UNIVERSITY OF NORTH CAROLINA
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MEETING OF THE BOARD OF GOVERNORS
Committee on Educational Planning, Policies, and Programs

AGENDA ITEM

April 14, 2016

3. 2016 Update: Primary Care Medical Education Plans ..... Warren Newton

Situation: Presentation of the biennial update on Primary Care Medical Education Plans for North Carolina.

Background: During its 1993 session, the North Carolina General Assembly expressed its interest in expanding the pool of generalist physicians for the state. The General Assembly mandated that each of the state's four schools of medicine develop a plan setting goals for an expanded percentage of medical school graduates choosing residency positions in primary care. (Primary care was defined as family practice, internal medicine, pediatrics, and obstetrics-gynecology.) General Statute 143-613 as contained in House Bill 230 passed in the 1995 session of the North Carolina General Assembly requires an update of these plans beginning in 1996 and every two years thereafter. Similar plans were also required for physician assistant, nurse practitioner and nurse midwifery programs.

Assessment: The plans of the four schools (Brody School of Medicine, East Carolina University; Duke University School of Medicine; University of North Carolina at Chapel Hill School of Medicine; and Wake Forest University School of Medicine) built upon the unique missions and programs of the schools. Although specific activities differ between the schools, they all have implemented initiatives in similar areas in order to increase the percentage of graduates choosing careers in primary care. In each case, the schools also have built upon their long-standing relationships with the AHEC Program in order to conduct increased medical student and primary care residency training in community settings. This report presents the 2016 Update to these primary care medical education plans.

Action: This item requires a vote by the Committee, with full Board vote.

Report to the Board of Governors
University of North Carolina System

2016 UPDATE:
PRIMARY CARE EDUCATION PLANS

From

NC Schools of Medicine
Nurse Practitioner and Physician Assistant Programs
North Carolina Area Health Education Centers (AHEC) Program

This report is submitted to the Board of Governors of the University of North Carolina in response to General Statute 143-613 as contained in House Bill 230 passed in the 1995 session of the North Carolina General Assembly.

April 2016

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2016 UPDATE:
PRIMARY CARE MEDICAL EDUCATION PLANS

EXECUTIVE SUMMARY

During its 1993 session, 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 mandated that each of the state's four schools of medicine develop a plan setting goals for an expanded percentage of medical school graduates choosing residency positions in primary care. Primary care was defined as family practice, internal medicine, pediatrics, and obstetrics-gynecology. It set the goal for the ECU and UNC Schools of Medicine at 60 percent of graduates. For the Wake Forest University and Duke University Schools of Medicine, it set the goal at 50 percent.

The General Assembly also mandated that the N.C. Area Health Education Centers (AHEC) Program develop a plan to expand the number of primary care residency positions. Finally, the legislature mandated that a monitoring system be developed by the Board of Governors to report on specialty selection by medical students at graduation and five years after graduation.

In 1994, the four schools of medicine and the N.C. AHEC Program submitted primary care educational plans for increasing the percent of medical school graduates choosing primary care residency programs and subsequently generalist practice. General Statute 143-613 as contained in House Bill 230 passed in the 1995 session of the North Carolina General Assembly requires an update of these plans beginning in 1996 and every two years thereafter. Programs for physician assistants, nurse practitioners and nurse midwives were also required to submit plans with strategies for increasing the percentage of graduates entering primary care and to be updated on the same timeline.

The plans of the four schools built upon the unique missions and programs of the schools. Although specific activities differ between the schools, they all implemented initiatives in similar areas in order to increase the percentage of graduates choosing careers in primary care. In each case, the schools also built upon their long-standing relationships with the AHEC Program in order to conduct increased medical student and primary care residency training in community settings. The following attachments highlight the specific changes which have taken place since 1994. A brief summary of the themes addressed by the updates includes the following:

- Pre-medical Students: Each school has increased contact with pre-medical students in order to make clear the opportunities for practice as a generalist physician. Several of these activities target minority and disadvantaged pre-medical students.
- Admission to Medical School: Each school has placed increased emphasis on the admission of students with an interest in generalist practice. All four admissions committees have primary care physicians as members.

- Primary Care Role Models: Each school expanded activities to give students an in-depth and continuing exposure to generalist physicians at the school and in community settings. Over the four years of medical school, students receive career advising, mentoring, and role modeling from these physicians.
- Curriculum Changes: Each school implemented curriculum changes that give students greater exposure to primary care. While the curricula and the plans of the four schools vary greatly, the following are themes that are found in each of the plans:
    - increased education in the ambulatory setting
    - increased rotation of students at all levels to community practices, with a particular focus on rural and inner city underserved areas
    - increased emphasis on topics that are critical to the practice of the generalist physician. These include: management of chronic illness, prevention, nutrition, ethics, health care organization, financing, population health and more effective uses of information technology
    - increased emphasis on the physician as a member of a cost-effective health care team operating in a managed care environment.

- Community Practitioner Support: Each school and its affiliated AHECs, in association with the Office of Rural Health and Community Care, the North Carolina Community Health Center Association, and the Community Practitioner Program of the NC Medical Society Foundation, have expanded activities in support of generalist practitioners in community settings. Special emphasis has been given to practitioners in rural, inner city, and isolated settings. Some activities include:
    - expanded opportunities for physicians to serve as preceptors and to benefit from faculty development programs, telecommunications, reimbursement for teaching, etc.
    - continuing education targeted to improve practice outcomes
    - support for practices involved in quality improvement and practice redesign initiatives

- Information Services and Telecommunications: The four schools and their affiliated AHECs expanded existing library and information services to primary care physicians in underserved settings. These developments also include developing tele-classroom units at the schools, the AHECs, and at selected smaller hospitals and health centers to strengthen student education in these sites and to decrease the isolation of practitioners. The AHEC Digital Library, a comprehensive electronic set of information resources, including searching databases, full-text journals and other resources, is available to all community practitioners who serve as preceptors for students.

- Primary Care Residency Training: Each school and the AHECs have expanded the number of primary care residency positions and developed rural and inner city training opportunities for residents.

The dean and the faculty at each of the four schools of medicine have taken seriously the mandate of the General Assembly and have implemented plans that will help increase the number and percentage of medical students choosing primary care residency programs and, subsequently, generalist practice. This report, with attachments from the four schools of medicine and the N. C. AHEC Program, responds to that legislative mandate by providing an update on current and planned initiatives which are directed toward ensuring that our medical care education programs meet the needs of our students and achieve the goal of increasing the primary care workforce for our citizens.

While not mandated, Campbell University School of Osteopathic Medicine (CUSOM) is in the process of updating their primary care plans and will be sent at a later date.

Schools of Medicine and

AHEC Family Practice Residencies

Update: Primary Care Education Plan
Duke University School of Medicine

Report to the Board of Governors of the Consolidated University of North Carolina

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March 21, 2016

A report in response to General Statue 143-613 as amended by Chapter 507 of the 1995 Session Laws (House Bill 230) of the North Carolina Assembly

In 1994 the Duke University School of Medicine submitted an educational plan with the goal of encouraging students to enter the primary care disciplines of general internal medicine, general pediatrics, family medicine, and obstetrics/gynecology.

Support for these innovations has come from the North Carolina AHEC, a training grant from the U.S. Health and Human Services Grants for predoctoral education in family medicine, from the NC Academy of Family Practice, the Josiah Mercy, Jr. Foundation, the Fullerton Foundation, Hewlett Packard, the Duke Endowment, donations and substantial support from the Office of Medical Education at Duke.

One measure of our programs to train individuals for a career in primary care is the distribution of graduates across residencies. A substantial proportion (82% in 2013) of Duke graduates enter primary care residencies.

PROGRAM	2011	2012	2013	2014	2015	2016
Family Practice	3	1	3	0	0	6
Internal Medicine	16	18	25	23	18	19
Preliminary	12	15	22	13	14	9
Medicine/Pediatrics	1	2	1	0	0	4
Obstetrics & Gynecology	3	4	5	3	7	4
Pediatrics	8	11	8	4	10	5
Total Graduates	98	83	106	99	89	98

Note: the proportion of graduates entering primary care includes one year Internal Medicine residencies expected to lead to sub-specialty training.

The Generalist Activities include:

1. Improving Community Relations to address disparities in health care

Duke's modern history with community engagement began in 1996, when leadership and faculty of the Duke Department of Community and Family Medicine and the School of Nursing worked with the leadership of Durham County's Health and Social Services Departments, the local federally qualified health center (FQHC), and its then-rival hospital, Durham Regional Hospital, to initiate a series of discussions about improving the health of Durham's low-income populations.

In 1998 CFM created the Division of Community Health (DCH) to work with communities in Durham and across North Carolina to build innovative inter-professional models of care to improve health at the individual and at the population level. The models of care utilized multi-disciplinary teams of social service (MSWs, LCSWs, family counselors and psychologists) and health care providers (Pharm Ds, RDs, PAs, NPs, OTs and PTs) along with non-licensed community health workers; and placed primary care and care management services in accessible

locations for individuals and families - in their homes, in schools, and in neighborhoods. Examples of DCH's varied programs include:

- Three neighborhood clinics planned with their communities in partnership with Durham's FQHC (Lincoln Community Health Center), seeing over 15,000 patient encounters annually. 72% of the patients served are uninsured.

- The Just for Us Program is a multi-agency, inter-professional team providing in-home primary care, nutrition, occupational therapy, and case management to elderly and/or disabled residents of Durham living in 13 public/subsidized housing centers in Durham County, planned with the senior centers and the seniors. The program provides more than 1,000 patient visits annually.

- A school-based wellness center located in Southern High School, planned with Durham Public Schools and the community, generates over 1,500 encounters per year. The Division also collaborates with the Durham County Health Department to provide well child visits and immunizations in five Durham elementary schools.

- Local Access to Coordinated Health Care (LATCH) a care management program that draws on the resources of multiple agencies including the County Departments of Health and Social Services and Lincoln Community Health Center that has served more than 22,000 uninsured Durham residents since its inception.

- Healthy Futures is a new, innovative care delivery model provided by the Durham County Department of Public Health, in partnership with Durham Public Schools and Duke Health for children residing in Durham County. Some of the services provided by the program include immunizations, school physicals, health checks, and visual/hearing screenings. Healthy Futures enhanced role nurses also provide nutrition, health and safety counseling; and family referrals are made to their medical home and other agencies for additional support with dental and mental health concerns.

- The Durham Crisis Collaborative is a group of agencies working together to improve the care for people with complex behavioral health needs. The Collaborative plans and provides services based on patients' needs, connecting them with the best resources available to assist in improving the quality of care, reducing unnecessary services, and reducing visits to the ED. The Collaborative is comprised of multiple community agencies including Alliance Behavioral Health, City of Durham, Duke University Health System, Project Access of Durham County, Durham Police Crisis Intervention Team, Central Regional Hospital, Freedom House Recovery Center, Housing for New Hope, and Lincoln Community Health Center. In addition, various Durham County agencies are also involved, including the Criminal Justice Resource Center, Department of Public Health, Department of Social Services, and Emergency Medical Services.

- The Chronic Pain Initiative was developed to address accidental overdoses and improve clinicians' safe prescribing of opioids. The Initiatives includes distribution of Naloxone in pharmacies, and public education of the merits of Naloxone. Duke University Health System launched a Safe Opioid Prescribing Task Force as part of its PNT Committee. This Task Force is currently disseminating to providers new regimens related to prescribing of opioids in line with the State Medical Board and the CDC guidelines.

- **SSI/SSDI Outreach, Access, and Recovery (SOAR)** is a program designed to increase access to SSI/SSDI for *eligible adults who are experiencing or at risk of homelessness* and have a mental illness, medical impairment, and/or a co-occurring substance use disorder. Duke Health

has two SOAR workers and over the past three years have qualified 122 Durham residents for eligible services and SSI income.

In addition, the Division operates the Northern Piedmont Community Care Network (NPCC), part of the Community Care Program of North Carolina. NPCC provides care management services for more than 70,000 Medicaid enrollees across Durham, Franklin, Granville, Person, Vance and Warren counties. The NPCC network links and coordinates services for 53 primary care practices, five hospitals, and local departments of social services, health and mental health across the six-county region.

All of these programs began with our strategy for community engagement. Together, with our partners, we ask about and listen to concerns (literally going door to door in neighborhoods), analyze and share healthcare utilization and costs, explore barriers to care, identify partner needs and resources, plan/redesign services, track outcomes, and share accountability. Our evaluation data demonstrated that these programs have been improving hospitalization rates and emergency department use, and fulfilling unmet patient needs for meaningful access to primary care, and support in managing their own health.

2. Development of primary care faculty

Duke faculty continues to play a leading role in faculty development of community preceptors from all North Carolina Medical Schools through the North Carolina Academy of Family Physicians and the NCAHEC Program through its Office of Regional Primary Care Education (ORPCE) teaching sites.

A large group of primary care faculty serve on the Medical School's Curriculum, Admissions, and Promotions Committees as well as representation on both Graduate Medical Education and Continuing Medical Education Committees.

The network of primary care practices added to Duke continues to be a resource for teaching medical students. NCAHEC ORPCE teaching sites also play a major role in primary care teaching.

3. Development of Research Programs in Primary Care

Research efforts in primary care have continued in the areas of treatment of common illness, health outcomes, general health status, and health services delivery. Such research is being carried out in the Health Services Research Program at the Veteran's Administration Medical Center, the Epidemiology Program in the Department of Psychiatry and the Aging Center, the Clinical Epidemiology and Biostatistics Program, and the Department of Community and Family Medicine. The Health Promotion and Disease Prevention Center at the Veteran's Administration Medical Center is active in the medical school curriculum. Many students participate in primary care research in their third year at Duke through the combined MD/MPH program, the Epidemiology, Health Service and Health Policy Study Program, and the Master's of Health Science in Clinical Research degree and the Duke Center for Community Research.

4. Admissions and Premedical Preparation

Duke is proud to be a site of the AAMC's Robert Wood Johnson-funded Summer Medical Enrichment Program. This program sponsors college sophomores and juniors from disadvantaged backgrounds to attend a six-week program introducing them to a variety of

programs associated with health professions. This introduction includes experiences related to primary care fields as well as shadowing programs.

5. Financial Aid

The Primary Care Leadership Track awards students up to $40,000 to replace need-based loans taken out by the student over the four years of the program. The funds are awarded once the students match in one of the approved Primary Care fields. Students will be tracked for five years post-graduation. Those who choose to change to a specialty not designated Primary Care will then need to repay the scholarship at seven per cent interest.

Duke continues to aggressively secure financial aid for student and identifies scholarships available for those interested in Primary Care. Primary Care financial aid programs are overseen by the Assistant Dean of the Primary Care Program in coordination with the Financial Aid Office to help ensure that eligible students are aware of the opportunities.

Duke participates with the Department of Health and Human Services to pursue grant and loan programs to benefit students interested in Primary Care. Duke continuously researches scholarships that would provide assistance to those interested in Primary Care.

6. Medical School Curriculum

A. Practice Course

The Practice course exposes all students at Duke to early ambulatory medicine in year one and provides much of the ambulatory care core training at Duke preclinically and during the clinical year. Students are taught the basic skills they need to be effective in the ambulatory setting. The course is still required for first, second and third year students.

All third or fourth year students are required to have a longitudinal ambulatory care experience. Ambulatory experiences are included as part of several core clerkships.

B. Primary Care Leadership Track

The Primary Care Leadership Track (PCLT) launched in 2011, is a four-year program to prepare physicians with knowledge of the health care system, understanding of longitudinal chronic illness care, and skills to work effectively in teams to care for patients and improve systems of care. To date 32 students have matriculated into the program. These students will enter residency prepared to engage with communities and practices to help improve health outcomes. The curriculum of the PCLT builds on a longstanding partnership between Duke and the Durham community to understand the causes of health disparities, create a strong research focus on community engagement, and redesign clinical programs to improve health outcomes. Students committed to primary care are specifically recruited and participate in an innovative 4-year curriculum designed to support their interest and develop skills needed for community-engaged, population-based practice, and leadership positions. As of 2016, there will be 10 graduates of the program. Six will have matched residencies in Family Medicine, two in general internal medicine, and two in pediatrics.

PCLT students and PA students in the Underserved Community Scholars Program participate together in a course on the Patient-Centered Medical Home. This training has given a benefit for the PA graduates pursuing job opportunities.

7. Extracurricular Activities

A. Primary Care Progress Chapter

Duke has a local chapter of Primary Care Progress. Primary Care Progress is a growing network of medical providers, health professional trainees, policy pundits, advocates, and educators united by a new vision for revitalizing the primary care workforce. The group works through strategic local advocacy that promotes primary care and transforms care delivery and training in academic settings. Duke and UNC chapters have collaborated on local activities.

B. Student Interest Groups

The Family Medicine Interest Group continues to provide opportunities for all students interested in primary care with a chance to learn primary care clinical skills and share interesting topics. Other interest groups, such as one in pediatrics, are also active.

8. Primary Care Residency Training

Duke continues to have five residency tracks that can lead to the practice of primary care: general internal medicine, general pediatrics, a combined medicine/pediatrics residency, family medicine, and obstetrics/gynecology.

A. Family Medicine Residency

The Duke Family Medicine Residency program is known for its innovative approach to training in population health and community health. The program is dedicated to training family physicians who are excellent clinicians, leaders and advocates of health care within the community. Besides clinical training in all aspects of Family Medicine, residents complete a three-year Population Health Improvement through Teamwork (PHIT) Curriculum, and they apply what they learn in PHIT in our clinical practice on a daily basis. The faculty have also completed this curriculum, and utilize the skills and knowledge they have gained to produce clinically skilled Family Medicine physicians who have the abilities to lead and collaborate with clinical teams to meet the health care needs of patients and populations.
The program incorporates community-engaged approaches for population health improvement and leadership training. We partner with a variety of local health care and community teams to meet the needs of various individuals, families and populations, with the core goal of reducing health care disparities and improving health. All residents provide continuity of care to patients in the Duke Family Medicine Center and also one half day a week each resident provides care in clinics that address the care of underserved populations:
The *Walltown* Neighborhood *Clinic*- a joint program of Lincoln Community Health Center and Duke Community Health, the Veterans Administration primary care clinic, Just For Us -offering in-home medical services to Durham's seniors and adults with disabilities living in Durham's public subsidized housing facilities who have barriers to routine primary care services in the traditional office setting, El Futuro -a mental health agency caring for Latino families- or TROSA a comprehensive, long-term, residential substance abuse recovery program.

The Family Medicine residency program started expanding its size in 2015 from 4/4/4 to 5/5/5 through the support for Graduate Medical Education (GME) Enhancement under Veterans Access, Choice, and Accountability Act (VACAA).

B. Ambulatory Care Resident Leadership Track

The Ambulatory Care Leadership Track (ACLT) has been a core part of the Internal Medicine residency program at Duke since 2012. The ACLT is an elective track for second and third year internal medicine residents which serves as a foundation for careers in general medicine leadership, primary care, academic ambulatory subspecialties, research, or education. Residents come together during three ambulatory blocks per year of clinical and didactic small group instruction, including: (1) Expanded clinical options in fields inside and outside of medicine, including primary care, sports medicine, ENT, ophthalmology, dermatology, obesity medicine, as well as all medicine subspecialties; (2) Curricula in teaching and opportunities to teach as a senior resident; (3) Training in population health and practice management; (4) Advocacy and health policy seminars given by faculty in government relations and health policy throughout the year, and an advocacy trip in the spring to both Washington DC and Raleigh, NC, alternating years. The ACLT has evolved significantly since its inception, in response to learner feedback. This is a learner driven experience and a wonderful opportunity to realize housestaff's personal impact on the worlds of clinical medicine, education, leadership, and health policy. The ACLT track will expand to 11 second year residents and 4 third year residents in 2016. It is directed by Dr. Daniella Zipkin with support from Dr. Sharon Rubin and Dr. Alex Cho.

9. Community Practitioner Support

Duke continues to work closely with the other three medical schools in North Carolina and the North Carolina Area Health Education Centers Program (AHEC). Duke continues to coordinate placement of the majority of its community learners with practitioners throughout the state with assistance from the Office of Regional Primary Care Education (ORPCE). The ORPCE staff has continued to be very successful in recruiting, training, and supporting community preceptors in their regions. Duke supports key community practices with teaching resources whenever possible.

10. Tracking Students and Residents

Duke maintains information on training and practice activities of its students and house staff alumni through several sources. Local records are kept of residencies entered and current addresses of those in practice. AAMC provides information about the status of residency training. These data are summarized and forwarded annually to the statewide coordinator at the AHEC central office, who, in turn, reports to the North Carolina State Legislature.

