12	12%	4	4%
Total	423	44	10%	16	4%

*2014 General Surgery definitions are based on NC Medical Board licensure data (for NC physicians) and AAMC data (for non-NC physicians) and include General Surgery, Abdominal Surgery, Colon & Rectal Surgery, Critical Care Surgery, Head and Neck Surgery, Oncology Surgery, Pediatric Surgery, Transplant Surgery, Trauma Surgery, and Vascular Surgery.

Sources:

Duke Office of Medical Education
UNC-CH Office of Student Affairs
ECU Office of Medical Education

Wake Forest University SOM Office of Student Affairs
Association of American Medical Colleges
North Carolina Medical Board

Compiled by:
NC AHEC Program
Cecil G. Sheps Center for Health Services Research

Table 7
North Carolina Medical Students - Retention in General Surgery in NC
2009 Graduates

School	Number of 2009 Graduates in Training or Practice as of 2014	Number of 2009 Graduates in Training or Practice in North Carolina as of 2014	Percent of 2009 Graduates in Training or Practice in North Carolina as of 2014	Number of 2009 Graduates in Training or Practice in General Surgery* in North Carolina as of 2014	Percent of 2009 Graduates in Training or Practice in General Surgery* in North Carolina as of 2014	Number of 2009 Graduates in Training or Practice in General Surgery* in Rural** Counties in North Carolina as of 2014	Percent of 2009 Graduates in Training or Practice in General Surgery* in Rural** Counties in North Carolina as of 2014
Duke	102	23	23%	1	1%	0	0%
ECU	63	33	52%	1	2%	0	0%
UNC-CH	154	52	34%	2	1%	0	0%
Wake Forest	104	23	22%	1	1%	1	1%
Total	423	131	31%	5	1%	1	0%

*2014 General Surgery definitions are based on NC Medical Board licensure data (for NC physicians) and AAMC data (for non-NC physicians) and include General Surgery, Abdominal Surgery, Colon & Rectal Surgery, Critical Care Surgery, Head and Neck Surgery, Oncology Surgery, Pediatric Surgery, Transplant Surgery, Trauma Surgery, and Vascular Surgery.

**"Rural" is based on 2013 Core-Based Statistical Area (CBSA) definitions, and includes counties that are "micropolitan" and "outside of CBSAs." Using this definition, NC has 54 rural counties.

Sources:

Duke Office of Medical Education
UNC-CH Office of Student Affairs
ECU Office of Medical Education

Wake Forest University SOM Office of Student Affairs
Association of American Medical Colleges
North Carolina Medical Board

Compiled by:
NC AHEC Program
Cecil G. Sheps Center for Health Services Research

Table 8
North Carolina Medical Students - Retention in Psychiatry
2009 Graduates

School	Number of 2009 Graduates in Training or Practice as of 2014	Number of 2009 Graduates in Training or Practice with an Initial Residency Choice of Psychiatry	Percent of 2009 Graduates in Training or Practice with an Initial Residency Choice of Psychiatry	Number of 2009 Graduates in Training or Practice in Psychiatry* as of 2014	Percent of 2009 Graduates in Training or Practice in Psychiatry* as of 2014
Duke	102	3	3%	3	3%
ECU	63	2	3%	2	3%
UNC-CH	154	7	5%	7	5%
Wake Forest	104	4	4%	5	5%
Total	423	16	4%	17	4%

*2014 Psychiatry definitions are based on NC Medical Board licensure data (for NC physicians) and AAMC data (for non-NC physicians) and include Psychiatry, Child and Adolescent Psychiatry, Psychoanalysis, Psychiatry/Geriatric, Family Medicine-Psychiatry, and Internal Medicine-Psychiatry.

