CAMPBELL UNIVERSITY

Jerry M. Wallace
School of Osteopathic Medicine

Joint Oversight Subcommittee on Medical Education Programs and Medical Residency Programs for the North Carolina General Assembly

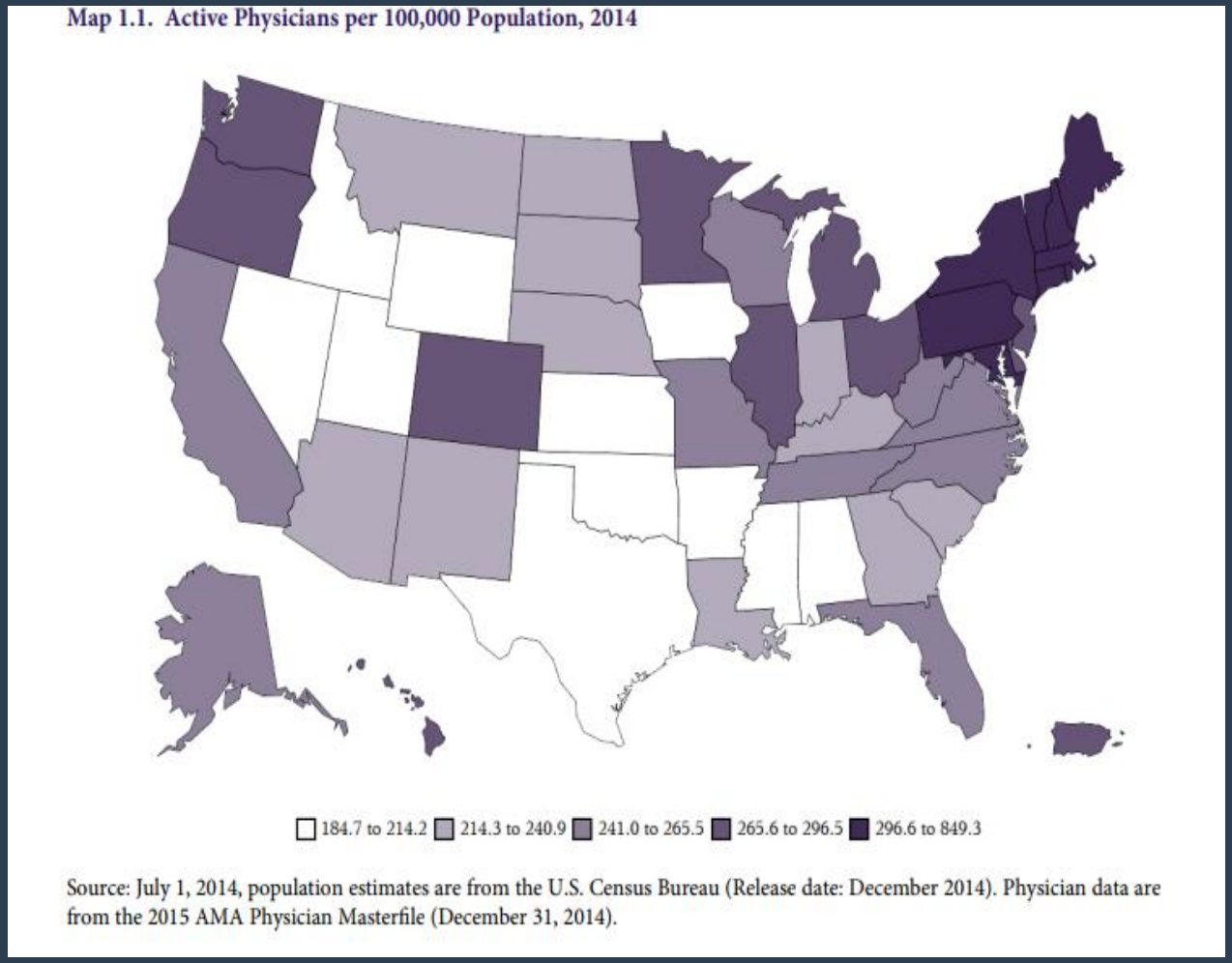
Monday, February 12, 2018

Our Mission

Campbell University Jerry M. Wallace School of Osteopathic Medicine is committed to educating and preparing **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**.