11. "Playbook" to Integrate Primary Care and Public Health

The Department of Community & Family Medicine is in its second phase of being lead organizer of a multi-pronged national effort to encourage, initiate, and support public health and primary care to partner and work together to address multiple determinants of health and improve health outcomes. Funded by the de Beaumont Foundation, in partnership with the Centers for Disease Control and Prevention, and assisted by a wide array of national primary care and public health agencies and groups, the Department administers the Practical Playbook (PPB), which provides tools and resources for both practitioners and educators in public health and primary care who

want to implement practical strategies to improve population health outcomes. The PPB also coordinates and provides technical support for collaborative stakeholders in communities selected by the BUILD Health Challenge, evaluating and disseminating best practices from across the nation for what works and how partners can work together. In May of 2016, the Practical Playbook will host its first national convening of key stakeholders from across sectors – including professional associations, community organizations, government agencies and academic institutions; this will be a milestone event towards advancing robust collaborations that improve population health.

www.practicalplaybook.org

In early 2016, the Department of Community & Family Medicine led the development and release of a national effort in population health for primary care residents. "Population Health Milestones in Graduate Medical Education," made up of several reports, was made possible with grant support from the Centers for Disease Control and Prevention (CDC), and was administered through the Association of American Medical Colleges (AAMC), with additional funding from the Fullerton Foundation. The Milestones aim to provide a framework for training residents and fellows in population health improvement, and fill the gap for available curricula and materials to support that work. The goal is three-fold: 1) highlight the population health training requirements embedded in the Accreditation Council for Graduate Medical Education's (ACGME) Milestones for resident physicians, 2) suggest educational materials and assessment tools that programs can use to develop resident competencies in population health matched to these milestones, and 3) propose a generic set of population health milestones to inform future development of population health education and residency training.

http://cfm.mc.duke.edu/population-health

12. The Duke-Johnson & Johnson Nurse Leadership Program

This program provides advanced practice nurses, specifically nurse practitioners and certified nurse midwives, with a year-long transformational leadership development experience to prepare them to implement change in their practice settings and within the evolving and challenging health care environment. Through its rich leadership and management program content, this professional development program trains the advanced practice nurse to be better able to meet the challenges of the evolving health care environment. Fellows who successfully complete the program will be equipped with the skills and competencies to lead health care teams to increased operational efficiency and improved patient outcomes with a special focus on underserved populations. With a focus on the creation and sustainability of patient-centered practices, the program emphasizes the behaviors of exemplary leaders to enable nurse professionals to identify different types of personal leadership styles and philosophies and learn how to incorporate and expand upon them when directing health care teams.

Summary

Duke was recognized this year by US World and News Report for training family medicine residents (ranked third in the nation) and training medical students in primary care (ranked 8th in the nation). These rankings recognize the efforts Duke has made in the past two decades to improve training in the primary care specialties.

The Primary Care Leadership track continues to thrive at the medical school, attracting top students from around the country. Six of the nine PCLT students graduating are entering family

medicine residency. The PA program - Underserved Community Scholars Program launched in 2012, continues to place PA trainees in rural communities. The Ambulatory Medicine Resident Leadership Track continues to increase the number and skills of medicine residents in ambulatory primary care. The Family Medicine residency is ensuring its graduates have skills that will allow them to be leaders in community health improvement after graduation. Duke is training nurse leaders through the Johnson and Johnson Nurse Leadership program. With the Practical Playbook, Duke is leading a multi-pronged national effort to encourage, initiate, and support public health and primary care to partner and work together to address multiple determinants of health and improve health outcomes. Lessons from the Playbook are taught to residents and students. Duke continues to be active in research areas that impact the health of communities. Duke is more than ever committed to innovations in primary care service, research, and education to meet the health care needs of the public through primary care.

Report to the Board of Governors

University of North Carolina System

2014 Update:

Primary Care Medical Education Plan

Brody School of Medicine

East Carolina University

Submitted by:

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Brody School of Medicine

February 14, 2014

A report in response to the General Statue 143-613 as amended by Chapter 507 of the 1995 Session Laws (House Bill 230) of the North Carolina Assembly

Introduction

Since the creation of the Brody School of Medicine at East Carolina University by the North Carolina General Assembly in 1975, we have remained true to our legislatively-mandated mission. This three-part mission of the Brody School of Medicine is:

- To educate primary care physicians
- To provide access to careers in medicine for minority and disadvantaged students
- To improve health care in eastern North Carolina

We are privileged to work with a faculty, staff, and student body that embrace this mission and help us to achieve these goals. The American Academy of Family Physicians has recognized the Brody School of Medicine as the nation's top medical school for producing Family Physicians between 1999 and 2009, and more recently as the number one US medical school in percentage of graduates entering Family Medicine residencies from 2009-2012. In 2013 US News & World Report ranked the Brody School of Medicine in the top twenty U.S. Medical Schools in Primary Care and in the top ten U.S. Medical Schools in graduates entering primary care residencies.

Admissions Process

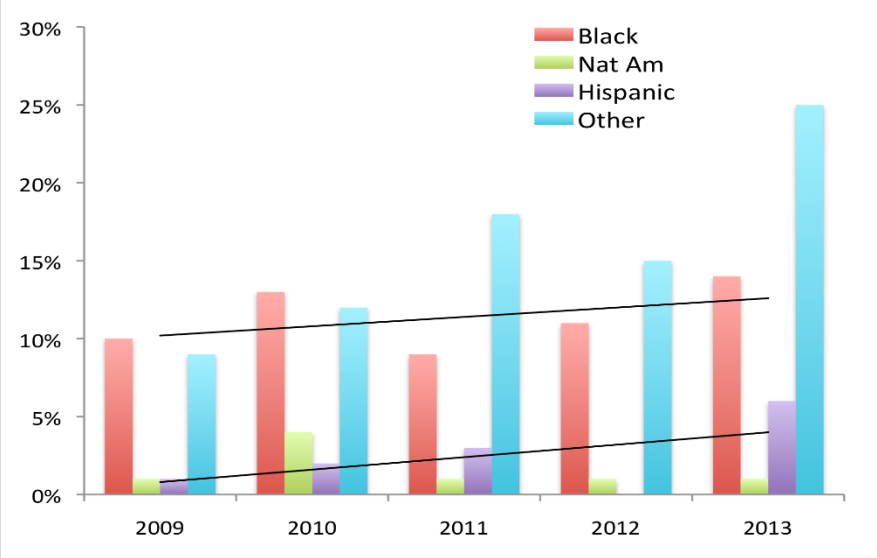
Fulfilling our mission begins with the admissions process. The Admissions committee includes students, community physicians and faculty who strive to select an entering class that reflects the diversity of the state and shows promise of becoming primary care physicians in North Carolina. Applicants must not only meet standards of prior classes' MCAT and GPA scores but must demonstrate considerable exposure to medical practice and significant contributions to community service. The goal of the Admissions committee is to select an entering class that reflects the diversity of the state of North Carolina and is comprised of students of a variety of ages, ethnic backgrounds, cultural heritages and religious beliefs. With an applications pool of 850 to 900 students (all of whom are North Carolina residents), the committee selects 80 students to matriculate annually. All applicants who are not selected are encouraged to reapply and to meet with the Dean of Admissions to discuss how to enhance their application process in the future.

The Dean of Admissions holds an annual Pre-Medical Advisors Conference with college pre-medical student advisors from throughout North Carolina. This fosters a greater understanding of the mission and outcomes of medical graduates from the Brody School of Medicine. In 2011 the School of Dental Medicine at East Carolina University was invited to participate in order to enhance the enrollment of professional students at both schools.

For the past fourteen years the Brody School of Medicine has an offered an "Early Assurance" program with the East Carolina University undergraduate Honors College. This innovative plan guarantees enrollment into the Brody School of Medicine to four outstanding freshman students at East Carolina University upon successful completion of their college degrees. This Early Assurance model has recently been expanded to include NC Agricultural and Technical State University, UNC-Pembroke, Elizabeth City State University, and Bennett College. Students

selected for early assurance are mentored over the four college years by the Dean of Admissions with regular individual and group meetings. They must maintain a set grade point average, participate in enrichment activities, and (depending on their undergraduate standardized test scores) are not required to take the Medical College Admissions Test.

As a result of these collective efforts, we continue to enjoy high levels of diversity among our student body, placing us consistently above the >90th percentile nationally for underrepresented minority students in the school:



Curriculum Emphasis for Primary Care

Medical students at the Brody School of Medicine are introduced to primary care in the first two years by the Doctoring I and Doctoring II courses. These courses are directed by faculty members from Family Medicine, and include teaching faculty from Family Medicine, Internal Medicine, and Pediatrics. During these courses. students learn to take a thorough history and achieve competence in physical examination skills. Students are mentored in the clinical skills lab and taught by standardized patients and physical diagnosis trainers who work with the primary care faculty in assuring understanding and excellence. As part of these courses, students participate in primary care preceptorships during the first and second years. This is a popular activity whereby students work one-on-one with a community preceptor in a primary care physician's office throughout North Carolina for a week each year in the preclinical years.

The third year curriculum includes clerkships in Family Medicine, Internal Medicine, Pediatrics, Psychiatry, Surgery and OB/GYN. Students are intimately involved in the team care of the patients. On the Family Medicine clerkship, students spend 50% of their time (4 weeks) living and working in a North Carolina community, residing in AHEC housing and experiencing community primary care. The Pediatric Clerkship includes a two-week community based elective in eastern North Carolina during which students live in AHEC housing and see children with a local pediatrician. They also investigate a population health issue and report back to their cohort upon their return to campus.

During the fourth year, all students are required to take a four-week elective in Primary Care. They also have 14 weeks to choose an elective which enhances their career choice and residency preparation.

This early and applied exposure to primary care contributes to our success in placing our graduates in primary care residencies. The table below provides detailed information regarding primary care residency selection by Brody School of Medicine students from 2010 to 2013:

Primary Care	2010		2011		2012		2013	
Total Graduates		66		70		74		70
Total Graduates not entering residency		0		2		3		2
Total Graduates entering residency		66		68		71		69
Primary Care	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**
Family Medicine	18.20%	12	19.00%	13	22.50%	16	13.04%	9
Internal Medicine	13.60%	9	7.00%	5	21.10%	15	7.24%	5
Pediatrics	12.10%	8	17.00%	12	14.10%	10	20.28%	14
Family/Psych					0.00%			
Med/Psych			1.00%	1			1.44%	1
Peds/Genetics							1.44%	1
IM/EM			100%	1				
IM/Peds	3.00%	2	9.00%	6	5.60%	4	5.79%	4
TOTAL	**46.90%**	**31**	**55.00%**	**38**	**63.30%**	**45**	**49.27%**	**34**
OB/Gyn	7.50%	5	4.00%	3	5.60%	4	8.69%	6
Total w/ OB/Gyn	**54.50%**	**36**	**65.00%**	**41**	**69.00%**	**49**	**57.97%**	**40**

Following residency training, Brody graduates make a significant contribution to the region and state, as shown below:

US Medical School Graduates		
	Brody	**National Average**
Practicing in rural areas	**21.6%**	**7.6%**
Practicing in underserved areas	**35.5%**	**16.1%**
Practicing in North Carolina (same state)	**53.7%**	**34.1%**
Practicing in Primary Care	**40.5%**	**28.9%**
Practicing Family Medicine	**20.4%**	**7.9%**

Self Directed Learning Opportunities

Over 60% of graduating students participate in structured service-learning activities that help guide their career choices. As an example, Brody students manage two community service clinics with the help of Brody clinical faculty who volunteer as preceptors and 80% of students gain patient experience in a free clinic.

The Greenville Community Clinic is organized by students and run by a board made up of community members, faculty and students. The clinic meets twice a week in the evening and many students participate at each clinic under the guidance of faculty. The Grimesland Clinic meets every Sunday and is organized completely by students. They see approximately 10 to 15 patients weekly, predominantly from a local Latino population. Services offered include medications, medical assessments, treatments and referral to medical homes or specialists at the Brody School of Medicine or the Bernstein Clinic. An interpreter is always present to help the patients, students, and physician preceptors from Brody.

Approximately 5% of Brody School of Medicine students are awarded Schweitzer Fellowships annually. These service-learning awards enable students to build leadership skills and teach service to others.

The Brody School of Medicine continues to sponsor our “Summer Program for Future Doctors” from May to July each year (http://www.ecu.edu/spfd). This 9 week program is primarily for college students and graduates from underrepresented populations who wish to become physicians. They receive a living stipend to attend the program, which enables them to enhance their knowledge of anatomy, biochemistry, neuroscience and physiology, as well as demonstrate their abilities to perform successfully in a medical school curriculum. In addition, they are taught academic study skills and are able to experience clinical patient care in our primary care clinics. Approximately 30 students are enrolled each year after a robust application process. In 2013, 42% of the participants were from Tier 1 and Tier 2 counties, and 39% were from underrepresented minority groups. Forty-eight percent of the participants in the 2012 Summer Program for future Doctors have been admitted to medical school.

Brody students may apply for a Leadership Scholarship program which mentors 12 students per year in a program to enhance their leadership potential. Service learning is component of this program led by two of our faculty.

There are several student interest groups which students are encouraged to join during orientation to medical school. These include the Family Medicine Interest Group, the Med/Peds Interest Group, the Internal Medicine Interest Group, and the Pediatric Interest Group. Service learning is included in the goals of each of these groups.

Our students initiated a “Second Look” weekend in 2012, whereby students already accepted to the Brody School of Medicine were invited to visit campus before matriculation and witness a broader vision of the educational experience at Brody. The students created a video called “Brody Second Look 2012” (https://www.youtube.com/watch?v=SqKlYcWr3iQ), featuring student and faculty interviews and demonstrating their tremendous pride in the school. Many of the recorded comments praise the primary care mission.

New Initiatives

The Brody School of Medicine is one of 11 medical schools nationwide that received grants through the American Medical Association's “Accelerating Change in Medical Education Initiative”. Brody’s program is entitled “Redesigning Education to Accelerate Change in Healthcare”, or REACH. Through this initiative, a group of 38 East Carolina University faculty members will spend the next 12 months exploring ways to educate students about patient safety, quality improvement, team-based care, and population health, along with new ways of teaching that engage students more actively in their own education. As part of this Teachers of Quality Academy program, these faculty will undergo advanced training in these new competencies needed for our health care system, develop projects to apply these skills across the health sciences division, and train medical students and other health professions students in these concepts. The group comprises faculty members from the Brody School of Medicine (clinical medicine and public health), College of Nursing, and the College of Allied Health Sciences, along with medical residents. A key emphasis will be to prepare faculty members to teach system analysis competencies to students while also experiencing interprofessional team based care principles and practices.. The ultimate result of the academy will be a redesigned medical curriculum that addresses safety, quality, and interprofessional education, and that could serve as a model for the nation's other medical schools.

Continuing curriculum renewal resulted in the spring 2013 introduction of a problem-based learning curriculum that spans the first two years of medical school, as well as refinements in the professionalism and longitudinal career planning course “Pirate MD” that was introduced in 2011. These courses emphasize a small-group instructional setting, facilitated by paired basic science and clinical science faculty, and the career planning component has been expanded to include third-year and fourth-year medical students as facilitators.

Primary Care Medical Education Plan

2016 Update

The University of North Carolina at Chapel Hill

School of Medicine

William L. Roper, M.D., M.P.H.
Dean of the School of Medicine
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March 2016

A report in response to General Statute 143-613 as amended by Chapter 507 of the 1995 Session Laws (House Bill 230) of the North Carolina Assembly

PREFACE

The vision of the UNC School of Medicine is to be the nation's leading public school of medicine. To that end, we have a broad mission that includes educating a large number of primary care physicians to serve our state. The UNC School of Medicine (UNC SOM) continues its fundamental and substantial support for primary care, and is proud to celebrate that in 2015 US News and World Report named us the #2 primary care school in the nation. This is evidence of our efforts and success as well as our strong reputation in this area.
Our School of Medicine is strong in primary care because of our exceptional students, large teaching presence for primary care faculty, numerous clinical experiences in primary care settings across the state, extensive service and research opportunities, collaboration with the North Carolina AHEC distributed educational system, and ongoing tracking of the longer term outcomes of medical education through the Health Profession Workforce unit at the Cecil G. Sheps Center for Health Services Research. These programs have been outlined in prior reports. This report outlines new programs that the UNC SOM has added to its primary care medical education plans since 2014 and provides updated data on some of our existing work.

PREMEDICAL PREPARATION AND ADMISSIONS

The UNC School of Medicine has the largest medical school class size in the state. We have over 5000 applicants annually and accept only about 250 to fill our class with 180 students per year. Thanks to the bond passage in March, 2016, we are poised to build a new medical education building to accommodate an even larger class size. Should funding be made available, we hope to increase our class size to 230, which has been approved by the Board of Governors.
In selecting our class, we admit those who are both academically qualified and most likely to make an impact of service in the broad spectrum of need through their doctoring. The chart below illustrates our success at matriculation of those we accept, and our success in building a class that is diverse.

App Year	Total Apps Rcvd	Total Apps Rcvd in-state	Offers of Acceptance	Total offers of acceptance for In State	Matriculated In-State	Matriculated Out of State	Enrolled Under Represented Minority	Enrolled MED Graduates
2014	5680	988	255	192	152	28	38 (21%)	21
2015	6198	1019	234	172	151	30	32 (18%)	17

The Office of Medical Education oversees diversity efforts through its Office of Special Programs. The Medical Education Development (MED) is a nationally known, more 40-year-old SOM program pipeline program that helps facilitate diversity within the student body by

recruiting and supporting minority and/or disadvantaged students. It provides students a chance to enhance their academic credentials while preparing for medical or dental school admission and increases personal and academic skills for coping with professional training. We are working to expand the focus of the MED program to recruit more Native American and Latino students and disadvantaged rural students of all ethnic backgrounds.
It is recognized that to address the need for a rural physician workforce we need to accept and educate medical students who have been raised in rural areas. The single most important factor in getting a physician to serve a rural area is his or her experience previously living in a rural area. To that end, we have developed an admissions staff position that will be filled in April, 2016 for a rural student recruiter. Our vision is that we will develop rural recruiting as a special pipeline just as we have succeeded in recruiting African American physicians. UNC SOM is now at the 99%ile for fraction of our class who is African American. This tremendous success has come from concentrated effort and investment over four decades. We are now beginning to invest in rural recruiting similarly and aspire for comparable outcomes.

THE MEDICAL SCHOOL CURRICULUM

In August of 2014 we launched a modern new curriculum, Translational Education at Carolina. This innovative curriculum is built on the following principles:
Our School of Medicine Curriculum will…

- *be student-centered and patient based, while being population, public health, and globally inspired*
- *facilitate translation and integration of basic, clinical, and population science to enhance human health and well-being*
- *provide a strong foundation for entry into graduate medical education within the broad opportunities of medicine, while being flexible and individualized*
- *be responsive to the changing healthcare environment*
- *focus on promoting, supporting and maintaining health, not just treating disease*
- *incorporate strengths of the university including opportunities for inter-professional and cross-disciplinary education*
- *provide longitudinal engagement with faculty and robust mentorship*
- *incorporate multiple modes of student learning*
- *instill intellectual curiosity developing an aptitude for critical thinking and lifelong learning*
- *promote the development of leadership skills, professionalism, ethics, humanism, and service to others*

This curriculum better prepares students to eventually practice primary care. It emphasizes population health concepts, the medical home model, interprofessional education, and professional development. Students enter the clinical environment earlier in their medical school experience and will enter residency better prepared. Students have the opportunity to individualize their curriculum through tracks and more elective experiences.
This curriculum is gaining a national reputation for innovative ways to train aspiring physicians in primary care. UNC was recently selected to participate in the AMA Accelerating Change in Medical Education Consortium to share our ideas for preparing physicians for the future.

THE GROWTH OF REGIONAL CAMPUSES FOR THE UNC SCHOOL OF MEDICINE

One way to develop a workforce for the state is to educate medical students throughout the state. For that purpose we have expanded our regional campus system. Regional campuses are an efficient and effective method for providing clinical education in settings where we hope to inspire physicians to practice. Using the resources of the large and accomplished health affairs campus in Chapel Hill, we bring all 180 of our medical students to the University for the Foundation Phase of their curriculum. Here they learn from expert scientists and clinicians and benefit from interprofessional learning experiences with students at UNC's top schools of Allied Health, Dentistry, Nursing, Pharmacy, and Public Health. We teach using our impressive Simulation Center and the resources across the UNC CH campus as we prepare medical students to learn in the clinical environment. Then, we distribute those students across the state using AHEC resources at our regional campuses and elsewhere, intending to inspire state service in a variety of communities outside of the Triangle.
Since 2009 we have had formal SOM campuses in Asheville and, in 2010, Charlotte. In 2016 we added a regional campus in Wilmington.