Sources:

Duke Office of Medical Education
UNC-CH Office of Student Affairs
ECU Office of Medical Education

Wake Forest University SOM Office of Student Affairs
Association of American Medical Colleges
North Carolina Medical Board

Compiled by:
NC AHEC Program
Cecil G. Sheps Center for Health Services Research

**Table 9
North Carolina Medical Students - Retention in Psychiatry in NC
2009 Graduates**

School	Number of 2009 Graduates in Training or Practice as of 2014	Number of 2009 Graduates in Training or Practice in North Carolina as of 2014	Percent of 2009 Graduates in Training or Practice in North Carolina as of 2014	Number of 2009 Graduates in Training or Practice in Psychiatry* in North Carolina as of 2014	Percent of 2009 Graduates in Training or Practice in Psychiatry* in North Carolina as of 2014	Number of 2009 Graduates in Training or Practice in Psychiatry* in Rural** Counties in North Carolina as of 2014	Percent of 2009 Graduates in Training or Practice in Psychiatry* in Rural** Counties North Carolina as of 2014
Duke	102	23	23%	1	1%	0	0%
ECU	63	33	52%	0	0%	0	0%
UNC-CH	154	52	34%	2	1%	0	0%
Wake Forest	104	23	22%	2	2%	0	0%
Total	423	131	31%	5	1%	0	0%

*2014 Psychiatry definitions are based on NC Medical Board licensure data (for NC physicians) and AAMC data (for non-NC physicians) and include Psychiatry, Child and Adolescent Psychiatry, Psychoanalysis, Psychiatry/Geriatric, Family Medicine-Psychiatry, and Internal Medicine-Psychiatry.

**"Rural" is based on 2013 Core-Based Statistical Area (CBSA) definitions, and includes counties that are "micropolitan" and "outside of CBSAs." Using this definition, NC has 54 rural counties.

Sources:

Duke Office of Medical Education
UNC-CH Office of Student Affairs
ECU Office of Medical Education

Wake Forest University SOM Office of Student Affairs
Association of American Medical Colleges
North Carolina Medical Board

Compiled by:
NC AHEC Program

Cecil G. Sheps Center for Health Services Research

Limitations

The information used in this analysis to determine a medical graduate's initial specialty choice for residency and to determine retention in primary care comes from different sources. When calculating retention in primary care five years after graduation, data from the AAMC are used to determine initial choice of residency. AAMC does not differentiate between internal medicine and medicine-preliminary, so the data may appear to be inflated for initial residency choice of primary care. Two data sources are used to determine current practice or training area. For physicians practicing in North Carolina, NC Medical Board (NCMB) data are used to determine the physician's current self-reported primary area of practice. For physicians practicing outside of North Carolina, AAMC data are used to determine current practice or training area. AAMC data are based on the AMA Physician Masterfile.

Beginning with the class of 2006 all MDs graduating in a year, regardless of month, are counted with that year's graduates.

Primary Care Tables:

Primary care coding was revised in 2014 to reflect more accurate aggregation of AMA minor codes to AMA major codes. Primary care residency specialties are defined by legislation passed by the NC General Assembly in 1993 (Senate Bill 27/ House Bill 729) and include family medicine, general internal medicine, general pediatric medicine, internal medicine-pediatrics, and obstetrics and gynecology. Specialties included under the definitions of current practice specialties for primary care, psychiatry, and general surgery were revised in 2014 and reviewed by practicing clinicians for accuracy.

"Primary Care" is defined for both initial specialty of residency training (identified using AAMC data and denoted by the use of one asterisk) and for current practice or training area (identified using either NCMB data for physicians in NC and AAMC data for physicians practicing out of state and denoted by the use of two asterisks). More specialties are included under the definition of "primary care" for current practice or training area than for specialty of residency training because physicians may specialize within their primary care area of practice following training. For example, a physician who entered residency training in "pediatrics," and following completion of training reported a current practice area of "adolescent medicine" would be counted as a primary care physician.

General Surgery Tables:

For tables calculating retention in general surgery five years after graduation, it is important to note that surgical residencies are currently a minimum of five years, and students who select an initial specialty of general surgery often transition to more specialized surgical training.