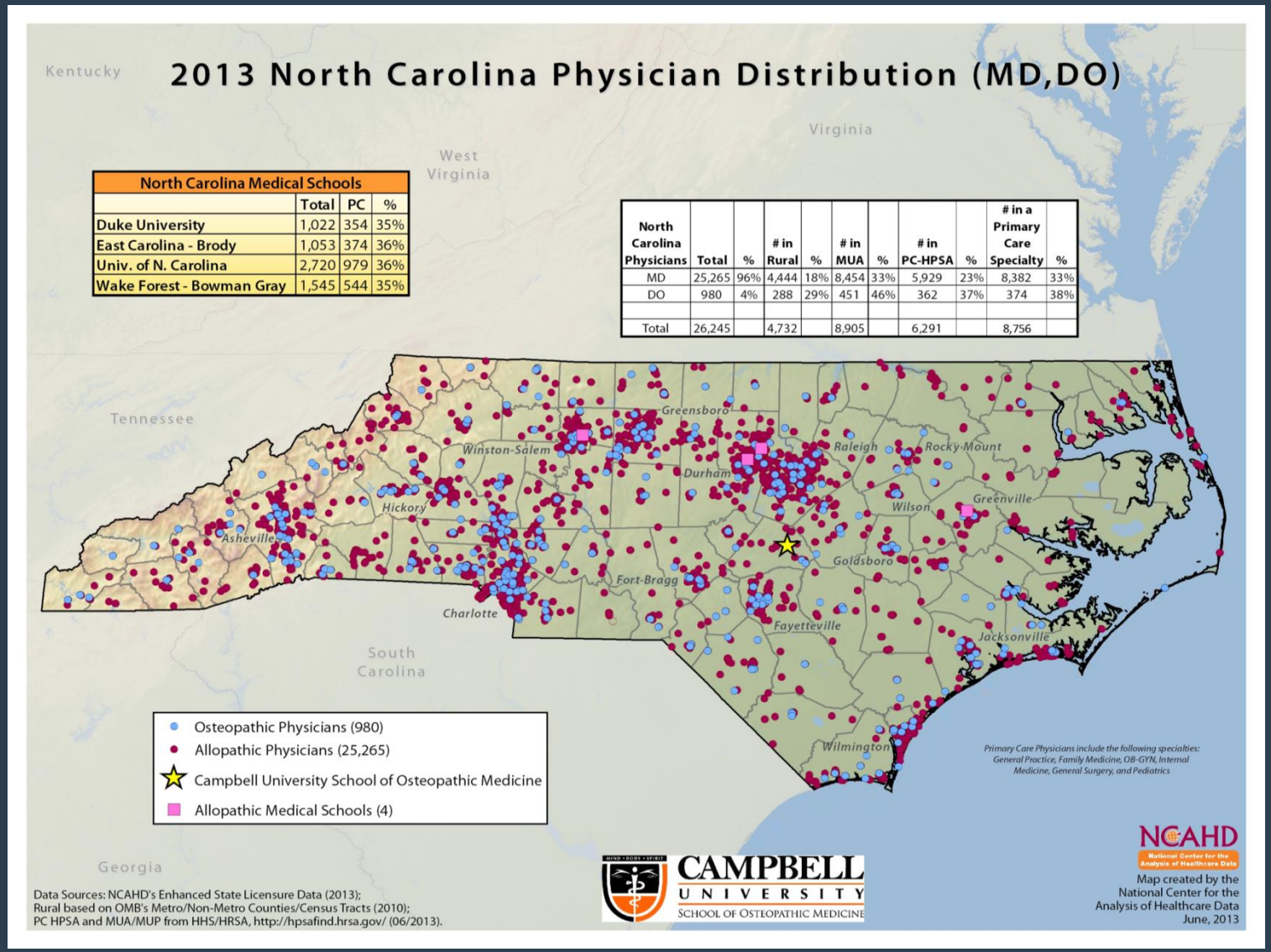
Access to Healthcare is a National Issue

Physician Shortage VS Maldistribution



Source:
AAMC Data Book: 2017 https://members.aamc.org/eweb/upload/2015StateDataBook%20(revised).pdf