ASHEVILLE

Beginning in the 2009-10 academic year, UNC SOM, Mission Hospital and MAHEC offered an alternative longitudinal curriculum in Asheville for medical students. The program has continued to grow and has demonstrated excellent outcomes in support of primary care, especially in the western part of the state. The class size there has grown in response to high student demand and is now at 24 students per year.

CHARLOTTE

At the Charlotte campus we began a similar longitudinal curriculum in academic year 2013-14. This pilot began with 6 students and has grown to 24 students per year. In addition to longitudinal exposure to patients and preceptors, this curriculum also emphasizes simulation teaching and ultrasound technique. The simulation curriculum prepares students to better function in teams while the ultrasound curriculum will allow our graduates to potentially provide more advanced care as primary care providers.

WILMINGTON

In 2016, with the launch of the new clinical phase of our TEC curriculum, we opened the branch campus in Wilmington. This campus is beginning with only 3 students but is anticipated to grow to 12 over time. In addition to their core clinical curriculum, the students on this campus students will have the opportunity to get a certificate from the UNC Wilmington Cameron School of Business in Physician Leadership.

Regional campuses are a unique feature of the UNC SOM that accrue substantial benefit to UNC students and faculty. Regional campuses create an environment for incorporating innovation into the curriculum, are a much more cost effective model, leverage the faculty and

resident teaching capacity already in place at the regional campuses and create the potential for drawing a much larger pool of doctors into primary care.
We are continuing to build our clinical education sites in Greensboro and Raleigh as well. At each site we already have significant clinical experiences for our students but would like to expand the experiences to include all clinical disciplines and therefore have more opportunities for longitudinal placements of students in those communities.

Scholarship Programs that support Primary Care

THE FIRST PROGRAM, FULLY INTEGRATED READINESS FOR SERVICE TRAINING

Also in 2016 we launch the FIRST program, funded by The Duke Endowment. This innovative experience will allow a small cohort of mature students with advanced clinical experience to graduate from medical school in 3 instead of the typical 4 years and funnel directly into our UNC Family Medicine residency program. These students will then train in more rural areas and graduate from residency with intent to serve as primary care clinicians in high need areas of our state. They will have direct support from the UNC Department of Family Medicine for 3 years following their training. This efficient program is cost effective in directly producing family physicians NC needs.

SARAH GRAHAM KENAN RURAL & UNDERSERVED MEDICAL SCHOLARS PROGRAM

In 2012, Sarah Graham Kenan Rural & Underserved Medical Scholars Program was launched. This program allows a selected small group of medical students (approximately 7 each year) to identify their interest in rural health, relate to a mentor rural preceptor, engage in a community project in a rural area in the summer after their first year, participate in the Asheville longitudinal program for their clinical education, and experience focused small group sessions to advance their skills and knowledge about rural primary care. Scholarship support for these students is provided thanks to the Kenan Charitable Trust. The purpose of this program is to ultimately increase the number of UNC SOM students seeking rural health careers in North Carolina and to provide financial support and enrichment experiences to sustain their decisions. The Kenan Primary Care Medical Scholars program also includes a summer program Charlotte, focusing on the Urban Underserved.

THE NORTH CAROLINA RURAL PROMISE PROGRAM

In 2015 the UNC School of Medicine was given the generous sum of $1M annually from the state legislature to expand the successful Kenan Rural Primary Care Medical Scholars program. With those state funds we are offering loan repayment in exchange for obligatory service to a rural county of NC in the high need fields of primary care (which we define for this as Family Medicine, Internal Medicine, and Pediatrics), Obstetrics and Gynecology, General Surgery, and Psychiatry. In 2016, our first year of the program, we had 17 request the funds and agree to serve rural NC.
In addition, we are using those state funds to develop our rural pipeline program, hiring a recruiter to focus on inspiring bright students from rural areas to pursue careers as physicians. This person will be reaching out to college students particularly in the UNC System from rural areas to entice and help prepare them for medical school.

MD/MPH COMBINED DEGREE PROGRAM

The MD/MPH program at UNC trains leaders for the evolving health care environment of the 21st century. It provides students the opportunity to integrate the individual patient perspective with that of the population sciences, thus strengthening each. We continue to have one of the largest combined degree programs in the country. Students of all specialty interests seek the MPH; by its nature, however, it attracts more interest from those focusing on primary care.

EXTRACURRICULAR OPPORTUNITIES

UNC School of Medicine students participate in a wide variety of activities that provide service to the community and educate students in ways that lead to support of primary care careers. We honor many of those students with membership into the Eugene Mayer Honor Society for Community Service.

Our students also continue to expand the work of SHAC, the Student Health Action Coalition, the oldest continuously running student free clinic. More student-led and faculty supported initiatives have grown out of this model including Beyond Clinic Walls (a mobile SHAC unit), Amigas en Salud, a program for health and wellness in the Latina community, and the Refuge Health Initiative. Supported by Albert Schweitzer scholarships, we also have several groups of students working with community organizations and faith based programs to support community health. Participating in these models of interprofessional education and teamwork prepares students to function in the medical homes of tomorrow and, through student service, hopefully inspires a commitment to meeting the primary care needs of patients and communities.

UNC RESIDENCIES THAT SPECIFICALLY SUPPORT PRIMARY CARE

UNC has large residency programs in all of the primary care and needed disciplines. Two residency programs in primary care at UNC have developed specific tracks into underserved primary care, the Family Medicine Underserved Track and the Pediatrics Primary Care Residency. Though not part of the School of Medicine curriculum for the MD degree, the presence of these programs is inspirational for our students and certainly in support of the primary care mission.

The Pediatrics Primary Care Residency Program at the University of North Carolina is a HRSA funded program developed in collaboration with Cone Health in Greensboro for 4 residents per year to experience a more longitudinal model of training focused on providing a medical home for children. One hundred percent of the 12 residents in that program, since its opening in 2011, intend careers in primary care.

OUTCOMES

UNC is the largest medical school in the state, now with a class size of 180 students. In a typical year, approximately half of graduates from UNC SOM initially enter a primary care residency. The tables below illustrate our sustained successful outcomes in providing a work force for our state and beyond.

Fraction of the class entering each discipline:

	Family Medicine	Internal Medicine	Pediatrics	OB/Gyn	Total in Primary Care
2008	21 (13%)	31 (19%)	18 (11%)	15 (9%)	52%
2009	14 (9%)	20 (13%)	15 (10%)	15 (10%)	42%
2010	15 (11%)	13 (9%)	23 (17%)	13 (9%)	46%
2011	17 (10%)	23 (15%)	13 (9%)	14 (9%)	43%
2012	19 (12%)	35 (21%)	16 (10%)	14 (8%)	51%
2013	19 (11%)	24 (16%)	13 (8%)	17 (11%)	46%
2014	17 (10%)	31 (19%)	17 (10%)	9 (6%)	45%
2015	20 (11%)	38 (21%)	17 (9%)	20 (11%)	52%
2016	19 (11%)	27 (16%)	17 (12%)	9 (5%)	44%

Residency placements in NC

	2012	2013	2014	2015	2016
UNC	36	31	33	27	29
Carolinas Medical Care	5	5	4	8	9
Duke	9	7	6	5	4
ECU	2	0	0	1	2
MAHEC	2	1	2	7	2
Wake Forest	4	1	2	7	5

Other AHEC placement in NC

	2012	2013	2014	2015	2016
CMC Northeast Cabarrus	1	1	1	0	0
Duke Eye Center	0	0	1	0	0
Moses Cone	0	6	1	4	1
New Hanover Regional	0	3	1	1	1
Total in NC	59	51	51	55	53

SUMMARY

The North Carolina University School of Medicine is a leading public medical school, recognized by US News and World Report as #2 in Primary Care. We remain committed to innovative curriculum and educational programs to support our students' opportunities to become physician leaders in addressing the primary care needs of our state and the health of our population.

Report to the Board of Governors
of
The University of North Carolina

Primary Care Medical Education
Plan 2016 Update

from
Wake Forest School of Medicine

March 2016

Respectfully submitted by:

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A report 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

In 1994, Wake Forest School of Medicine submitted an institutional plan for increasing the number of generalist graduates including students entering the primary care disciplines of family medicine, internal medicine, obstetrics/gynecology and pediatrics. Initiatives described in the plan included work within the Department of Family Medicine and the administration of the Northwest Area Health Education Center. This update will focus on current and planned initiatives, which are directed toward ensuring that our educational programs meet the needs of our students and society.

Recent support for curriculum innovation has come from Northwest AHEC, the Duke Endowment, and from a Foundation in South Carolina.

One metric used to evaluate the effectiveness of our programs to train students for a career in primary care is the number of Wake Forest School of Medicine graduates entering primary care related residences. In 2015, 38% of graduates from Wake Forest School of Medicine entered residencies in primary care associated disciplines. Over the last 5 years, this percentage ranged from 34% to 47%.

Graduating Class of…

Residency Match	**2011**	**2012**	**2013**	**2014**	**2015**	**5 year Cumulative Total**
Family Medicine	13 (11%)	9 (8%)	11 (9%)	13 (11%)	9 (8%)	55 (9%)
Internal Medicine	13 (11%)	20 (18%)	27 (21%)	13 (11%)	14 (12%)	87(15%)
Obstetrics & Gynecology	6 (5%)	0	2 (2%)	4 (3%)	3 (3%)	15 (3%)
Pediatrics	24 (20%)	11 (10%)	15 (12%)	10 (9%)	17 (15%)	77 (13%)
Total Graduates	117	113	125	115	114	584

Another metric used to evaluate the success of our primary care initiatives is through the results from the 2015 Association of American Medical Colleges (AAMC) Graduation Questionnaire. The Family Medicine Clerkship at Wake Forest School of Medicine ranked higher than the national average in regards to student report of the quality in the "good and excellent" categories of the educational experience (96.9% Wake Forest; 84.0% national average). Additionally, based upon the 2015 AAMC Graduate Questionnaire, our graduates reported a higher percentage of experience with a free clinic for the underserved population (96.7% Wake Forest; 73.5% national average).

Programmatic efforts since the last report have been focused in the following areas:

1. **Enrollment**

Despite the loss of Board of Governor scholarships, Wake Forest School of Medicine has, and continues the commitment to the disproportionate selection of North Carolina residents for admission to Medical School. We had 8,602 applications for the 2015 entering class (graduating Class of 2019), with 832 (10%) applicants from North Carolina. 34 or 28% of North Carolina residents were selected and matriculated into the 120 member Class of 2019. Over the past five entering years

2011-2015, Wake Forest School of Medicine has enrolled 217 (36%) total North Carolina residents. See the recent trend detailed data below.

Year of Matriculation	Total # Applicants	# NC Applicants	NC Matriculants	Total Matriculants
2011	7,391	697 (9%)	50 (42%)	120
2012	8,161	781 (10%)	47 (39%)	120
2013	7,432	753 (10%)	54 (45%)	120
2014	8,091	785 (10%)	32 (26%)	120
2015	8,602	832 (10%)	34 (28%)	120

2. **Curriculum**

Currently, our curriculum provides Wake Forest MD students early clinical exposure and improved continuity and development of longitudinal relationships with faculty mentors and medical teams. Key curricular initiatives that are targeted at primary care include:

A. Community Practice Experience

Currently our students complete the Clinical Practice Experience (CPE), in both the first and second years of the curriculum. These experiences are each one-week in duration and are conducted at outpatient practices across the state of North Carolina. Students are assigned their CPE practice based on housing availability and preceptor availability. During this academic year, over 200 students from the classes of 2018 and 2019 were spread throughout North Carolina for their CPE course. This course is a highlight for many students, some of whom report this early clinical experience is either a reason they chose to come to Wake Forest School of Medicine or is a reason they decided to choose a primary care residency.

B. Ambulatory Clerkships

During the third year, students will have rotate through two purely ambulatory experiences: a four- week rotation in Family Medicine, and a four-week rotation in Emergency Medicine. Additionally, students get ambulatory exposure through all of the other clerkships, including two weeks of ambulatory in the Internal Medicine rotation, three weeks of ambulatory in the Pediatrics rotation, one week in OBGYN outpatient clinics in Women's Health/Obstetrics/Gynecology rotation, two weeks of outpatient clinic in Neurology, and exposure to ambulatory components in the Psychiatry and Surgery Clerkships. Additional primary care experiences are available via electives in year 4 of the curriculum. Multiple community-based practice sites are utilized for student education in these electives.

C. Clinical Skills

The Clinical Skills Foundations (CS1) course is the first year component of students' longitudinal clinical skills curriculum. The overall objective of CS1 is to teach students how to perform fundamental clinical skills including doctor-patient relationship building and communication (DPR) skills, introductory history taking skills, introductory physical examination (PE) skills, and clinical documentation skills, with an emphasis on patient-center care, professionalism, and professional identity development. The CS1 course consists of 16, four-hour sessions distributed over the course of the Year 1. Sessions consist of small-group learning activities during which students will learn about and practice multiple clinical skill sets under the guidance of a 2-faculty coach team.

The Applied Clinical Skills (CS2) course is the second year component of students' longitudinal clinical skills curriculum. The overall objective of CS2 is to build upon the foundational clinical skills learned in Year 1 of the curriculum and to prepare students for their upcoming clinical rotations in Year 3. As in Year 1, students will continue to practice and build their fundamental clinical skills including doctor-patient relationship building and communication (DPR) skills, history taking skills, physical examination (PE) skills, and clinical documentation skills, with an ongoing emphasis on patient-center care, professionalism, and professional identity development. In contrast to Year 1, however, where training is primarily focused on basic data gathering, Year 2 clinical skills training challenges students to learn and practice focused data gathering, data interpretation based on your understanding of pathophysiologic mechanisms of disease, iterative differential diagnosis formulation, and initial diagnostic and management decision-making.

D. Population Health – Healthcare Systems and Policy

Healthcare in America is transforming with a renewed focus on patient safety, quality, and value-based care. To function in this changing landscape, tomorrow's physicians must understand the historical forces driving healthcare reform and the principles shaping new policies. The Healthcare Systems & Policy course is a new course offered in academic year 2015-2016 that gives students the knowledge needed to thrive in our evolving healthcare system (including primary care) and meaningfully advocate for future improvements. The course content is delivered by a multidisciplinary team of educators with expertise in health economics, public health and health policy, patient safety, and practice management.

3. **Research Programs**

The primary opportunity for medical students to participate in research is the Medical Student Research Program (MSRP). This 9-week summer opportunity provides students with the opportunity to work with a faculty mentor on a defined research project in basic, clinical, or community-based research. Many of the research efforts are related to primary care in that they evaluate the treatment of common illness, health outcomes, general health status and/or health delivery services. The MSRP is jointly funded by an NIH T35 Short-term Research Training Grant, institutional, and foundation resources. The MSRP, which includes the Research Ethics Seminar Series and culminates with Medical Student Research Day, is in its 36th year at Wake Forest.

A second opportunity for medical student research is available through The Maya Angelou Center for Health Equity, which sponsors 1 to 4 additional summer research experiences for students who are interested in investigating health disparities and health equity. The focus of this program is to expose medical students to and advance the conduct of population-impact health research surrounding broad- based, sustainable outcomes that influence health policy in underserved populations. The Maya Angelou Center for Health Equity makes funds available for 10-12 week experiences for Wake Forest School of Medicine medical students who submit proposals, in the MSRP format, that focus on improving minority health or addressing, reducing, or eliminating health disparities especially for the 6 major health disparities areas of cancer, cardiovascular disease, diabetes, HIV/AIDS, immunizations, and infant mortality.

Student research is showcased in the student-run "Wake Forest Journal of Science and Medicine" (*WFJSM).* The *WFJSM* is a student-led, open-access, peer-reviewed platform for the publication of clinical and translational science, case reports, perspectives, and reviews. The journal was initiated in 2014 by Wake Forest medical students and is primarily run by students with guidance from the editorial board composed of the Dean of the School of Medicine and 5 additional faculty members.

4. **Premedical Preparation**

The Biomedical Science Premedical Post-baccalaureate Master's Degree Program, is a revision of the previous non-degree granting post-baccalaureate premedical development program that began at the medical school in 1987. The purpose of the program is to prepare students from disadvantaged and/or underrepresented populations for medical school and recruit them to Wake Forest. The program is a preparatory path for Black/African American, Latino/Hispanic and low socioeconomic students to medical school. Since its inception, over 200 students have graduated from the program with more than 90% matriculating at our school of medicine. In 2014, the revised Post-baccalaureate program enrolled its first class and continues to serve as a preparation and recruitment tool for students underrepresented in medicine as well as socioeconomically disadvantaged students. Students in the Biomedical Science Premedical Post baccalaureate Master's Degree Program take a minimum of 30-36 semester hour credits in the biomedical sciences. Courses are in disciplines including: biochemistry, molecular cell biology, neuroscience, human physiology, human anatomy, microbiology, pharmacology, critical thinking skills, and study skills to enhance the student's preparation for their professional school application. Scientific professionalism and the responsible conduct of research courses are available as electives along with additional electives within the Graduate School. Students completing the entirety of the two-year program can graduate with a Master of Science in Biomedical Science.

Additionally, we provide the following student enrichment experiences for high school and/or undergraduate students:

- **CampMed (Northwest AHEC)** is a week-long summer program initiated in 2000 to provide a medical school experience to high school students. Twenty counties in NC offer CampMed and the average enrollment in a county's program during a given week is 12-32 students.
- **Sisters in Science** – An annual event with a mission to engage, educate and provide exploration opportunities in health care to female students from Forsyth County, North Carolina. Initiated in 2005, the average enrollment in this event is 100 students. This is partially supported by Northwest AHEC.
- **Project SEARCH Academy (Northwest AHEC)** – An annual program for minority high school students in Forsyth County, North Carolina, to explore careers in medicine and other health care careers. The program partners with local community colleges and health care systems. Initiated in 2003, the average enrollment in this program is 24 students.
- **SNMA Pre-Medical Conference** - an annual conference to advise potential applicants and pre- medical advisors on preparing for medical school application, interview skills and the MCAT exam (e.g., preparation, resources and updates). Initiated in 2007, the average enrollment in this program is 150 students. This is substantially supported by Northwest AHEC.
- **National Youth Leadership Program** - a two-week program for 300 high school students selected from a nationwide pool who are interested in pursuing an MD degree. WFSM sponsors three scholarships annually, for Forsyth County high school students from URM or low socioeconomic status households to attend. Initiated in 2011, the average enrollment in this program is 100 students.
- **Undergraduate Student Mentoring** –The Associate Dean for Student Inclusion and Diversity mentors undergraduate students who are preparing for medical school. These students are from a variety of institutions, including Winston-Salem State University, where the Associate Dean for SID has maintained a mentoring small group over the past 8 years (i.e., "Winston-

Salem State University Women").

- **Wake Forest School of Medicine chapter of SNMA** - provides mentoring to chapters of the Minority Association of Pre-Medical Students (MAPS) across the state of North Carolina to discuss applications to medical school, in

5. **Extracurricular Activities/Community Service Opportunities for Students**

A. **DEAC Clinic:** The major community service opportunity for medical students is the Delivering Equal Access to Care (DEAC) Clinic. The DEAC Clinic is a 501(c) (3) student-run and physician- staffed free clinic. Both medical students and physician assistant students are involved. The mission of the DEAC Clinic is to "address the long-term primary care health needs of our local, underserved communities and create a service-oriented learning experience for students to hone their clinical skills". All patients are financially screened and must have a household income of <200% of the federal poverty level and not be eligible for other state or federally sponsored health insurance.

The DEAC Clinic is held every Wednesday evening from 6 -9 pm at the Community Care Center, a free clinic founded by retired physicians, located 4 miles from campus in an underserved area of the community. Services include routine primary care and selected specialty clinics, including cardiology, pulmonology, dermatology, and sports medicine; laboratory; free medications on site; social services; mental health screening, screening for sexually transmitted infections, and community wellness and prevention education. During clinics, students work in varied roles including check-in, triage, phlebotomy and laboratory, pharmacy, medical interpreting, medical team, and health and wellness counseling. Student feedback indicates that they highly value the opportunity for an early exposure to actual clinical practice.