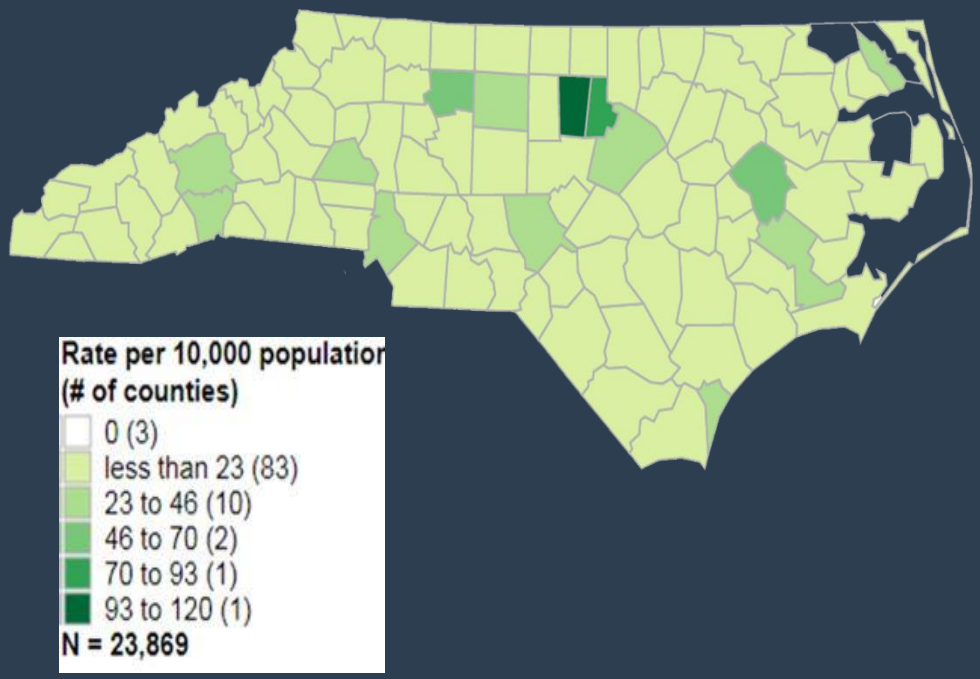
Physician Shortage VS Maldistribution



North Carolina Medical Schools	Total	PC	%
Duke University	1,022	354	35%
East Carolina - Brody	1,053	374	36%
Univ. of N. Carolina	2,720	979	36%
Wake Forest - Bowman Gray	1,545	544	35%

North Carolina Physicians	Total	%	# in Rural	%	# in MUA	%	# in PC-HPSA	%	# in a Primary Care Specialty	%
MD	25,265	96%	4,444	18%	8,454	33%	5,929	23%	8,382	33%
DO	980	4%	288	29%	451	46%	362	37%	374	38%
Total	26,245		4,732		8,905		6,291		8,756	

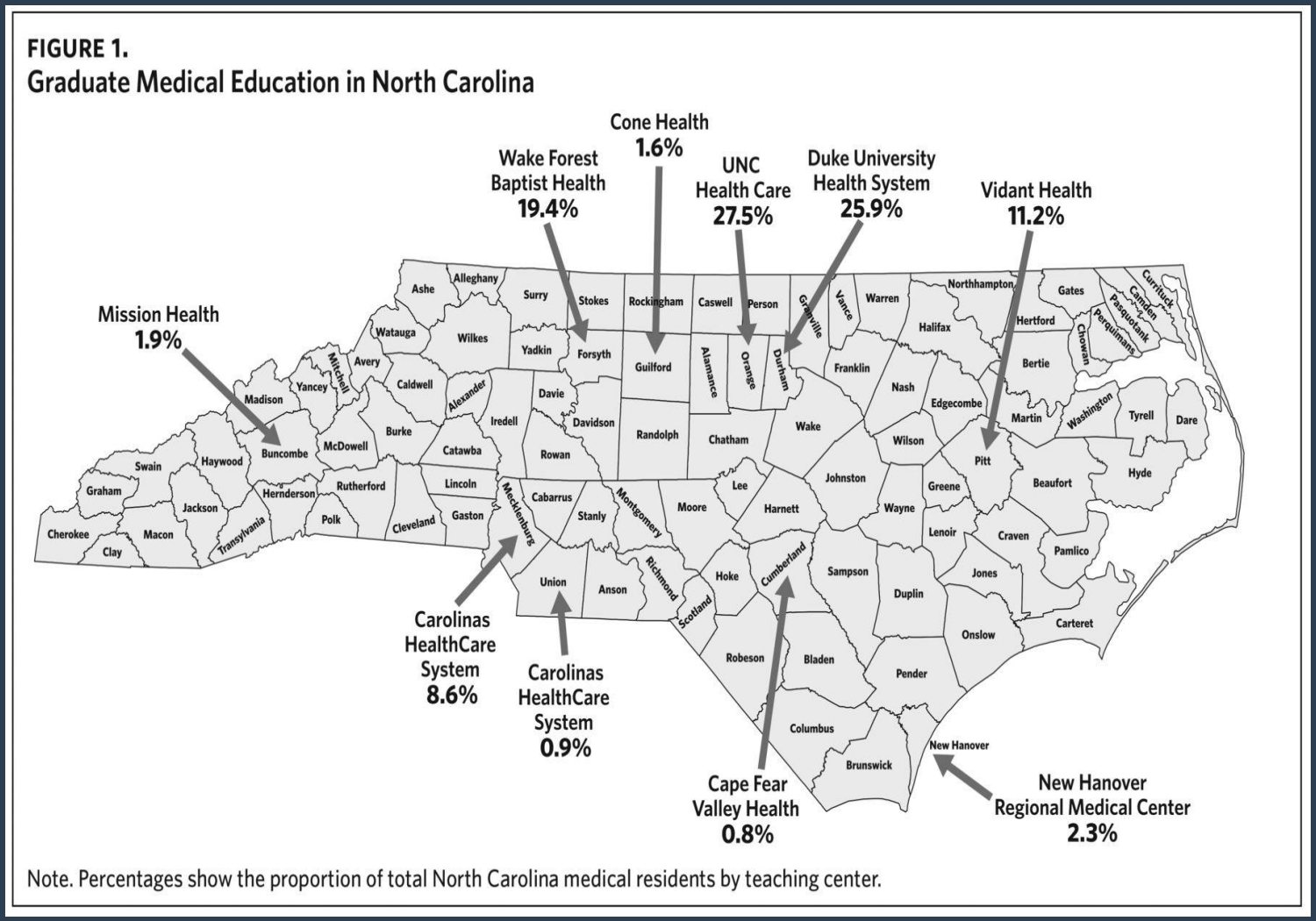
7 counties have 56% of Physicians in North Carolina