B. **Annual Share the Health Fair:** Share the Health Fair is a one-day community health fair held in January at the Downtown Health Plaza, an outpatient facility of Wake Forest Baptist Medical Center. Screenings are provided at no charge include screenings for hypertension, diabetes, sickle cell, HIV, syphilis, glaucoma and assessment of bone density, lung function, anthropometric measures/BMI, mental health issues, balance and strength, nutrition, and risk factors for sleep apnea and stress management. Counseling is available for smoking cessation, nutrition, mental health issues. Flu shots are also given. The fair has involved as many as 185 medical and physician assistant student volunteers, 26 physicians and residents, and 20 other health care professional volunteers. It has provided ~1400 health screenings / year. Financial support for the Share the Health fair comes from grants received by the Northwest Area Health Education Center (NWAHEC), a department of the medical school. Dr. Michael Lischke has served as the faculty advisor for the project for the past five years.

C. **Community Service:** Opportunities for community service are also organized and promoted through Student Government, over 30 medical student interest groups, and the Learning Communities (Houses).

D. **Outrageous Courageous Kids:** Several opportunities are available for students to work with pediatric hematology/oncology patients. The "Outrageous Courageous Kids" program of Children's Cancer Support Services of Brenner Children's Hospital organizes Peds Pals. Medical students can volunteer to be a "big brother/big sister" for a child undergoing cancer treatment at the Medical Center. Other students work with Child Life Specialists to

connect with pediatric inpatients on other services. About 10 students per year participate in Peds Pals. Students visit the child while he/she is in the hospital and provide encouragement and companionship. Additionally, through the Pediatric Interest Group, students volunteer for monthly Ward Visits on the Pediatric Hematology/Oncology unit during which they work with children on arts and crafts projects. Approximately 10 students each month are involved in this effort.

6. **Tracking Students**

Wake Forest School of Medicine maintains information on training and practices activities of its students through our Office of Alumni Affairs. Local records are kept in addition the information provided by AAMC about the status of residency training.

7. **Office of Regional Primary Care Education**

Our 1994 report noted the School's responsibility for administration of the Northwest Area Health Education Center (AHEC). Over the years, the funding from the Northwest AHEC to support faculty and residents in the Department of Family and Community Medicine, Internal Medicine, Pediatrics, Obstetrics and Gynecology, and Psychiatry, and for medical students during their community-based primary care rotations has greatly decreased. In our current fiscal year, the residency education funds have dwindled to primarily support only the Department of Family & Community Medicine. In 1994 AHEC established the Northwest AHEC Office of Regional Primary Care Education (ORPCE) Program to support medical school initiatives in this area. ORPCE staff continues to be extremely helpful in facilitating achievement of the school's primary care education goals.

AHEC Family Practice Residency Programs

Beyond the funding AHEC provides via the residency grants, AHEC also receives an appropriation to support a portion of the operating costs for primary care residency training for programs at the AHEC sites. In 1994 AHEC received new funding to expand training in family medicine in two ways: 1) to create new residencies, with a particular focus on programs to produce graduates likely to enter rural practice; and 2) to expand existing residencies in order to better address the needs of a growing North Carolina population. The following sections provide an update on both the new programs that were created and the expansions of existing programs.

Charlotte AHEC: Carolinas Medical Center has two Family Medicine residency training programs: The Charlotte program, which has 27 residents and the Rural Program in Monroe, founded in 1994 with new funding from AHEC, which has 2 residents per year of training. Unique features of the Charlotte program include an Integrative Medicine curriculum, as well as the urban/underserved training track, which trains 3 residents per year and whose graduates serve various underserved populations in our region.

Cabarrus Family Medicine Residency: The Cabarrus Family Medicine Residency Program in Concord has a total of 24 residents, eight in each of three years. The program graduated its first class of eight residents, in June 1999. Graduates enter a wide variety of practice settings including hospital medicine and full spectrum family medicine. This program is truly a "residency in a practice". Residents are assigned to one of our four full service family medicine practices for their three years of residency. The Cabarrus program has strong hospital training based at Carolinas Healthcare System Northeast. Cabarrus also has a sports medicine fellowship program.

Greensboro AHEC: The Greensboro AHEC and the Moses H. Cone Memorial Hospital expanded the family practice residency program in the mid-1990's to eight residents in each of the three years for a total of 24 residents. Residents rotate in various surrounding rural areas for precepted experiences. In addition family medicine residents gain exceptional pediatric experience in an inner city clinic in Greensboro. The Family Practice Teaching Clinic is one of two clinics in the Cone Health system achieving Level 3 Recognition as a Patient Centered Medical Home. Evidenced based practice in a medical home model is the foundation of medicine the residents are learning and experiencing.

Mountain AHEC: MAHEC's Family Medicine Residency Programs in Asheville (36 residents) and Hendersonville (12 residents) provide an accredited, three-year, postgraduate education program for physicians wishing to specialize in family medicine. Also, MAHEC offers a one year accredited fellowship in Geriatric Medicine (2 fellows), Hospice & Palliative Medicine (2 fellows), Sports Medicine (2 fellows), and Obstetrics and Gynecology (1 fellow). Their primary purpose is to improve the quality, quantity, and distribution of primary care physicians in Western North Carolina.

Southeast AHEC: New Hanover Regional Medical Center Family Practice Residency Program, developed in conjunction with UNC-Chapel Hill and Southeast AHEC in Wilmington, has a total of eighteen residents, six in each of three years. This residency was founded in the mid-1990's with the new funding AHEC received from the 1994 General Assembly, along with substantial support from New Hanover Regional Medical Center. Recent additions to the program include an increase of two residents per each year with funding from a HRSA federally funded rural residency training grant. The program is also dually accredited in both Allopathic and Osteopathic Family Medicine. Primary goals are increasing the supply of family practitioners in southeastern North Carolina, as well as improving the retention of primary care physicians. With additional foundation and federal funding, Southeast AHEC has developed special rural experiences for their family practice residents in selected regional communities.

Southern Regional AHEC: The Southern Regional AHEC in Fayetteville has a total of 24 residents. Its mission is to train physicians who remain in North Carolina, choose to care for the underserved, and includes a focus on rural medicine with structured experiences in rural communities. To meet these goals, recruitment is aimed at students with evidence of service to minority, rural, and elderly patients. Truly integrated, the SR-AHEC residency curriculum is an experience that emphasizes interprofessional and collaborative care in all areas of practice, including a Osteopathic Family Practice Residency, PharmD residency, and a Marriage and Family Therapy Residency located in a NCQA designated Patient Centered Medical Home.

Wake AHEC: The Wake AHEC, in association with the Department of Family Medicine at the UNC School of Medicine, has developed training opportunities for UNC family practice residents at Wake Med. There are rotations in numerous hospital-based subspecialties, including pediatrics, general surgery, pediatric emergency medicine, and obstetrics and gynecology. These rotations give residents experience caring for an underserved urban community in a busy technologically advanced medical center in southeast Raleigh.

Nurse Practitioner Programs

Duke University
School of Nursing

Duke University School of Nursing
Efforts to Increase the Number of Students
Entering Primary Care after Graduation

The Duke University School of Nursing offers three means by which students can complete programs of study that will allow them to practice as Nurse Practitioners (NPs) in primary care. Students may complete a:

- Master of Science in Nursing (MSN) degree,
- Post-graduate Certificate (non-degree) program, or
- Doctor of Nursing Practice (DNP) degree as a post-baccalaureate student.

We prepare nurse practitioners to provide primary care in the following majors: Family NP, Adult-Gerontology Primary Care NP, Women's Health NP, and Pediatric Primary Care NP. Many of our primary care NP students will engage in additional clinical concentrations available including: HIV management, Cardiology, Oncology NP, and Orthopedics. This additional training positions our primary care NP to better care for their primary care patients with specific specialty patient care needs while remaining in the primary care setting ultimately increasing access to care and decreasing time to care delivery for specific diagnoses. Information for these majors is included in this report. Not reflected in this report are the number of students enrolled and degrees and certificates conferred for the Adult-Gerontology Acute Care NP, Pediatric Acute Care Nurse Practitioner and Neonatal NP majors.
The NP programs in primary care at Duke have the largest applicant pool and enrollment. The enrollment has increased steadily over the past several years. Table 1 below provides data for the last five years for enrollment and degrees conferred for the NP students in the primary care MSN degrees and Post Graduate Certificates.
Although these NP programs are popular and we are committed to continuing them, the number of students we can include in our programs is limited by several factors including:

- the need for qualified faculty in the face of the nursing faculty shortage,
- limited student access to financial resources to support their return to school,
- a shortage of appropriate primary care clinical sites,
- increased competition for clinical sites related to increasing enrollment nationally

The Duke University School of Nursing has been fortunate to participate in the Centers for Medicare & Medicaid Services (CMS) Graduate Nurse Education (GNE) demonstration project. Funding from this project has been designated by the federal government to help to offset the cost of clinical education (e.g. percentage of productivity loss and revenue reduction) that practice sites and preceptors have typically borne. We have approximately 300 GNE clinical sites including partnerships with county health departments, community health centers and Planned Parenthood clinics.

In addition to the GNE project, we have secured a 5 year competitively funded VA Nursing Academic Partnership (VANAP) with the Durham VA Medical Center. One aim of this project is to increase the

number of Adult-Gerontology Primary Care NP students who are educated specifically with experience in caring for Veteran's Populations. Understanding the large number of veteran's in North Carolina and

the specific needs of this population, this primary care training program much needed and well positioned.

Table 1 presents the number of enrollments and the number of degrees or certificates conferred each year. Enrollments are calculated each Fall, to facilitate comparisons over the five year time period.

There was an increase in the total primary care student enrollment from 211 student in Fall of 2011 to 362 student in Fall 2015. The number of MSN degrees or certificates conferred also increased from 77 in the 2010-2011 academic year to 167 in the 2014-2015 academic year.

Table 1.
Summary of Enrollments and Degrees and Certificates
Conferred to New Primary Care Nurse Practitioners by Program
For the Last Five Years

Academic Program	Enrollments					Degrees/Certificates Conferred By Academic Year				
	FALL 2011	FALL 2012	FALL 2013	FALL 2014	FALL 2015	2010/ 2011	2011/ 2012	2012/ 2013	2013/ 2014	2014/ 2015
MSN	193	216	252	298	312	58	72	98	94	153
Certificate	18	6	11	26	50	19	14	8	5	14
TOTAL	211	222	263	324	362	77	86	106	99	167

With regard to tracking who enters and practices in primary care, in my opinion, the pieces for tracking should already be in place. Almost all NPs generate invoices for services rendered or write prescriptions and have approvals to practice as well as NPIs. There should be a mechanism that can be put in place or to have billing barriers removed allowing the state to track where billing and prescriptions emanate from and infer where these NPs practice.

Submitted by Michael Zychowicz, DNP
Professor and Director, MSN Program
Duke University School of Nursing
March 21, 2016

Report to the Board of Governors
University of North Carolina System
And
NC Area Health Education Center

Primary Care Nursing Education 2016 Update

College of Nursing
East Carolina University

Submitted by:

Sylvia T. Brown, EdD, RN, CNE
Dean, ECU College of Nursing

March 2016

INTRODUCTION

As a National League for Nursing Center of Excellence and National Hartford Center of Gerontological Nursing Excellence located in the multicultural underserved rural region of eastern North Carolina, East Carolina University (ECUCON) demonstrates a sustained commitment to promote the health of citizens of North Carolina through the provision of a nursing workforce skilled at providing primary care. Since its inception in 1959, our College of Nursing graduates have worked to improve the health of North Carolina residents through nursing education, research, and practice. While the CON prepares the largest number of baccalaureate generalists in the state, it is the Master's and Doctorally prepared advanced practice specialists that are educated to deliver primary care. The Master of Science in Nursing (MSN) program includes Nurse Midwife (NM), and Neonatal Nurse Practitioner (NNP) options. The Doctor of Nursing Practice (DNP) includes a specialty in either the Family Nurse Practitioner (FNP), or Adult-Geriatric Primary Care Nurse Practitioner (AGPCNP) who provide primary care.

Although the ECUCON educates other advanced practice nurse clinicians (nurse anesthetists, and clinical nurse specialists) in the MSN program and PhD nurse researchers/educators/clinicians, this report provides NC AHEC and the UNC Board of Governors with a description of our efforts to maintain the number of primary care providers in the state of North Carolina.

ECUCON PROGRAMS IN PRIMARY CARE

Nurse Midwifery Concentration

The nurse-midwifery education program at East Carolina University College of Nursing (ECUCON) began in 1991 and is the only nurse midwifery program in North Carolina and one of only 39 in the nation. The Certified Nurse-Midwife (CNM) is an individual educated in two disciplines: nursing and midwifery. The CNM graduates with a basic set of skills and behaviors described in the *Core Competencies for Basic Midwifery Practice* which includes the provision of primary health care for women from adolescence through post menopause. The CNM is also prepared to care for the newborn in the first 28 days of life. According to the American College of Nurse Midwives Position Statement on midwives as primary care providers (2012), "CNMs are recognized as primary care providers under existing federal health care programs, including those that address primary care workforce expansion, reimbursement for services, and loan repayment programs." Midwifery education is based on an understanding of health sciences theory and clinical preparation that shapes knowledge, judgment, and skills deemed necessary to provide primary health care management to women and newborns. Therefore, the use of CNMs as primary care providers is integral to the success of the healthcare workforce.

The nurse-midwifery concentration admits 12-14 students per year from North and South Carolina with the majority from NC. The ECUCON nurse-midwifery concentration started accepting students from SC due to the closure of the midwifery education program at Medical University of South Carolina. We currently have 33 students in the Nurse Midwifery concentration in the MSN program and 4 post-master's certificate students.

Admission Criteria for Midwifery Applicants

- A baccalaureate degree in nursing from a nationally accredited nursing program.
- A minimum of one year of experience as a RN (preferably in Labor &Delivery)
- Grade-point average of 3.0 on a 4.0 scale in undergraduate nursing.
- Acceptable score on the Graduate Record Examination (GRE) within the past five years. GRE requirement waived for those with an earned MSN.
- Currently non-restricted license to practice as a registered nurse (RN) in North Carolina or a NCSBN-compact state.
- Statistics course within 5 years and an undergraduate research course.
- Written statement of purpose demonstrating a passion for serving women in rural or underserved areas.
- Three written letters of reference from individuals who know the applicant professionally.

Curriculum Focus on Primary Care

The midwifery program has a 2 credit hour course (Nurs 6119) titled "Introduction to Primary Care for the Well Woman" has a clinical rotation of 56 hours. This is the first clinical course the midwifery students take. Primary care content is threaded through the curriculum.

The Neonatal Nurse Practitioner Program

The neonatal nurse practitioner (NNP) program at the East Carolina University College of Nursing is one of thirty-four NNP programs offered nationally, and of that total, one of twenty-one programs offering a fully online curriculum. At present, East Carolina University's NNP program is one of the five largest NNP programs in the nation, with increasing enrollment demand. East Carolina University NNP graduates successfully matriculate through population-specific courses in order to accrue knowledge and skills necessary to provide safe, high-quality care to neonates, infants and the family across the health care continuum.

The nationally board certified NNP participates in a wide variety of complex patient care activities in settings that include, but are not limited to, all levels of neonatal inpatient care in both academic- and community-based settings; transport, acute and chronic care; delivery room management; and primary care settings (NANNP, 2014). Inpatient NNPs focus on restorative care characterized by rapidly changing clinical conditions, including unstable chronic conditions, complex acute illnesses, and critical illnesses (NANNP; 2014; NONPF, 2004). NNPs functioning in the outpatient setting "focus on comprehensive, continuous care and coordination of services, characterized by a long-term relationship between the patient and PCNP (NONPF, 2011). Increasing focus has been place on promoting the utilization of the NNP congruent with the full scope of the clinician's education, certification, services performed, and population served, not setting or location (NANNP, 2014; NONPF, 2012).

General requirements are:

- A baccalaureate degree in nursing from a nationally accredited nursing program.
- A minimum GPA of 2.7 in undergraduate studies and a minimum GPA of 3.00 in nursing major.
- Currently non-restricted license to practice as a registered nurse (RN) in North Carolina or a NCSBN-compact state.

- A written statement describing the applicant's interest in graduate study, career goals, and the MSN degree's relations to those goals.
- Three professional references.
- A personal interview with a member of the graduate faculty.
- A course in statistics with a grade of "C" or higher and computer literacy are pre-requisites for all concentrations in nursing.

*The GRE & MAT admission entrance exams can be now be waived for the NNP concentration if an applicant holds a current and unexpired RNC-NIC certification or active membership in the Sigma Theta Tau Honor Society of Nursing. Applicant must submit ONE proof or ONE score with application.**

The neonatal nurse practitioner concentration increased its enrollment cap to twenty-four students per graduating class, effective Fall 2016, based upon an ever-increasing volume of applicants. These applicants include BSN-MSN applicants as well as Post Master's Certificate applicants.

Academic Year	Total applicants	Size of Graduating Class
2013-2014	16 (fall 2014)	12
2014-2015	17 (fall 2015)	14
2016-2017	21 (fall 2016)	18
2017-2018		*Projected 24

Of the total number of students admitted, 50% are typically residents of North Carolina and 50% out-of-state. Currently 61% are NC residents.

BSN to DNP (Family Nurse Practitioner and Adult Gerontology Primary Care Nurse Practitioner)

The doctor of nursing practice (DNP) degree is a practice-focused terminal degree earned by specialists in advanced nursing practice. The DNP is offered online and focuses on developing nursing experts in translating and applying research findings into clinical practice rather than in generating new knowledge. The DNP is offered as a post-master's option as well as a post-baccalaureate (BSN to DNP) option. The post-master's DNP curriculum can be completed in 36 semester hours and expands the competencies of the advanced practice registered nurse (APRN) from the master's level to encompass knowledge required as nurse leaders in increasingly complex healthcare systems to assess published evidence informing practice, improve systems of care to improve healthcare outcomes, and to make changes to enhance the quality of care. Beginning fall 2016, applicants who have an earned MSN in Nursing Leadership or Nursing Administration will be admitted to the post-master's DNP program. The post baccalaureate DNP curriculum offers specialty foci options initially limited to the adult gerontology nurse practitioner (AGPCNP) and family nurse practitioner (FNP) foci. The AGPCNP program of

study requires 73 semester hours inclusive of 896 clinical practice hours while the FNP program of study requires 75 semester hours inclusive of 896 clinical practice hours.

The post-BSN to DNP program admits 25 students each year in the adult-gerontology primary care nurse practitioner (A-GPCNP) and family nurse practitioner (FNP) specialty foci options, respectively. Preference is given to those who demonstrate a capacity for creative inquiry, critical thinking, scholarship, and leadership. In the case of equally qualified applicants, preference will be given to individuals who intend to pursue doctoral study on a full-time basis.

Admission Criteria

- A baccalaureate or higher degree in nursing from a nationally accredited nursing program.
- A minimum of one year of experience as a RN within one year of the application deadline.
- Grade-point average of 3.2 on a 4.0 scale on all graduate work.
- Acceptable score on the Graduate Record Examination (GRE) within the past five years. GRE requirement waived for those with an earned MSN. GRE is the only entrance accepted for this concentration.
- Currently non-restricted license to practice as a registered nurse (RN) in North Carolina or a NCSBN-compact state. International applicants must work with the Commission of Graduate of Foreign Nursing Schools to validate credentials before applying for RN licensure.
- Satisfactory performance on Test of English as a Foreign Language (TOEFL) scores where English is not the first language. Students on foreign student visas must present evidence of professional standing in their respective countries.
- Any Graduate level inferential statistics course within 5 years.
- An undergraduate research course.
- Basic Computer competency with proficiency in development and use of databases, patient information systems, statistical sets, and use of various statistical packages for data analysis.
- Written statement of personal career, educational, and scholarship goals; identification of practice interests, leadership goals and match with program goals.
- Three written professional references from individuals with expertise to comment on the applicant's capability for doctoral scholarship (for example, university professors, employers) - At least one of the references must be from a doctorally prepared nurse.
- A current curriculum vita.
- A representative E-portfolio limited to no more than 25 pages demonstrating evidence of professional practice accomplishments, community service and scholarship. This must also be submitted electronically through the university graduate school application portal.

Post Master's DNP Program

The post-master's DNP program admits 20 students each year. Applicants are evaluated in five areas: GPA, GRE, references, essay, and interview. Completed applications are considered in a competitive review process. Preference is given to those who demonstrate a capacity for creative inquiry, critical thinking, scholarship, and leadership. In the case of equally qualified applicants, preference will be given to individuals who intend to pursue doctoral study on a full-time basis.

Admission Requirements for the Post-Master's DNP

- One official transcript from each college or university attended.
- A master's degree in nursing in an advanced practice registered nursing (APRN) specialty (nurse anesthesia, clinical nurse specialist, nurse midwifery, nurse practitioner) with evidence of completion of graduate level pathophysiology, pharmacology and advanced physical assessment courses from an accredited school. A MSN degree with a focus on Nursing Leadership or Nursing Administration will be required for the Post-Master's DNP in Nursing Leadership.
- Certification as an APRN (if applicable).
- The applicant must meet all other requirements described previously in the BSN to DNP section.

PRECEPTOR/MENTORING ACTIVITIES

Preceptor and mentoring activities are an integral component of all programs focused on primary care at ECU. The focus of these activities is to provide students the opportunity to work closely with practicing experts in the discipline. ECU faculty work closely with preceptors to ensure optimal results. Examples of activities:

- Preceptors receive online education/orientation for successful mentoring relationships.
- Faculty visit students and preceptors at clinical agencies to foster relationships and verify student learning outcomes.
- UNC Online Mentoring Services are available
- Communication with preceptors occurs several times throughout the semester through weekly evaluations, phone calls and e-mails.
- An e-mentoring program for midwifery students has been developed. This initiative links current midwifery students to practicing midwives, providing them an opportunity to connect with experienced practitioners who can provide real-world advice about midwifery practice.

RESEARCH IN PRIMARY CARE

Areas of current faculty research include, but are not limited to the following areas in primary care:

- Health Policy
- Nurse practitioner regulatory processes
- Inter-professionalism
- Congestive heart failure
- Medication reconciliation and adherence
- Non-pharmacologic behavioral management of the geriatric population
- Geriatric prescribing in the geriatric population
- Pica use in pregnancy
- Pregnancy-outcome determination
- Effectiveness of an intervention for antepartum depression

IT SERVICES

Information technology services are offered from dedicated staff within the College of Nursing. This department serves as much more than technical support for faculty and students; they are

often partners in research and development. This partnership developed and implemented a novel virtual clinic to simulate diverse learning scenarios reflected in culturally diverse clinical settings.

The CON has eight state-of-the-art Concepts Integration Laboratories (CIL). The CIL fosters excellence in the preparation of professional nurses by assisting students of all levels to integrate nursing science concepts and critical thinking skills in the practice of quality patient care. The structured and open laboratory experiences assure that nursing students have access to basic and advanced learning technologies which enable them to competently perform essential nursing interventions in diverse healthcare environments.

SELF-DIRECTED LEARNING ACTIVITIES

ECU students are afforded the opportunity to learn in ECU's Office of Clinical Skills Assessment and Education (OSCAE) in the physical assessment course as well as the clinical courses. Standardized patients are used as an objective measurement of student learning outcomes in the diagnosis and treatment of common primary care illnesses. The OSCAE staff are also partners in the implementation of Interprofessional Education.

COLLABORATIVE EFFORTS WITH LOCAL COMMUNITIES

In addition to the other community/clinical resources students complete immersive clinical rotations in rich, primary care settings where they receive experience in the management of primary care and multiple chronic conditions (MCC). Examples included but are not limited to James D. Bernstein Community Health (JDBCHC), Goshen Medical Centers (GMC) and Robeson Health Care Corporation (RHCC). All of these clinical agencies are established Federally Qualified Health Centers (FQHCs) where low-income, uninsured, or medically underserved rural families can receive care on a sliding fee scale. These FQHCs have an established track record of partnering in the clinical education of students from ECUCON, Brody School of Medicine, College of Allied Health Sciences, Medical Family Therapy, Social Work, and Dentistry, and in these agencies students learn collaboratively in the management of MCC in primary care. The partnerships with JDBCHC, GMC and RHCC are examples that strengthen the diversity of our community linkages.

The ECUCON contracts a full time CNM position with the Pitt County Public Health Center to provide prenatal care and family planning services to the clientele. This faculty practice is used each spring and summer as a gynecology and antepartal clinical site for the students.

CHALLENGES

While the CON's growth and expansion has been limited in recent years by state budget reductions, we have successfully established a DNP program and maintained our enrollment in primary care concentrations. Plans are now underway to establish an online family psychiatric/mental health nurse practitioner option in the MSN program with an anticipated start date of fall 2017. This initiative addresses the need to enhance the primary care workforce in NC in a much needed specialty. Challenges remain in obtaining clinical site placements due to the increasing number of schools providing payment for preceptors and clinical sites and increasing competition from online programs that are based outside of NC but have students from NC enrolled in their programs. An additional challenge is the need for qualified faculty while experiencing a nursing faculty shortage.

CONCLUSION

This 2016 report from the ECU College of Nursing demonstrates our commitment to preparing advanced practice nurses that will help to meet the healthcare needs of citizens in our region and state. The market demand for advanced practice nurses continues to rise as the Affordable Care Act is implemented, our population ages, and the nursing workforce ages. With the vast needs in our rural communities in eastern NC, comes a greater responsibility to provide services to fulfill our mission to serve as a national model for transforming the health of rural underserved regions through excellence and innovation in nursing education, leadership, research, scholarship, and practice. We remain committed to this mission as we prepare a workforce to meet the healthcare needs our citizens.

Gardner-Webb University

Hunt School of Nursing
MSN – Family Nurse Practitioner Program
Primary Care Report for NC AHEC

March 2016

Submitted by Anna S. Hamrick, DNP, FNP-C, ACHPN, Director of Family Nurse Practitioner Program upon request from by Sharon S. Starr, PhD, RN, Dean of the Hunt School of Nursing

1. Program Overview:

   The Hunt School of Nursing (HSON) consists of four programs. – Associate Degree in Nursing (ADN), Bachelor of Science in Nursing (BSN), Master of Science in Nursing (MSN) and the Doctor of Nursing Practice (DNP). The BSN includes the traditional (TBSN) and RN completion (RN-BSN) tracks. The MSN program includes the nurse education, nurse administration, and family nurse practitioner (FNP) tracks, and the MSN/MBA dual degree program. The DNP program includes the specialty tracks of education and management/leadership. GWU School of Nursing maintains continuing accreditation from the American Commission for Education in Nursing (ACEN), 3343 Peachtree Road NE, Suite 850, Atlanta, GA, 30326, 404-975-5000.

   Gardner-Webb University transitioned into the College of Health Sciences building during the 2015-2016 year. The College of Health Sciences houses the Hunt School of Nursing, School of Physician Assistant Studies, and the School of Preventative and Rehabilitative Studies. All three programs share teaching space and state of the art simulation labs.

   The MSN – Family Nurse Practitioner (FNP) and Post-Masters FNP certificate programs were added to the curriculum offerings in 2013. The first cohort of 23 FNP graduates matriculated and completed in May 2015.

   Students in the FNP program are prepared for entry level into primary care practice for patients across the lifespan. The curriculum is based on the National Organization for Nurse Practitioner Faculties (NONPF) Population Specific competencies for Family Nurse Practitioners (2013). MSN FNP courses are offered in a hybrid format with at least 50% of contact being on campus in Boiling Springs, NC. Students attend 4-6 campus days per semester typically scheduled on Fridays and/or Saturdays. The MSN – FNP program requires 51 credit hours for completion and the Post Masters FNP Certificate requires 36 credit hours.

   Students are required to have 630 direct patient care hours with a preceptor prior to completion of the program. Clinical practicums are organized with preceptors including Nurse Practitioners, Physician Assistants, MD/DO, and Certified Nurse Midwives. Preceptors are from a variety of settings in North Carolina, South Carolina, and Kentucky. A Clinical Site Specialist position was added in January 2016 to help facilitate practicum experiences for Family Nurse Practitioner students as well as the Gardner-Webb University School of Physician Assistant Studies.

2. Enrollment
   Admissions applications are accepted and reviewed in spring for fall cohort enrollment. Interest in the FNP program and application yield has been competitive. Fall MSN – FNP cohorts are capped at 24 students, effective with the Fall 2014 cohort. Spring Post-MSN FNP Certificate

cohorts are capped at 6 students. In 2014 and 2015, 30-35% of applicants have were offered acceptance.

Admission Criteria requires applicants hold a baccalaureate degree in nursing with GPA of 3.0 on all undergraduate work. Satisfactory scores on the Graduate Record Examination (GRE) or the Miller Analogies test. Official transcripts including undergraduate or graduate statistics, three letters of professional reference, RN licensure verification, and satisfactory criminal background check are required in the application portfolio. RN's with a baccalaureate degree in another field are considered for acceptance with completion of a baccalaureate level nursing health assessment and community health nursing course.

Students currently enrolled are residents of primarily North Carolina and South Carolina. One student resides in Kentucky due to a spouse relocation from North Carolina after the student enrolled.

Current Enrollment (as of 3/15/16):

Semester Admitted	**Type of Enrollment**	**Currently Enrolled**	**Planned Graduation**
August 2013	MSN – FNP	39	May 2016
May 2014	Post Masters FNP Cert	4	May 2016
August 2014	MSN – FNP	23	May 2017
January 2015	Post Masters FNP Cert	4	May 2017
August 2015	MSN – FNP	24	May 2018
January 2016	Post Masters FNP Cert	5	May 2018

3. Program Completion

The initial cohort of MSN FNP students completed the program in May 2015. Certification pass rate for the initial cohort was 96%. Formal alumni survey will be conducted in May 2016. However, upon informal survey, all students successfully completing national FNP certification are employed as Nurse Practitioners.

FNP alumni employment settings vary greatly from primary care internal medicine practice sites, retail care, specialty sites such as pulmonology and substance abuse treatment, to hospitalist and emergency room settings.

4. Program Opportunities and Challenges

Family Nurse Practitioner students are trained for entry level into primary care practice. However due to increasing demands for clinical preceptors the challenge of placing students in appropriate clinical practicum sites exists each semester. Specific clinical practicum rotations in pediatrics and women's health are scarce. Development of clinical training sites for pediatric and gender specific needs attention.

Historically graduate nursing education has not offered monetary compensation for nurse practitioner preceptors. Medical student preceptors and Physician Assistant preceptors are increasingly providing compensation and also utilizing the same preceptor pool as Nurse Practitioner students. Effective August 2016 one of our largest health system partners will require a set fee for use of preceptors within their clinical system. $500 will be required per

preceptor hours of 1-240 and $1000 for 241-500 practicum hours. The increasing pressure to pay preceptors in order to stay competitive in clinical placement for Nurse Practitioner students is a challenge for not only our program but a regional and national issue. This additional cost will be a barrier with direct impact to students.

Preliminary planning to transition the Post-Baccalaureate Master of Science in Nursing Family Nurse Practitioner program to a Post-Baccalaureate Doctor of Nursing Practice Family Nurse Practitioner program is underway. This transition is consistent with the Consensus Model for APRN Regulation (2008).

Challenges anticipated with transition to DNP include recruitment of academically prepared and experientially qualified faculty to a rural faith based institution. There is a significant reimbursement gap between full time academic employment and full time clinical employment for nurse practitioners and all nursing faculty in general. The terminally prepared NP adjunct pool for indirect oversight of FNP students in practicum settings is slowly increasing. The recruitment of faculty impacts the enrollment in the NP program.

Primary Care challenges in North Carolina exist in part to the Family Nurse Practitioners being academically prepared for entry level into primary care but upon graduation being highly recruited into specialty practice settings.

UNC-Chapel Hill School of Nursing
Primary Care Nurse Practitioner Preparation and Productivity
Submitted at the request of
Warren Newton, MD, MPH, Vice Dean & Director, NC AHEC Program

March 23, 2016

Program Overview:

The School of Nursing at UNC-Chapel Hill prepares primary care Nurse Practitioners (NPs) via three programs: Master of Science in Nursing degree (MSN; includes both RN to MSN and BSN to MSN students), Post-Master's Certificate Program (Post-MSN) and the BSN to DNP pathway of the new Doctor of Nursing Practice degree (DNP).

Master of Science in Nursing (MSN). The MSN NP program educates BSN prepared nurses for primary care roles in varied rural and urban settings, including: ambulatory clinics, home health care agencies, long-term care facilities, retail clinics, nurse managed clinics/practices, and physician managed private medical practices. Students are educated to deliver culturally sensitive primary care services as Adult-Gerontology, Family, Pediatric, or Psychiatric-Mental Health Nurse Practitioners. Full-time study in the MSN NP program ranges between 41and 49 credit hours taken across two academic years and one summer.

The MSN program builds upon the advanced practice core curriculum originally outlined in The American Association of Colleges of Nursing's Essentials of Master's Education (AACN, 1996) http://www.aacn.nche.edu/Education/mastessn.htm. To coincide with IOM recommendations, the curriculum prepares graduates to provide care based on continuous healing relationships, patient's needs and values, honoring the patient's control of his/her own health, shared provider patient knowledge and communication, evidence-based decision making, transparency, anticipation of patient needs, safety, cost containment, and cooperation among clinicians. MSN NP students complete core courses on professional issues, research and evidence appraisal, advanced clinical skills, and advanced specialty knowledge related to their population track. Graduates are prepared to diagnose, order, and interpret diagnostic tests; order therapeutic interventions and medications; provide health teaching and counseling; and collaborate with patients, families, and other health professions. They also learn about community resources as well as legal, ethical, diversity, health disparities, health literacy, socioeconomic and political issues related to the NP role. MSN NP students take courses in advanced pathophysiology, advanced health assessment, advanced pharmacotherapeutics, clinical management of acute and chronic illness, and health promotion and disease prevention. All students are prepared to provide primary care services within a community perspective. Student clinical preceptorships are in primarily underserved and disadvantaged areas that commonly provide inter-professional collaborative learning opportunities. All clinical sites and preceptors are evaluated each semester through faculty clinical site visits as well as faculty and student written feedback. Clinical sites and preceptors that are evaluated by students and faculty as providing relevant and positive learning experiences are retained for future clinical learning opportunities.

RN-MSN. RN-MSN applicants must complete 51 college-level credits prior to enrollment in the RN-MSN program, which may be taken at any accredited college or university. Once these college-level credits are completed, registered nurses with an Associate's Degree or Diploma in

Nursing may apply directly to the RN-MSN Program. After 12 credits of online baccalaureate bridge courses are completed, a minimum of 41-49 credit hours of graduate study is required (depending on the population selected). Students may focus their primary care NP preparation on one of four populations: Adult-Gerontology, Family, Pediatric, or Psychiatric-Mental Health. Coursework and clinical requirements are the same as outlined in plans of study for the MSN program.

Post-MSN. Post-MSN certificate programs are designed to prepare nurses who have already earned a master's degree to assume a new advanced practice role and responsibilities not covered in their initial nursing master's education. The NP option available is Psychiatric-Mental Health. Post-MSN course and clinical requirements vary based on previous credits earned and previous area of specialization, but generally require a minimum of one year fulltime study (typically, 20 to 30 credit hours).

Doctor of Nursing Practice.
The BSN to DNP program of study builds on baccalaureate education and expands current MSN education to prepare nurses for clinical leadership, practice inquiry, and advanced nursing practice as a primary care NP. DNP program students complete all courses described above for the MSN and receive additional preparation in such key areas as evidence-based practice, systems leadership, population health, patient safety, and translational research with the goal of improving population health status and outcomes. These students complete 3 years of full-time study, ranging from 66 to 75 credit hours depending on advanced practice preparation area. Students are prepared as primary care NPs in the same populations foci as the MSN students: Adult-Gerontology, Family, Pediatric, and Psychiatric-Mental Health. BSN to DNP students are required to complete 1,000 practice hours along with additional coursework in nursing leadership and practice-based inquiry. Students will become experts at evaluating and translating evidence into effective changes at the population level. These changes enhance the outcomes of care, effectiveness of care delivery, and reduce health disparities. All BSN to DNP students must complete an evidence-based practice project (DNP Project) that addresses an identified clinical need related to advanced nursing practice and must benefit a group, population or community rather than an individual patient. These projects often arise from clinical practice and may be done in partnership with another clinical agency, organization, or community group.

Admission criteria:

- BSN to MSN and BSN to DNP applicants must be licensed as a Registered Nurse, a minimum of one year clinical nursing experience, a nursing GPA of 3.0, academic and employment letters of recommendation, and a professional statement exploring professional history, contributions, goals for graduate study, and career plans.
- Criteria for the RN to MSN candidate – nurses with an associate's degree or diploma in nursing –include the criteria noted above plus an additional 51 pre-requisite credits representing a broad general education preparation similar to credits required in the first two years of a baccalaureate degree.

Admission and graduation data:

We have been quite successful in recruiting strong students to the NP programs and increasing admissions when budget and clinical practice sites could support additional capacity. We are also

graduating high numbers of NPs who enter the workforce well prepared and secure positions within three to six months post-graduation. The following table tracks student progression within their admissions cohort.

		Student Progression by Admissions Cohorts						
Degree		08-09	09-10	10-11	11-12	12-13	13-14	14-15
BSN to MSN	Admissions	49	80	68	77	89	71	63
BSN to MSN	Graduates	46	74	61	69	81	46	0
BSN to MSN	Still enrolled	00	0	0	1	4	23	62
RN to MSN	Admissions	20	29	20	18	24	14	11
RN to MSN	Graduates	17	27	16	17	20	0	0
RN to MSN	Still enrolled	0	0	0	1	3	13	11
Post- MSN	Admissions	17	10	9	18	28	15	3
Post- MSN	Graduates	15	8	5	15	20	9	0
Post-MSN	Still enrolled	0	0	0	0	0	1	3
BSN to DNP	Admissions							24
BSN to DNP	Graduates							0
BSN to DNP	Still enrolled							24

Time to graduation and post-graduation certification:

School programs preparing primary care NPs have a successful history of students graduating on schedule (BSN to MSN: full-time study over two years and part-time over three years; RN to MSN: full-time study over three years and part-time over four years). Over the past four years, the average MSN student's time to degree has ranged from 2.2 to 2.5 years. Additionally, the School's national certification pass rate of NP graduates exceeds the CCNE accreditation threshold of an average of greater than 80% over 3 years. The average first-time pass rates on national certifications for 2013 and 2014 respectively are Adult-Gerontology, 84% [N=31] and 100% [N=29]; Family, 95.6%[N=43] and 94.2% [N=48]; PMHNP, 91.67%[N=12] and 100% [N=8]; PNP-primary care, 100% [N=13] and 100%[N=19].

Post-graduation employment:

Graduates from the SON have a long history of service to underserved populations. Most of our students are NC natives, and many return to their home communities for employment post-graduation. As the table below reflects, employment by our graduates in settings of service to underserved communities is consistently high (>50%). However, this past year we saw a drop in the number of NP graduates whose first positions were in a primary care practice, rather they served a chronic care cardiovascular population. These 12 NP graduates practiced in rural and suburban communities, providing care to disadvantaged residents, however due to the current definition of primary care, they weren't included in the number of graduates practicing in primary care as noted below. Had they been, based on a more contemporary definition which includes management of population health, almost 75% of our graduates would be denoted as serving in communities and/or with populations of need. The remaining 25% of graduates were employed in acute care practices. This is consistent with recent trends in NP service in NC. An analysis of NP practice in 2011 (Fraher, 2014) found that 80% of NC NPs were certified in primary care, however 57% self-reported caring for special patient populations.

Practice Settings	07/01/10 – 6/30/11	07/01/14-06/30/15
Community Health Center	4	3
Rural Health Clinic	0	0
Federally Qualified Health Center	2	1
State/Local Health Dept.	1	0
HPSA	50	18
Underserved Communities	6	28
Total Graduates	68	85
No. in Practice Settings	63	50
% in Practice Settings	92.6%	59%

Diversity:

Recruitment: Our goal is to produce NP graduates who will represent the communities from which they came and enable the NP workforce to be more representative of the NC population. Recruitment is focused on targeted rural, under-represented, disadvantages communities, MUAs, and HPSAs. We work closely with HBCUs and community colleges across North Carolina to create partnerships that will build mutual respect, encourage understanding, foster interpersonal and academic confidence, and cultivate academic success for those who seek careers in nursing. Approximately 35% of enrollees in UNC's primary care advanced practice programs are from underrepresented minority or disadvantaged communities; this is an increase of 10% in two years (was 25% two years ago).

GREs: Our goal is to increase diversity within all of our graduate programs. There is evidence the GRE has a bias impact with regards to certain populations, especially minorities and, as such, is considered a barrier to applicants. In 2014 we sought approval from The University's Graduate School to place a 5-year moratorium on the GRE as a component of the application process for the three graduate programs (MSN, DNP, and PhD). During this period, we will review the effect of elimination of the GRE on the diversity of the applicant pool and continued success of our graduate students. At the conclusion of the 5-year period, the GRE requirement will be re-evaluated as an admission criterion for our graduate programs.

Student support:

OMA: The school has a longstanding commitment to nourishing a learning environment where all faculty, staff, and students feel welcome. The UNC-CH SON Office of Multicultural Affairs (OMA), directed by Dr. Rumay Alexander, advocates for incorporation of diversity, equity and inclusivity in curricula, admissions, educational outcomes, environment and practice. The SON curricula prepare graduates to provide culturally relevant and clinically compassionate and competent care to diverse communities. OMA serves as a school-wide resource for the proper understanding and judicious application of equity and multicultural concepts. This includes the facilitation of system-wide efforts for retaining students, faculty, and staff of underrepresented racial and ethnic populations. A key goal of the OMA is to enable the SON to meet the demand for professional nurses who understand and can deliver care that is compatible and in sync with patients' cultural beliefs and health practices throughout the world and particularly in NC. OMA staffing includes four 'cultural coaches' faculty members of diverse backgrounds, from whom students can get assistance with class assignments, research formulation, self -awareness, test taking skills-building, advising, and personal needs specific to being a minority or disadvantaged student immersed in a majority culture.

Campus resources**:** The University's commitment to the success of all students is most evident in the extensive resources provided. The Learning Center at the UNC-Chapel Hill offers many services to enhance student learning and success. These include: academic

counseling, tutoring, reading efficiency skills training, coaching for studying, note-taking, and test-taking. The Learning Center (http://learningcenter.unc.edu/) works with students being evaluated for a learning disability and consults with students registered with the Office of Accessibility Resources and Services regarding needed accommodations. The Learning Center offers a specific program for students with Learning Disabilities (LD)-Attention Deficit Hyperactivity Disorder (ADHD) entitled *The Academic Success Program for Students with LD/ADHD (ASP)*. This program focuses on developing strategies to manage volume of academic responsibilities, manage time efficiently, balance academic responsibilities with personal life, and communicate more effectively with professors/advisors. The Writing Center is a free instructional service provided to faculty and students. The support provided includes trained student coaches who help students focus on the writing process, learn new skills for various writing contexts and strategize about options available for completing assignments.

AENT funding: The School of Nursing has been most fortunate to have received focused grant funding from HRSA in support of primary care NP education. We are currently in the second year of a $700,000 project designed to increase primary care NPs in NC by providing traineeship support thus reducing their need to work while in the program and completing the program in shorter time. Eligibility criteria includes: member of a racial or ethnic minority population, have served in the military, educationally or financially disadvantaged, and/or resident of a rural area, medically underserved community or health professional shortage areas. A competing continuation grant has just been submitted in the hope of obtaining two additional years of funding.

Barriers to increasing the number of graduates:

Clinical site placement The SON currently uses over 500 clinical sites for MSN, Post-MSN and DNP student placements. NC is a predominantly rural state: 80 of 100 counties are designated as rural, with 95 counties designated as partial or total MUA and 90 as partial or total HPSA. Graduate clinical sites are selected to meet the learning objectives of the individual course and ultimately the program objectives. Criteria that factor into selection of a clinical site include: level of student, the focus of the course, competencies expected, availability of preceptors, previous years' evaluations of the preceptor and site, the distance required for student travel, and opportunity to practice with underserved populations. The NC Area Health Education Center (AHEC) assists the SON in finding primary care clinical placements across the state; many are in rural communities, MUAs and HPSAs. In 2015-16 approximately 75% of NP clinical primary care placements were in counties or geographic areas designated as rural, MUA or HPSA. Our goal for 2016-2017 is to increase the percentage of AENTP NP students completing a clinical assignment in a designated rural health center, federally qualified health center or other HPSA serving underserved communities to 85%.

Obstacles: Currently, one of our greatest obstacles for increasing student enrollment is the issue of clinical placement capacity. Clinical facilities and practices often predominantly offer clinical training on a volunteer basis. The issue of clinical placements is complex and varied among the health professions, however, the state of NC must confront the causes of capacity issues that we are facing in the nurse practitioner program area. Although we have had discussions with external practice agencies we have been told that the student placements they prioritize are those focused on preparing medical students, residents, and physician assistant students. In addition, primary care settings, in contrast to acute care settings, are not able to provide placements for a large numbers of students. Thus, settings are scarce that can provide experiences for nurse practitioners as a whole as well as those focused on women's health, pediatrics, psychiatric-

mental health and for the more in-depth capstone experiences. There is also increasing competition from online programs that are based outside of North Carolina but have students from NC enrolled in their programs. If clinical placement capacity is saturated then all of professions, as stakeholders in addressing the primary care workforce, must find new ways to grow precepting capacity within sites or find new placement and clinical learning options.

Additionally, the SON makes every attempt to locate and assign students to clinical sites as near their home community as possible to ensure the student travel time to 2-3 hours (one-way). This has become increasingly difficult due to the large and growing numbers of clinical programs across NC vying for clinical practica arrangements. At this writing, NC has 8 graduate schools of nursing preparing primary care NPs as well as 11 physician assistant (PA) programs that are in competition for many of the same clinical preceptors and agencies, especially those in rural and underserved areas. The SON employs a Graduate Clinical Sites Coordinator (GCSC) (85% time) along with designated faculty who serve as advanced practice coordinator of their population area to assist in identification of high-quality preceptors and agencies. The GCSC participates in the AHEC meetings which involves representatives from all the UNC campuses regarding preceptors and clinical sites.

UNCG Primary Care Adult/Gerontological Nurse Practitioner Report

1. Admission Criteria

The University of North Carolina at Greensboro School of Nursing admitted 26 students in Fall 2015 to its Adult/Gerontological Nurse Practitioner – Primary Care concentration in the DNP post-baccalaureate program. Students meet admission requirements with a 3.2 or above GPA; three letters of reference, a personal interview, official transcripts, RN licensure, and a personal statement.

The last cohort for the MSN concentration for the A/GNP Primary Care, 12 students, were admitted in fall 2014 and are projected to complete their programs of study in fall 2016. Currently, we have 36 students enrolled between the two programs.

2. Curriculum Focus on Primary Care

The current curriculum for the A/GNP Primary Care post-baccalaureate DNP student includes 73 credit hours and 1035 practicum contact hours in primary care. Core courses include utilization of research and evidence-based practice, biostatistics and epidemiology, law, policy, and economics of healthcare and effective leadership for advanced practice. Support courses include pathophysiology, pharmacology, and advanced nursing roles; and specialty courses include health assessment and adult and gerontological didactic and practicum courses with a primary care focus. A DNP project is conducted over five courses.

3. IT Service

The School of Nursing is supported by an instructional design technologist who assists faculty in online pedagogical strategies. The University offers courses and support to faculty and students regarding Canvas, Gmail, and other software used for instruction. Support for IT issues is available online or by phone. A hardware analyst is available to install and maintain computers, printers, and other assistive devices for faculty. The University Division of Continual Learning assists the School of Nursing in maintaining current program information on the website as well as other items of interest such as the MSN Student Handbook and the Scholarship sources and application. Program assistant staff maintain databases for the medical data base and the enrolled student database needed to support such areas as HRSA traineeship funding applications and follow up reports.

4. New Faculty/Development

Since 2015 we have hired 4 advanced practice faculty members and have a full-time director for our DNP program who is a licensed Family Nurse Practitioner. We currently have openings for 4 additional faculty members for the DNP program. New faculty members are assigned to a mentor for one year when they enter the School of Nursing. They also engage in formal orientation sessions for the University and for the School of Nursing. The technology staff conduct individual orientation sessions with them to set up their computers and email, to orient them to Canvas, and to acquaint them with the classroom teaching stations.

5. Student Support/Incentives

We provide a number of forms of support to our A/GNP students. Once admitted, they are assigned to an A/GNP faculty member who serves as an academic advisor to them. Additionally, the Director of Graduate Study is available to answer their questions. We were able to provide each of our A/GNP students with approximately $1200 in private scholarship funding this year. Some have chosen to work as graduate assistants and have received tuition waivers in addition to the assistantship stipends.

6. Collaborative Efforts with Local Communities

In the past two years, A/GNP students have been placed in over 250 clinical sites across North Carolina. Approximately 150 of these sites are located in counties designated as health professional shortage areas, and approximately 30 are located in rural areas. The program also has used four urban School of Nursing Health Centers located in federally subsidized senior housing communities serving the Medicaid

population and working poor. During the most recent data collection period, 2014-2015, 89% of our A/GNP graduates are practicing in underserved areas primarily in North Carolina.

7. Preceptor/Mentoring Activities

We have a large cadre of nurse practitioners and physicians who precept our students. We utilize the NC Board of Nursing guidelines for development of preceptorships. We have a clinical coordinator to work closely with our preceptors and our clinical sites. An evaluation plan and instrumentation is in place to provide feedback regarding preceptor performance, faculty performance, student performance, and evaluation for the clinical site.

8. Community Practitioner Support

We have contracts with over 250 agencies in NC that provide practicum experiences for our A/GNP students. We also utilize the NC AHEC system for placement of students with a preceptor. In a few instances, the NC AHEC has been instrumental in arranging for housing for the students if the clinical site is more than 2 hours from the student's home. Students are placed with preceptors in a variety of settings including physician practices, community clinics, health departments, long-term care, hospice, VA facilities, and student health.

9. Self-Directed Learning Activities

Our A/GNP students engage in simulation experiences in our laboratories at UNCG. They refine their practice skills through these experiences. They also have an individualized capstone experience in their final five courses that allows them to develop a project using the latest evidence to improve practice.

10. Research in Primary Care

Research in primary care is conducted through our PhD program that seeks to promote health and eliminate health disparities in women and children, older adults, and ethnic minorities. We also have an NIH funded Center of Excellence in Health Disparities and Center for the Health of Vulnerable Populations. A/GNP students may participate in some of these experiences through research assistantships and health fairs. They also apply research evidence in practice.

11. Student Groups

Students have the opportunity to be a part of the Graduate Student Association that provides some funding for professional presentations and research. They also may choose to be a member of the Multicultural Nurses Association. In summary, our A/GNP students are meeting an important need to provide primary care to those aged 13 and older in North Carolina and the nation. We generally have graduation rates that range between 89 to 95% and certification rates that range between 90 to 100% upon graduation. Our employment rates are close to 100% with over 90% working in underserved areas. In the fall of 2016, the DNP program will move to the Union Square Campus in downtown Greensboro.

Submitted by: Dr. Lynne Lewallen, Assistant Dean for Academic Affairs, UNCG School of Nursing

University of North Carolina Wilmington School of Nursing

Laurie Badzek, LLM, JD, MS, RN, FAAN, Director
Diane Pastor, PhD, MBA, NP-C, Interim Associate Director Graduate Programs

Report: Primary Care Program Strategies to Increase Graduates Entering Primary Care
March 2016

During the last two academic years, our Graduate Nursing program (awarding an MSN, preparing Masters-prepared graduates as Primary Care Family Nurse Practitioners) has utilized multiple strategies to increase the number of primary care providers. Our efforts have focused on the following areas:

Admission Criteria

We have traditionally accepted approximately 20% of our applicant pool into the MSN degree program. However, we have increased our enrollment by 15% per year during the last two years. Our plan is to increase enrollment by an additional 50% this year, with an increased number of full time applicants in this cohort. This will accelerate graduation and entry to practice.

We have received all approvals and will launch the Doctor of Nursing Practice degree program in August 2016, and our plan is to recruit and accept 10 new Masters prepared advanced practice registered nurses into this three-year part time program. Students will focus their practice on caring for vulnerable rural communities in primary care roles. This is a post MSN program and will not generate new primary care practitioners but the program will evolve to a BSN to DNP that will produce new practitioners at the highest level of nursing practice in 2-3 years.

Graduate Student Cohort	**Date of Graduation**
25 (4 Post MSN)	Dec. 2014
26 (1 Post MSN)	Dec. 2015
40 anticipated	Dec. 2016
41 anticipated	Dec. 2017
65 anticipated	Dec. 2018
65 MSN anticipated 10 Post MSN DNP	Dec. 2019

Curriculum Focus on Primary Care

The MSN program has focused on primary care since its inception 15 years ago. We continue to revise and adjust curriculum to focus on changing needs within this setting, most recently on genetics/genomics, ethics, health communication and inter-professional education and practice. Our new Doctor of Nursing Practice (DNP) program will allow doctoral nursing students to conduct practice change projects focused on vulnerable rural and underserved populations' health needs.

IT Services

Two graduate-prepared dedicated eLearning professionals were relocated within McNeill Hall in 2014, the location of this program, to better directly serve students, faculty and staff. Students received training in Blackboard, library database resources and Typhon clinical practice software during orientation when they begin this program. One reference librarian was assigned to work with faculty and students beginning in 2015. The eLearning Center offers 15 on campus learning opportunities annually so that faculty can expand and deepen skill sets in using technology in the curriculum and support learner needs.

New Faculty/Development

During academic year 2015-2016, we interviewed and have made offers to three new nurse practitioner faculty members, who will teach across all levels in the school of nursing. We also currently have two open postings for additional primary care NP faculty members (adult-gero, family, psych). Faculty members are encouraged to attend at least one national clinical conference annually in there population/setting practice area and the school of nursing supports this attendance. Faculty also received the opportunity to attend two onsite clinical simulation educational events in the Clinical Simulation Center. All faculty maintain current national certification. Current NP faculty FTE = 8.

Student Support/Incentives

Our Clinical Simulation Center is now utilized for graduate nursing education, beginning in 2014. Students have participated in simulated educational opportunities to conduct comprehensive geriatric assessments and to work in inter-professional teams to deliver difficult health news. This work has been published by faculty groups in peer-reviewed publications. An applied learning grant has supported reflective journaling experiences for all graduate nursing students.

Collaborative Efforts with Local Communities

Through the Center for Health Communities and the Associate Dean for Innovation's office within the College of Health and Human Services, opportunities exist for faculty to engage as fellows to collaborate with community agencies to complete quality assessment and performance improvement projects. Examples of these projects include county-level health assessment survey, neighborhood community participatory research google map survey, clinical expert panel and others. Several grants have been funded allowing faculty and students to engage with vulnerable primary care populations (persons with dementia, patients with advanced heart failure, adolescents with risky behaviors, women's health and HIV care, older adults with chronic illness).

Preceptor/Mentoring Activities

Student mentoring: Faculty lead graduate nursing students in one-to-one Directed Independent Study (DIS) projects each semester, to collaborate on a match between the students' clinical care interests in primary care practice and the expertise of the faculty member. Students are mentored in various components of care delivery evaluation and reviews of literature to support primary care research. For academic year 2015-2016, a total of 19 DIS projects have been undertaken.

Our clinical preceptor partners include MD, DO, NP or PA practitioners who precept our graduate nursing students for a total of 600 clinical hours. Faculty visit each clinical student/site/preceptor to assess the students' clinical progress and learner needs. Preceptors are encouraged to share their insights about advance practice nursing curriculum, assignments and practice needs.

Community Practitioner Support

A new Clinical Placement Coordinator is using her professional networks to continually advance our efforts to form new collaborative partnerships to include clinical preceptors for our NP students. During spring term 2016, 50% of our students were placed in new clinical sites with new preceptors, and this effort is possible due to faculty efforts to grow and maintain partnerships with colleagues practicing in primary care throughout NC.

Self-Directed Learning Activities

Students participate in clinical simulation activities which promote self-directed individual and team learning. Students have engaged in learning how to present bad health news to primary care patients, conduct comprehensive geriatric assessments in teams, worked in collaborative care teams to investigate child abuse cases and have participated in intensive clinical laboratory stations to gain proficiency in primary care skills (suturing, joint injections, health assessments, radiological diagnostic examinations, pre-surgical clearance).

Research in Primary Care

Several grant mechanisms have allowed nursing faculty to increase productivity in conducting clinical research for primary care patients. These have included ETEAL (Explorations to transform education in applied learning) grants, Corbett grants (funded through the Corbett Family Foundation) and Cultural Arts grants. Examples of faculty research within the last two academic years includes: Use of Aromatic Oils in Ill Elders; How to Have Difficult Conversations in Primary Care Practice; Adolescent Risky Behaviors; Pediatric School-Based Health Clinic Care Delivery; Dementia and Driving Safety). External grant applications are now supported within the College of Health and Human Services in the Office of the Associate Dean for Innovation and Research, a new position created and filled two years ago.

Student Interest Groups

Nursing students on campus are active in a variety of college-based, university-wide and school of nursing based organizations: Sigma Theta Tau Honor Society, Men in Nursing, and Diversity in Nursing. Both graduate and undergraduate nursing students traveled to Belize in 2015 to provide health care to rural families with limited access to health care. Future mission trips are planned.

Western Carolina University
School of Nursing
Primary Care Plans
2015-16

The WCU School of Nursing has implemented the following initiatives as part of increasing Primary Care in western North Carolina:

1. Awarded a HRSA FNP Traineeship from HRSA for the last five years to place FNP students in Rural Primary Care settings. Successfully placed students in primary care settings across western North Carolina.
2. Hired a part-time clinical placement coordinator to help with primary care clinical placements for FNP and undergraduate nursing students.
3. Awarded a Golden LEAF grant to place nine FNP students in the Good Samaritan Clinic of Jackson County annually. The project will expose students to rural primary care and provide the data for a model for university/free clinic/hospital collaborations to reduce the number of non-reimbursed ER visits by increasing access to free primary care.
4. Developed an 18 credit hour primary care certificate for post-baccalaureate nurses.
5. Collaborated with Mission Health Systems to submit an AEN HRSA grant to increase and enhance Primary Care clinical placement sites by providing additional primary care sites and preceptor training.
6. In the Fall of 2016 the FNP program transitioned from a part-time to a full-time program to expedite the training time required for our FNP students and increased the number of FNP students admitted to 25.

WCU School of Nursing FNP Program	**Enrollments**		
	FALL 2013	**FALL 2014**	**FALL 2015**
Year 1	**16**	**25**	**25**
Year 2	**13**	**16**	**25**
Year 3	**15**	**13**	**16**
Total FNP Students	**44**	**54**	**66**

Winston Salem State University
Division of Nursing
Primary Care Plan
March, 2016

Winston Salem State University Division of Nursing provides four programs of study that will allow graduates to practice in primary care settings as a Family Nurse Practitioner (FNP). Students may complete the:

- Family Nurse Practitioner MSN degree,
- Family Nurse Practitioner Certificate,
- Family Nurse Practitioner BSN-DNP degree, or the
- Family Nurse Practitioner MSN-DNP degree (graduates in this options already have the credentials to practices as an FNP.

The *Essentials of Master's Education for Advanced Practice Nursing* (AACN, 2011) guide the curriculum of the Family Nurse Practitioner program and the *Essentials of Doctoral Education for Advanced Nursing Practice* (2006) guide the curriculum of the Doctorate of Nursing Practice program. Both programs also incorporate the following documents and standards:

- American Nurses Association Code of Ethics for Nurses (ANA, 2015),
- ANA Nursing: Scope and Standards of Practice, 2nd edition (2010).
- Nurse Practitioner Core Competencies (NONPF, 2011),
- Adult-Gerontological Acute Care Nurse Practitioner Competencies (NONPF, 2012), and
- Family Across the Lifespan, Neonatal, Acute Care Pediatric, Primary Care Pediatric, Psychiatric-Mental Health and Women's Health/Gender Related (NONPF, 2013).

The Family Nurse Practitioner program in primary care is our most popular graduate program, but enrollments in the DNP program are increasing. Table 1 below provides data for the last two years for enrollments and for degrees and certificates conferred to family nurse practitioner students.

While the WSSU Division of Nursing is committed to continuing the FNP and DNP program, enrollment and growth of these programs is limited by three factors:

- Recruitment of qualified family nurse practitioner and DNP faculty,
- Competition for appropriate primary care clinical sites, and
- Student need for financial resources to support graduate study.

Winston-Salem State University's MSN program was fortunate to receive an Advanced Education Nursing Traineeship funds and Scholarships for Disadvantaged students (SDS) to support the costs of tuition, books, and fees for students in the Masters of Science in nursing program. Funding has increased the number of students who are full-time, thus decreasing their length of time in the MSN program and allowing them to enter into primary practice sooner. An application was submitted in Fall 2015 to continue funding for the SDS program. In addition, a program-based tuition fund that provides additional financial assistance to students as well as facilitate our ability to secure needed clinical sites and preceptors in primary care by hiring a part-time clinical coordinator.

Table 1 presents the number of enrollments and the number of degrees or certificates conferred each year. There was an increase from 74 enrollments in Fall of 2015 to 80 enrollments in Fall 2016 in our FNP-MSN program that prepares primary care family nurse practitioners. The FNP-Certificate increased from 0 to 9 students. The BSN-DNP program enrolled its first cohort of 12 students in Fall 2016 and the MSN-DNP increased from 5 students in Fall 2015 to 8 in Fall 2016.

Table 1.

Enrollments in WSSU FNP and DNP Programs

Academic Program	Enrollments		Degrees/Certificates Conferred in Academic Year	
	Fall 2015	Fall 2016	2013-2014	2014-2015
FNP-MSN	74	80	43	37
FNP-Certificate	0	9	0	0
BSN-DNP	0	12	0	0
MSN-DNP	5	8	0	1
TOTAL	79	109	43	38

Physician Assistant Programs

CAMPBELL UNIVERSITY
College of Pharmacy & Health Sciences
Physician Assistant Program

To: Board of Governors, University of North Carolina General Administration
From: Tom Colletti, DHSc, MPAS, PA-C, Program Chair
Date: March 21, 2016
Re: Primary Care Initiative at Campbell University PA Program

One of the stated goals, derived from our Mission Statement is to promote a patient-centered approach to health and disease by emphasizing primary care. While we do not have a specific primary care track, our students, like other PA students, are trained as generalists.

In the didactic year, as part of our Early Clinical Experience module, our students rotate through the Campbell Clinic – a primary care clinic on campus and volunteer at the Campbell Free Clinic every Tuesday night. In addition they are placed in local community family practices or health department clinics. All of these are in rural underserved areas. During the didactic year students engage in small group Clinical Case studies and OSCEs focused on primary care issues.

Students are also introduced to the National Health Service Corps and county Health Departments as a way to enter primary care and receive tuition assistance.

During clinical training, in addition to Internal Medicine, Family Medicine, Pediatrics, and Obstetrics and Gynecology, students have a required primary care (ambulatory medicine) rotation. For their two electives the student may request additional primary care rotations.

According to our recent graduate survey (Classes of 2013 and 2014), 28% are in primary care, 10.5% in emergency medicine, 14.5 % in Urgent Care, 7% in surgery, and 40% are in a specialty. The survey reveals that 43% of graduates practice in a rural setting, 20% in a suburban setting, and 37% in an urban setting.

Respectfully,

Dr. Thomas P. Colletti, DHSc, MPAS, PA-C
Chair & Director
Physician Assistant Program
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Duke University PA Program

Our mission statement "is to educate caring, competent **primary care physician assistants** who practice evidence-based medicine, are leaders in the profession, dedicated to their communities, culturally sensitive and devoted to positive transformation of the health care system." We remain committed to our mission and have the following mechanisms in place to ensure that we are educating students who seek practice opportunities in primary care.

One successful program is the Underserved Community Scholars Program (UCSP). There have been 32 total scholars either enrolled or graduated from this program. Of the 26 scholars who have graduated, 17 are employed in primary care and 10 of these in North Carolina. UCSP graduates are 2.5 times as likely as their classmates to be employed in primary care. This program placed students in a longitudinal primary care experience in the clinical year in underserved areas of North Carolina. Funding for this project came from a HRSA ACA: Expansion of Physician Assistant Training Program grant. It collaborated with the Duke School of Medicine Primary Care Leadership Track to develop learning experiences that engender leadership and primary care team skills among MD/PA teams, with the aim of building highly effective primary care teams to practice together in patient-centered medical homes, and collaborated with the North Carolina Community Health Center Association to develop longitudinal primary care training sites and place graduates from the proposed project into economically distressed and medically underserved areas of the state. We leveraged another HRSA Primary Care Training Grant to utilize a Clinical Education Faculty Development Fellow to work closely with the UCSP clinical sites, preceptors and students.

Every Duke PA student is required to spend 8 weeks in a primary care rotation, along with 4 weeks in pediatrics and 4 weeks in obstetrics and gynecology. Many students elect to use their elective choices for additional primary care experiences. Each student completes a minimum of two rotation months in an underserved area of North Carolina—many students do much more.

The Duke PA Program attracts students interested in the National Health Service Corps and in the current classes of students there are six.

From our class of 2015, 23 graduates took Primary Care/Family Medicine positions and 14 of these are in North Carolina. The research arm of the PA Division has created a longitudinal database. The first cohort of data is ready for initial analysis. This data is helping us to better track our alumni data including those graduates who choose to go into primary care. Lastly, the PA program has taken the lead and submitted an institutional Primary Care Training and Enhancement grant proposal to HRSA to engage learners and faculty in collaborative projects to improve population health through practice- and community-based interprofessional quality improvement (QI). If this project is funded, it will bolster our primary care team efforts and encourage students to choose a primary career upon graduation.

A report in response to the General Statue 143-613 as amended by Chapter 507 of the 1995 Session Law (House Bill 230) of the North Carolina General Assembly .

East Carolina University Department of Physician Assistant Studies

Efforts to increase the number of students entering primary care after graduation

Mission Statement

The mission of the Department of Physician Assistant Studies is to provide educational experiences which prepare physician assistant graduates to enhance access to primary medical care, with a hope to increase care for the citizens of rural and medically-underserved Eastern North Carolina and beyond. We seek to achieve this mission in an educational community where faculty, staff, clinical instructors, students, and other health care providers work together in an atmosphere of mutual respect, cooperation, compassion, and commitment.

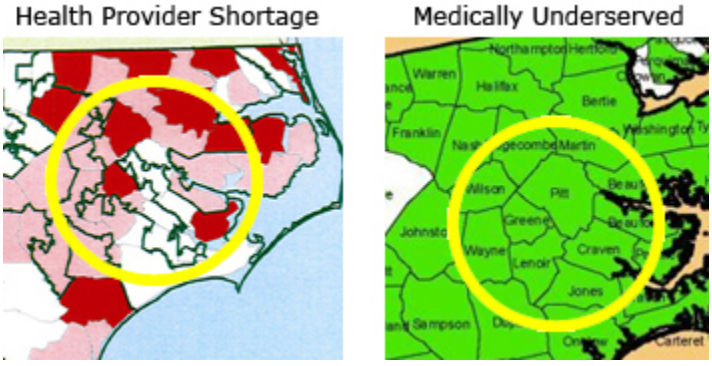
Program Goals

These goals support the mission of the Department of Physician Assistant Studies which is to increase the number of students entering primary care after graduation

Goal: To maintain a primary care-oriented educational program that includes exposures to rural and medically-underserved populations.

Outcome: The curriculum is designed with a primary care focus. Oversight of curriculum development is provided by the program faculty with feedback from the medical director. The curriculum focuses on primary care and embraces the Competencies for the PA Profession as designated by the National Commission on Certification of Physician Assistants, utilizing their "blueprint" as a guideline in developing curriculum content. All students are exposed to rural and medically-underserved populations by doing one or more clinical rotations in medically-underserved areas and/or areas with a shortage of health professionals. The yellow circle below represents the area where most of our core rotations are located.

Currently, ECU PA clinic sites include ~ 50 rural and/or underserved sites in Eastern North Carolina with well over 100 individual student rotations. This includes collaborations with at least two large FQRHC networks in Eastern NC with two more planned in 2017. Every student has at least one (and usually many more) rural or underserved population exposures during the clinical year.



Goal: Achieve a first-time pass rate on the Physician Assistant National Certifying Examination (PANCE) that meets or exceeds the national average.

Outcome: Success of this goal is evidenced by a 100% first-time PANCE pass rate in 2010, 2012, 2013, 2014 and 2015. Over five years, the program's first-time PANCE pass rate average is 99.5%, which is 6 percentage points higher than the national average. This means all the persons who completed the program are now eligible for employment.

Physician Assistant National Certifying Examination
Five Year First Time Taker Summary Report

Program Name: East Carolina University College of Allied Health Sciences

Program Number:

Report Date: 02-11-2015

Definitions of the report headings are provided at the end of the report.
All information is current as of the date the report was generated.

Class	Class Graduation Year	Number of First Time Takers	Program First Time Taker Pass Rate	National First Time Taker Pass Rate for the Class Graduation Year
December 2010	2010	29	100%	94%
December 2011	2011	33	97%	91%
December 2012	2012	31	100%	93%
December 2013	2013	32	100%	94%
Class 2014	2014	31	100%	95%

Five Year First Time Taker Average Pass Rate for Program: 99%

Five Year National First Time Taker Average: 94%

Goal: Recruit, select, and educate a highly qualified student population mostly from North Carolina, with representation from rural communities without regard to ethnicity, culture, gender, or religion.
Outcome:

Graduating year	Cumulative GPA	Science GPA	Prerequisite GPA	GRE score	GRE analytical writing	% from a rural community	% North Carolina residents
2016	3.78	3.76	3.91	312	4.24	38	97
2015	3.53	3.51	3.69	309	4.31	40	93
2014	3.78	3.73	3.89	312	4.30	48	93
2013	3.53	3.51	3.75	309	4.31	34	94

Admissions Criteria

East Carolina University's Department of Physician Assistant Studies, master's degree program takes pride in developing leaders who inspire, empower, and influence positive change. Admission to the East Carolina Physician Assistant Program is very competitive. The members of the Admissions Committee look specifically for applicants that have an interest in and are passionate about primary care. Applicants must first be a resident of one of the following states with preference given to residents of North Carolina: North Carolina, South Carolina, Tennessee, Virginia, or Georgia. Though there is no specific application requirement for primary care, the overall focus of the program is to admit, educate and train students in the direction of that focus.

Student Support/Incentives

Our program actively includes various information about scholarships provided by the state of North Carolina (Forgivable Education Loans for Service provides). Students are also encouraged to apply for scholarships through the National Health Service Core which subsidizes PA school loans under the condition that the student's payback their loan by working in primary care in areas that are medically underserved once they become licensed.

In the first semester of PA education at ECU, students are mandated to complete service learning. The list of acceptable sites has a mix of rural and underserved populations including, but not limited to, local/regional afterschool programs, migrant farm workers, free clinics and veteran mobile units.

Curriculum development and collaboration to improve primary care

The East Carolina Department of Physician Assistant Studies is involved in multiple inter-disciplinary collaborative activities that emphasize primary care such as added curriculum in: pediatric oral health and geriatric fall risk.

ECU PA studies is a collaborator in the ECU HRSA Geriatric Workforce Enhancement Program (GWEP) grant that allows our students to be better prepared to serve a primary care geriatric population in practice. The grant also allows for inter-professional education (IPE) with PA, MD and NP students. The grant provides free training and resources to students in all three disciplines, as well as provides free trainings (CME) for our preceptors and faculty.

Preceptor recruitment, education and training

In constant preparation for the clinical year, our department actively recruits preceptors in primary care facilities year round. Each site is visited annually by a clinical faculty member to monitor student performance and improve learning outcomes of our students. In the past year, this has included heavy recruitment from FQRHC (Federally Qualified Rural Healthcare Center) agencies and rural health centers

We are actively providing educational resources to our preceptors, as well as the free trainings regarding care of the elderly as noted from the GWEP grant collaboration (above)

All of our primary care preceptors who teach our students are eligible for additional CME credit and adjunct faculty status allowing them access to our learning resources such as Laupus Library should they be interested.

Elon University – PA Program

(Updated March 14, 2016)

Our charter class enrolled in January 2013 and graduated in March 2015. We recently graduated a second class on March 16 and do not yet have PANCE pass rate data or employment data. We currently have a clinical class (Class of 2017, N = 38) and a didactic class (Class of 2018, N =38).

Our admissions interviews allows students to share experiences/ties they have to primary care/underserved areas (consistent with the program values), and we also have co-medical directors, both of whom have practice backgrounds in general internal medicine. We were initially providing a primary care scholarship, but are now focus on providing one to a student from an undeserved area/demonstrated commitment to work with an underserved population. We have developed a videotape presentation that is displayed on our website with a message about the need for primary care practice and featuring a primary care scholarship recipient, and our medical director. Many of our clinician lecturers are primary care practitioners. Our required rotations (like all PA programs) include rotations in primary care, pediatrics, and women's health among others. Lastly, many of our students volunteer at the Open Door Clinic during their first year (underserved population) and the student society has selected this organization as their primary philanthropic organization. We also encourage students and graduates to consider NHSC placement after graduation. Notably, we had 4 people from the Class of 2016 selected for NHSC scholarships. Three have accepted jobs in primary care in NC or SC, the forth is looking for placement. Several more are applying this year.

The Elon PA Program Class of 2015

PANCE first time pass rate for the Class of 2015 is 37/37 or 100%.

Graduate employment as a PA for the inaugural class of 2015 demonstrates (37/37) 100% employment as of September, 2015.
Specialty Areas of Practice:

Emergency Medicine – 6
Internal medicine/hospitalist/critical care – 5
Family Medicine – 7
Surgery (including orthopedics, general, vascular, cardiothoracic) – 10 (one of these accepted a new primary care position 3/2016)
Trauma Surgery/ICU – 2
Hematology/Oncology – 2
Psychiatry/neuropsychiatry – 2
Cardiology - 2
Pediatrics – 1

Elon PA Program Class of 2016 – Graduated 3/6/2016.

PANCE first time pass rate for the Class of 2016 is pending

Graduate Employment data *pending* but at least 7 have accepted jobs in primary care and 3 in pediatrics to date (N = 37 students)

Gardner-Webb University Physician Assistant Studies

The Gardner-Webb University PA Studies Mission is to "develop knowledgeable and caring Physician Assistants who practice competent patient-centered primary care in diverse environments."

Students are encouraged to serve in primary care for diverse populations and for the underserved. All of our students are required to complete a 3-week clinical rotation in a medically underserved area or for a medically underserved population. Gardner-Webb University PA program emphasizes a servant-leadership lifestyle, which prepares graduates to serve in underserved communities, domestically and abroad.

We strive to attract students who have a commitment to practicing in primary care with service-mindedness particularly to the underserved. Our faculty has over 50 years collective experience practicing in underserved communities or with underserved populations, with the majority of those years being in primary care. Half of our required clinical rotation weeks are dedicated to primary care.

Our students are encouraged to apply for National Health Service Corps Scholarships and Loan Repayment programs. We also invite a representative of the North Carolina Medical Society Foundation to share information with our clinical year students about the Community Practitioner Program. A Physician Assistant from Indian Health Services has spoken with our didactic students about service through the IHS. Our first cohort graduates in May 2016, so we do not yet have data on graduates entering primary care practice, but our goal is to exceed the national average on new PA's entering primary care practice. We plan to send a survey several months after graduation to determine where our graduates are practicing to measure how many graduates are practicing in primary care and in underserved areas, and to track this annually.

HIGH POINT UNIVERSITY
Department of
Physician Assistant Studies

March 18, 2016

Mr. Brown,

Thank you for the opportunity to participate in the 2016 Update: Primary Care Education Plans – Report to the Board of Governors. Below outlines my response to your request:

The mission of the High Point University (HPU) Physician Assistant (PA) program is to deliver a student-centered, experiential curriculum grounded in high academic and ethical standards. The program strives to develop compassionate physician assistants who are self-directed lifelong learners prepared to provide evidence-based, patient-centered care as members of an interprofessional healthcare team.

Program Goals are as follows:

- Goal 1 - Admission: Recruit highly qualified applicants.
- Goal 2 - Curriculum: Deliver a curriculum that ensures all graduates possess the requisite knowledge and skills for entry to PA practice.
- Goal 3- Professional Adaptability: Educate Physician Assistants in a generalist model prepared to practice in a variety of health care settings and disciplines.
- Goal 4 - Professional and Community Engagement: Engage faculty, staff, and students in active and on-going professional, scholarly, and community engagement activities.

The HPU PA program will graduate the first cohort in August 2017. Program curriculum both in clinical and didactic phases are designed towards preparing a generalist PA with skills well suited for primary care practice, including Family Medicine, Pediatrics, Internal Medicine, and Obstetrics/Gynecology.

During the Didactic Phase of the program students are heavily involved in primary care focused volunteer activities at the following locations: Ward Street Mission, Old Town Baptist Church Clinic, Fairview Elementary, Trinity Health Fair, HP Public Library - Heart Healthy Information Table and Screening. They also participate in patient care through HPRH-UNC Hope Van at Hero 5K and the High Point Furniture Market where they provide blood pressure screenings and treatment of minor injuries.

The HPU PA program is affiliated with multiple clinics that primarily serve patients in underserved populations. These locations expose students to a wide variety of underserved

patient care experiences offered during the clinical phase of the program. To ensure that students maintain a Primary Care knowledge base throughout the clinical year, Primary Care Examinations are administered at the conclusion of each Clinical Seminar course (series of 3 courses offered throughout the clinical year). This exam is separate from the End Of Rotation examinations.

From a scholarship prospective, the HPU PA program collaborates with several community organizations/practices on multiple community outreach projects such as Ready, Set, Baby and Ready for School, Ready for Life

Please let me know if there is any other information you require from me at this time.

Sincerely,

Linda Sekhon

Dr. Linda Sekhon
Chair, Physician Assistant Studies Program
Associate Professor, Dept. Physician Assistant Studies
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North Carolina AHEC

Statement of Programs plans for Primary Care

Lenoir-Rhyne University Master of Science in Physician Assistant Studies Program

The Mission of the Master of Science in Physician Assistant Studies Program is to educate highly qualified physician assistants from diverse faith, geographic, socioeconomic and cultural backgrounds; preparing them to become competent and compassionate health care professionals, providing quality healthcare to diverse populations in medically underserved areas locally, nationally and internationally.

As an institution of the North Carolina Synod of the Evangelical Lutheran Church of America (ELCA), the university seeks to liberate mind and spirit, clarify personal faith, foster physical wholeness, build a sense of community, and promote responsible leadership for service in the world.

The program received provisional accreditation form ARC-PA in September of 2015 and enrolled the first class in January of 2016. At this juncture we have not put in place a formal plan for tracking students into primary care practice. The program, consistent with its mission seeks applicant with backgrounds in volunteer and mission work in area of need and primary care locally, nationally and internationally. The curriculum is designed to pace emphasis on primary care encouraging students to consider employment in one of the areas of medicine designated as primary care, i.e. Family Medicine, General Internal Medicine, Pediatrics and Women's Health.

Our program has eight six week clinical rotations, seven that are mandatory and one elective. The mandatory rotations are in Family Medicine, Internal Medicine, Women's Health/OB-GYN, Behavioral Medicine/Psychiatry, Pediatrics, Emergency Medicine and Surgery.

The program has already established relationships with free clinics in the area in which our students will volunteer to obtain community service/service learning hours.

As we all well know PA employment, where we work and the areas of medicine we work in is directly related the geographic area and specialty of the physicians that hire us and impacts our participation in the primary care areas of medicine. We encourage our students to seek out providers and facilities delivering primary care services for employment and are in the process of developing mechanisms to help facilitate the process.

UNC SCHOOL OF MEDICINE

THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

DEPARTMENT OF ALLIED HEALTH SCIENCES
PHYSICIAN ASSISTANT PROGRAM

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10 March 2016

Warren Newton, MD, MPH
Director, AHEC

Dear Dr. Newton,

As the Director and Division Chief of the UNC Physician Assistant Program, I value the opportunity to comment on our very robust efforts to educate physician assistant students for careers in primary care medicine in underserved areas of North Carolina.

As you know, one of the four pillars of our mission is to train primary care physician assistants. We welcomed our first class of students in January of 2017. Our approach has four domains: recruitment; financial, faculty, and educational. From a recruitment standpoint, we selected candidate for interviews based on a statement of commitment to general medical (or even general surgical) careers. We then vetted their intentions carefully during the interview process to gauge this commitment. Also, we looked for veterans and non-traditional students who are already fixtures in their communities and had a stated intent to continue to live and practice in these communities. From a financial standpoint, our tuition is about half of private PA school tuition, and we have generous start-up scholarship funding. In addition, our veterans (nine out of class of twenty) and one spouse of an active duty military member benefit from the GI bill and other programs that pay for tuition and living expenses. Together, these factors should leave our graduates with a more manageable debt burden that will permit them to pursue general medical careers--which we all know are less remunerative. From a faculty standpoint, four of our five foundational faculty are either primary care physicians or primary care physician assistants. The fifth

provides ambulatory care in orthopedics. This faculty is highly mission concordant and provides powerful role modeling and motivation, we believe, for our students to pursue primary care careers. Finally, our educational curriculum is highly geared to primary care experiences. We have a six-week family medicine rotation with sites identified at Chatham Hospital (a critical access hospital in Chatham County), and the Red Springs Clinic (a federally qualified health clinic in Red Springs, North Carolina). In addition, our internal medicine and pediatrics clinical rotations will have a strong primary care emphasis. Thank you for this opportunity to comment on our primary care educational initiatives. Let me know if you have any questions.

Sincerely,

Paul Roman Chelminski, MD, MPH, FACP
Professor of Medicine
Division Chief and Director, UNC Physician Assistant Program

Wake Forest University PA Program

Wake Forest Department of PA Studies has been working over the past 3 years to expand the primary care workforce for PAs in North Carolina in several ways. While many of the enhancements occurred within the formal curriculum, many occurred through our research and advocacy efforts. Within the PA, we ensure a comprehensive primary care based curriculum with a focus on evidence-based medicine and care for underserved populations. During the clinical year, studies are required to complete eleven rotations with 4 being primary care focused (family practice, pediatrics, women's health, and internal medicine). Many of the students choose electives that are also in primary care. The department has a robust cohort of primary care preceptors in whose practices the students complete their rotations. Of our primary care preceptors, approximately half are in underserved areas within Western North Carolina. Students are required to complete at least one primary care rotation in a medically underserved, health professional shortage or underserved rural area. The department is constantly working to provide the students with a wide variety of different types of sites in which to complete an underserved medicine rotation.

During the didactic year, primary care medicine and care of the underserved are highlighted throughout the curriculum. For example, several of the inquiry-based learning cases have been rewritten or new cases created that are developed around care to at-risk patients in rural or underserved areas. Every student receives training including a didactic session and a practice activity in working with a language interpreter. Students and recent graduates have indicated the training was very helpful in practices with a high volume of non-English speaking patients. The students are also encouraged to participate in community services such as the *Delivering Access to Care* (DEAC) student-run free clinic serving uninsured, low-income residents of Winston-Salem and surrounding areas. Many of the PA students volunteer at the DEAC clinic throughout their student career at Wake Forest.

Within the program but outside of the formal curriculum, we have made several enhancements such as continuing to develop our partnership with Appalachian State University on a satellite campus in Boone North Carolina. Our expanded campus in Boone, NC has allowed our students to understand better the health care challenges facing rural communities first hand. This new campus has also enabled us to improvement recruitment of students interested in rural health. The first Boone cohort is expected to graduate in May 2015, and we have plans to track where they end up working after graduation. The partnership has also resulted in our participation in a Golden Leaf grant awarded to Appalachian State University looking at improving access and chronic care through telehealth in the Appalachian community.

Outside of the formal curriculum, the Department of PA Studies has led several initiatives aimed at increasing the primary care workforce. For example, in partnership with the VA in Salisbury our

institution was was awarded one of the 6 fully funded VA Post Graduate PA fellowships focused on patient-centered medical homes. The Patient Aligned Care Team fellowships allow newly graduated PAs the opportunity to learn to manage a patient-centered medical home focusing on the needs of veterans in the community. The program has had 4 participants, 3 of whom have elected to stay in primary care. We also developed a post-graduate PA fellowship program at Wake Forest in connection with the Department of Pediatrics aimed at teaching PAs to operate within a pediatric patient-centered medical home model. This self-funded program and has been shown to improve access and satisfaction with the training practice and was presented as an innovation at the National PA Conference in May 2015.

Finally, the Department has sponsored research aimed at determining the scope and cause for primary care shortages in the state from the PA perspective by looking at employment and admissions data. Hopefully, a better understanding of the factors leading to PA decisions about whether to enter primary care or not will allow our program to adopt more efficient strategies to enhance the primary care workforce in North Carolina. The research efforts include extramurally funded research projects, including two foundation grants and two federally funded grant initiatives, focused on workforce development, interprofessional education, and improved transitional care with emphasis on rural northwestern North Carolina counties

WINGATE
UNIVERSITY

The William and Loretta Harris
Department of Physician Assistant Studies

March 22, 2016

To: UNC Board of Governors

"The Wingate University Physician Assistant Program is dedicated to developing educated, productive, and ethical physician assistants to serve the health care needs of the community in which they practice."

The Wingate PA program was established in 2008 and graduated the first class in December, 2010. In 2013, a distance program was started in Hendersonville, NC. Our first cohort of 9 students from that area graduated in December 2015.

As with all PA programs, Wingate students have mandatory clinical rotations in Primary Care. Specifically, 2 Ambulatory Care, 1 Internal Medicine, 1 Pediatrics, 1 Women's Health. Each student is exposed to medicine in urban and rural areas. The rural clinical rotations are often in an underserved area or a community health department.

Wingate currently has 73 active Primary Care (Family Medicine) preceptors; as well as 28 in Internal Medicine and 33 in Pediatrics.

In the Fall of 2015, Blue Ridge Community Health Services (BRCHS) was awarded a grant from Golden Leaf. One of the goals of this grant is to increase the number of mid-level practitioners in rural health in western NC. As a result, BRCHS has partnered with the Wingate PA program to place students in rural health rotations. Additionally, a classroom module in rural primary care was developed by one of our faculty and attendance is mandatory for all students.

The Program's medical director is an MD who retired from Internal Medicine practice and is now full-time faculty. He is also the medical director at a free clinic near Wingate. PA students volunteer on a rotating basis at this primary care clinic. Graduates of the program also serve as health care providers.

Our program does not actively recruit students interested in primary care but students are exposed to the practice in several ways during their PA education.

PO Box 159 | Wingate, NC 28174 | 704.233.8051
pa@wingate.edu | fax 866.320.2726

Report to the Board of Governors of The University of North Carolina

Primary Care Medical Education Plan Update

from

Campbell University Jerry M. Wallace School of Osteopathic Medicine (CUSOM)

March 2016

Respectfully submitted by:

John M Kauffman, DO
Dean and Chief Academic Officer

Michael P Mahalik, PhD
Senior Associate Dean for Academic Affairs and Research

Zachary T Vaskalis, MS Ed
Director of Assessment, Accreditation and Planning

Matthew Huff, MHA
Director of Clinical Affairs and Graduate Medical Education

1. Introduction

It is evident from published data that North Carolina, with a population of 9.94 million people, is one of the fastest-growing states in the nation. The population increase and diminishing supply of physicians have exacerbated the critical need for additional primary care physicians in North Carolina. According to findings published online by the Association of American Medical Colleges (AAMC) Center for Workforce Studies (AAMC 2013), North Carolina ranked 28th out of 50 states with 236.2 physicians per 100,000 population, below the national median of 244.5. North Carolina ranked 35th out of 50 states with 82.9 active primary care physicians per 100,000 population. The national median was90.3 primary care physicians per 100,000 population (AAMC 2013). According to the same report by the AAMC, there were 22,088 active MDs and 942 active DOs in North Carolina. Nearly 23 percent of North Carolina physicians were age 60 or older. Twenty-nine percent of active physicians practiced in rural areas. A greater percentage of DOs practiced in rural and underserved areas compared to their MD counterparts according to the National Center for the Analysis of Healthcare Data (NCAHD 2011).

Campbell University carefully studied this information along with the North Carolina Institute of Medicine's "Providers in Demand: North Carolina's Primary Care and Specialty Supply" (2007), which detailed the status of healthcare providers in North Carolina. Findings from the COGME 20th Report "Advancing Primary Care" (2010) and the 2006 U.S. Deparment of Health and Human Services Health Resources Service Administration (HRSA) report, "Physician Supply and Demand: Projections to 2020" (2006) documented a significant shortage of primary care physicians throughout the United States. The need for additional specialty physicians in North Carolina was also apparent. The North Carolina Institute of Medicine (2007) acknowledged that physician growth would likely remain stable over the next 20 years, but the population growth would outpace the growth in the physician population.

While the focus of physician workforce research had been on primary care physicians in the rural and underserved areas, the need also included many other medical specialties, such as general surgery, OB/GYN, dermatology, and geriatrics. The American College of Surgeons conducted its own studies and noted a growing trend in the shortage of general surgeons in the United States (2009). This was very noticeable in North Carolina where there were 20 counties with no general surgeons with a majority of these counties located in eastern North Carolina. Additionally, according to the Council on Graduate Medicate Education (COGME) (2010), the quality of healthcare is linked closely to patients receiving adequate primary care. Mortality decreases with 1.44 fewer deaths per 10,000 population for each primary care physician added to the workforce.

Based on this information, Campbell University established the Jerry M. Wallace School of Osteopathic Medicine (CUSOM), making it the 5th medical school in North Carolina. Campbell University believed that the osteopathic medical school model of training medical students in community-based clinical sites, including underserved areas, was best suited for meeting the mission and vision of its medical school. CUSOM opened its doors to 162 medical students in August 2013, with the goal of adding physicians who are deeply convicted and care about the needs of the population in North Carolina, and will be willing to stay and make a difference in the rural and underserved areas of our state.

2. Admissions / Enrollment

The mission of CUSOM is to educate and prepare community-based osteopathic physicians in a Christian environment to care for the rural and underserved populations in North Carolina, the southeastern United States, and the nation. CUSOM has adopted admissions policies and criteria designed to meet its mission and vision.

CUSOM faculty, staff and students value**:** teamwork, leadership, professionalism, integrity, diversity, and the ethical treatment of all humanity.

The goals of the CUSOM Office of Admissions are to:

1. Recruit osteopathic medical students who are committed to serving the rural and underserved areas in North Carolina, the Southeastern United States, and the nation.

2. Recruit a diverse student body.

3. Recruit students from North Carolina, the southeastern United States, and the nation.

4. Facilitate and promote the selection of osteopathic medical students who will become successful practitioners in the art and science of osteopathic medicine using the most current research in clinical and basic science.

5. Recruit students from or who reside in rural communities.

CUSOM Admissions Process

The Office of Admissions ensures qualified students are selected for matriculation to the Doctor of Osteopathic Medicine Program at Campbell University.

CUSOM is committed to selecting applicants who are an asset to the profession of osteopathic medicine. The goals of the admissions process include considering each applicant's interest in serving rural and underserved populations.

Our target area based upon our mission statement is North Carolina and the Southeastern United States, which is defined as: South Carolina, Virginia, Alabama, Florida, Georgia, Kentucky, Mississippi, Tennessee, and West Virginia.

The table below details the number of students applying to CUSOM from North Carolina and the southeast for the past two years. As a new medical school not all of the data is currently available at this time, however the numbers presented in this table are accurate as of March 28, 2014.

Year of Matriculation	Total Number of Applicants	Total Number of NC Applicants	Total Number of NC Matriculants	Total Number of SE US Applicants	Total Number of SE US Matriculants	Total Number of Matriculants
2013	3,836	259	41	1,268	76	162
2014	4,529	281	43	1,019	70	162
2015	5,211	328	40	941	72	162
2016*	4,882	336	N/A	1,149	N/A	162

*Numbers current as of March 18, 2016

3. Curriculum

First and Second Year Curriculum

The CUSOM curriculum is specifically designed to prepare students for practice in areas with limited resources. Clinical Skills training begins in the first week and continues throughout the four years, with an emphasis on patient-centered care and excellence in physical diagnosis. Hands-on training in osteopathic manipulative treatment also runs throughout the first two years. Early clinical experiences connect first- and second-year students with patients and expose them to care in a variety of settings. Optional international and domestic mission trips provide opportunities to experience caring for patients in settings of desperate need. Regardless of their choice of specialty, CUSOM graduates will be prepared to diagnose and care for patients in rural and underserved areas which may have limited diagnostic imaging or subspecialty treatment.

Third and Fourth Year Curriculum

CUSOM provides students with a seamless transition from the classroom to clinical practice. The clinical curriculum provides training on a rotational basis at a variety of sites in North Carolina. Students are required to successfully complete their core clinical clerkships at affiliated sites. CUSOM students in years three and four are assigned to regional hospitals throughout North Carolina where they complete four-week clinical rotations within hospitals, in ambulatory practices, and in geriatric facilities. All students spend time in rural settings for an underserved care experience.

The goals of the clinical years include:

- Application of didactic knowledge to supervised clinical practice
- Development and sharpening of clinical problem-solving skills
- Expansion and development of the medical fund of knowledge

- Further development and refinement of history taking and physical examination skills
- Evaluation of oral presentations and written documentation of patient encounter
- Development of a deeper understanding of the physician's role in health care delivery
- Preparation for the Comprehensive Osteopathic Medical Licensing Examination (COMLEX) and the United States Medical Licensing (USMLE) National Board Examination
- Further development of interpersonal skills and professionalism necessary to function as part of the interprofessional medical team

Third and fourth year clinical rotations, as detailed below, are designed to equip students with the skills necessary to pursue careers in primary care or medical and surgical sub-specialties.

Third Year Rotations

- Internal Medicine I, II (8 weeks)
- Medical Selective (4 weeks)
- Surgery (4 weeks)
- Obstetrics/Gynecology (4 weeks)
- Family Medicine (4 weeks)
- Pediatrics (4 weeks)
- Psychiatry/Behavioral Sci. (4 weeks)
- Rural/Underserved (4 weeks)
- Simulation Medicine (4 weeks)
- Elective (4 weeks)
- Cumulative Review/Testing (4 weeks)

Fourth Year Rotations

- Residency Development (4 weeks)
- Medical Selective (8 weeks)
- Primary Care Selective (4 weeks)
- Surgical Selective (4 weeks)
- Geriatrics (4 weeks)
- Sub-internship (4 weeks)
- Emergency Medicine (4 weeks)
- Electives I, II, III, IV (16 weeks)

Students are encouraged to choose their elective and selective rotations to afford the most comprehensive clinical experience. Students will be required to complete the fourth year selective rotations at affiliated sites. These selectives are a mix of inpatient and outpatient experiences. Students may choose from the following list of selective rotations.

Medical Selective: General Internal Medicine or any of the subspecialties recognized by the American Osteopathic Board of Internal Medicine as approved by Associate Dean for Clinical Affairs.

Primary Care Selective: General Internal Medicine, Family Practice, Pediatrics, Obstetrics/Gynecology, Geriatrics, Psychiatry, Primary Care Sports Medicine, and Osteopathic Manipulative Medicine.

Surgical Selective: General Surgery or any Surgical Subspecialty recognized by the American College of Osteopathic Surgeons or as approved by Associate Dean for Clinical Affairs.

Clinical Rotation Sites & Capacity

CUSOM has 5 regional clinical campuses throughout North Carolina with adequate capacity to meet the need for student clinical rotations.

Residency Programs

CUSOM is committed to creating sufficient residency positions for its graduates. Because physicians have a tendency to enter practice near their residency training, increasing residency opportunities within North Carolina will add to the likelihood of CUSOM graduates staying within the state permanently. In a 2012 JAMA article, Sarah Brotherton suggests that "50% of residency program graduates practice within 50 miles of where they trained." CUSOM has worked closely with the Osteopathic Medical Network of Excellence in Education (OMNEE) to establish a relationship to facilitate the development, growth, and maintenance of graduate medical education positions for CUSOM graduates. To accomplish this, CUSOM has several important initiatives to ensure adequacy:

- Development of a Graduate Medical Education (GME) Department within the medical school with an Associate Dean for Graduate Medical Education and a Director of Graduate Medical Education to assist in program development.

- Development of Regional Training sites for medical students. Each region will have a Regional Associate Dean/ Vice President for Medical Education to provide academic as well as operational leadership and accountability to ensure development of quality graduate medical education programs.

- Development of agreements with key regional partners for the development of residency programs ,

- Establishment of a GME committee that brings together the resources of the school with the regional leaders in graduate medical education to create and utilize tools such as the Graduate Medical Education Program Timeline and Responsibility List.

- The CUSOM Senior Associate Dean for Academic Affairs and Research serves as a member of the OMNEE Research Committee.

- Achievement of AOA Approval for 383 new residency positions in 20 programs across 7 organizations in North Carolina

- Approval as the first osteopathic medical school to receive accreditation as an ACGME Sponsoring Institution

- Development of resources to help our medical students successfully transition into residency training programs

One of our first CUSOM community partners in developing Graduate Medical Education (GME) is Southeastern Health, a large rural healthcare organization with over 400 acute and long-term care beds, an emergency department that cares for approximately 70,000 visits annually, 40 ambulatory offices,eight of which are defined as rural health clinics.

Southeastern Health in Lumberton, North Carolina is located in one of the most healthcare-challenged areas in the nation, with Robeson County ranking 97th out of 100 NC counties in health status of its population. Additionally, the three surrounding counties that Southeastern Health also serves are in the lowest quartile for healthcare in the state. This contributes to the wide array of patient pathology upon which the medical students, residents, and fellows will be trained.

In 2015, Southeastern Health successfully launched 3 residency programs: Emergency Medicine, Internal Medicine, and Family Medicine and Sampson Regional Medical Center successfully launched a Dermatology program and a Traditional Rotating Internship.

In 2016, Harnett Health will launch 3 programs: Internal Medicine, Family Medicine, and a Traditional Rotating Internship. Sampson Regional Medical Center will launch a new family medicine residency program and Novant Health Huntersville will also launch a Family Medicine program in 2016.

CUSOM is also working to develop GME opportunities on campus. Campbell University is an NCAA Division I institution with multiple athletic programs. CUSOM accepted its second sports medicine fellow in 2015 and will expand to 2 fellows in 2016. CUSOM has received approval for a Neuromusculoskeletal Medicine / Osteopathic Manipulative Medicine (NMM/OMM) residency program and we anticipate accepting our first resident in 2017.

Research

Research is fundamental to, and a prerequisite for excellence in teaching and the creation of a scholarly atmosphere for learning. CUSOM recognizes the critical role for developing its research capacity in order to continue to attract and retain top-tier faculty and students, thereby training students for productive careers in osteopathic medicine, biomedical research, and in making valuable contributions to society.

4. Evaluation / Survey Data

The mission of CUSOM includes training physicians to care for rural and underserved populations in North Carolina and beyond, our desired outcomes include:

- Increased numbers of graduates practicing in primary care or target needed specialties such as general surgery in target area
- Increased numbers of graduates practicing in areas of need
- Increased numbers of graduates remaining in North Carolina
- Increased numbers of students and graduates choosing to participate in medical missions
- Improved physician supply and health care access in NC
- Improved health status measures for North Carolina

CUSOM has a comprehensive assessment plan which consists of multiple measures to ensure that not only standards are being met but also overall outcomes related to the mission and vision of the institution. We will not have graduates until 2017; data will be collected in the interim regarding students' career goals and anticipated areas of clinical practice so we will be able to at least estimate how many students will pursue primary care careers. However, items most related to measuring success in establishing primary care physicians will occur right before the charter class graduates in 2017 (graduation survey and final survey of career goals), and several years post-graduation (surveys of students and residency program directors 1, 3, 5, 10 years post-graduation to monitor and track how CUSOM students are doing, where they are practicing, and in what discipline).

These assessment tools will measure the extent to which the CUSOM curriculum is successfully achieving its desired learning outcomes, and preparing graduates for GME. Longer-term measurements will be needed to assess CUSOM's success in positively impacting healthcare access and quality in North Carolina. These results will be shared with various institutional committees as well as with appropriate accrediting bodies, such as the Commission on Osteopathic College Accreditation (COCA) and the Southern Association of Colleges and Schools (SACS), as well as with local and state agencies like the NC AHEC.

6. Faculty Development

PRECEPTOR DEVELOPMENT 2015-16

On-campus workshops

In preparation for the start of clerkships in July of 2015, multiple faculty development events were held reaching out to clinical adjunct faculty and community preceptors. day Workshops were held at CUSOM for faculty from all of our clinical sites.

CUSOM-based weekend programs brought clinical faculty together to learn more about working with medical students. A fall program, at the request of the clinical faculty, focused on

osteopathic philosophy and the practice of osteopathic manipulative treatment. A hands-on lab experience enabled MD faculty to both experience and attempt manipulative techniques, to improve their understanding and ability to supervise DO medical students. Another weekend workshop is planned for May 21, 2016, which will provide preceptors with experiences with the uses of high-fidelity simulation and standardized patients in teaching and evaluation of medical students.

Site-based programs

A program of site-based faculty development workshops also began in early 2015. CUSOM organizes its clinical sites into five regions. A needs assessment survey performed in June 2015 provided data on preceptor needs for training, by region. Each of the site-based programs addressed specific aspects of clinical teaching skills, as identified by the faculty and leadership of that region.

A collection of online resources on clinical education (http://www.teachingphysician.org/) has also been made available to all CUSOM faculty, both on- and off-campus. An Intranet site provides additional resources specific to CUSOM clerkships and students.

6. Summary

In its third year, CUSOM has begun to implement initiatives that will address needs for primary care in the rural and underserved areas of North Carolina and the Southeastern United States. The admissions process and entire four-year curriculum have been strategically designed to provide a foundation for skilled clinical practice and dedication to service. Residency programs are continuing development along with fellowship positions in primary care, with the hopes that our students who were born and raised in rural and underserved areas will stay in North Carolina to establish their own practices. We look forward to establishing and continuing relationships with local hospitals and agencies so that our charter class of students, along with those who follow, will demonstrate measureable competencies and graduate ready for practice within the ever-changing climate of 21st century healthcare in the United States.