Life expectancy averages 3.1 years longer in these 7 counties (Buncombe, Forsyth, Mecklenberg, Wake, Durham, Pitt & Orange counties) than the state average

Source:
UNC Sheps Center for Health Services Research Health Professions Data Set : https://nchealthworkforce.sirs.unc.edu/
NC Health and Human Services: http://www.schs.state.nc.us/data/databook/CD8A%20State%20and%20County%20Life%20Expectancies%20at%20birth.html

Residencies VS Physicians



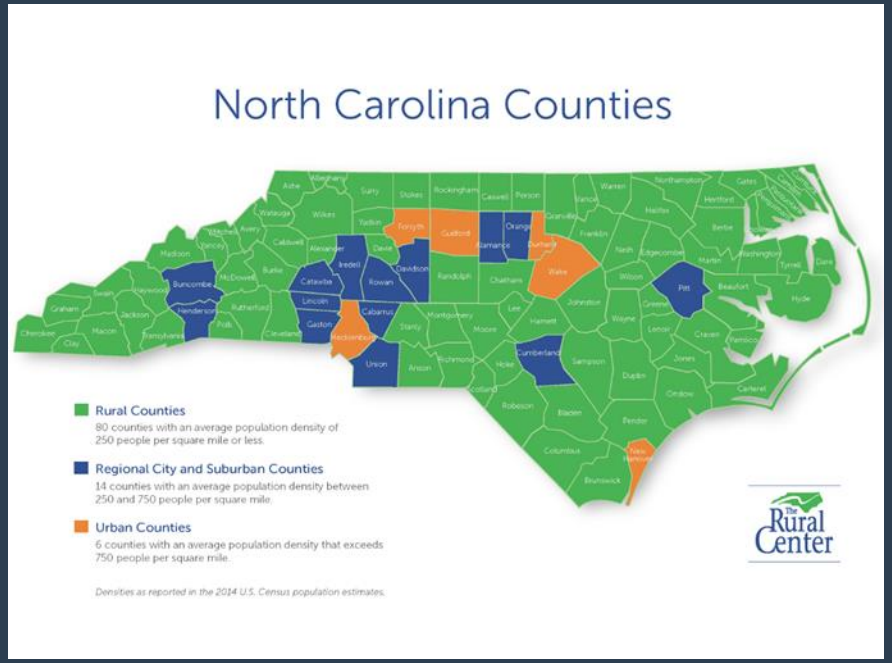
Note. Percentages show the proportion of total North Carolina medical residents by teaching center.

Source:
North Carolina Medical Journal March-April 2016 77:121-127; doi:10.18043/ncm.77.2.121

I. Healthcare Needs of North Carolina

Rural and underserved communities continue to experience long-standing health professional service shortages.

- The majority of North Carolina's 100 counties are rural.
- Rural communities have less healthcare infrastructure – physicians, hospitals, clinics - leads to a higher mortality rate for citizens who live in these counties.
- As of January 2016, 1.8 million of North Carolina's 9.9 million population received Medicaid. Over 500,000 of these Medicaid recipients live in rural and underserved areas.

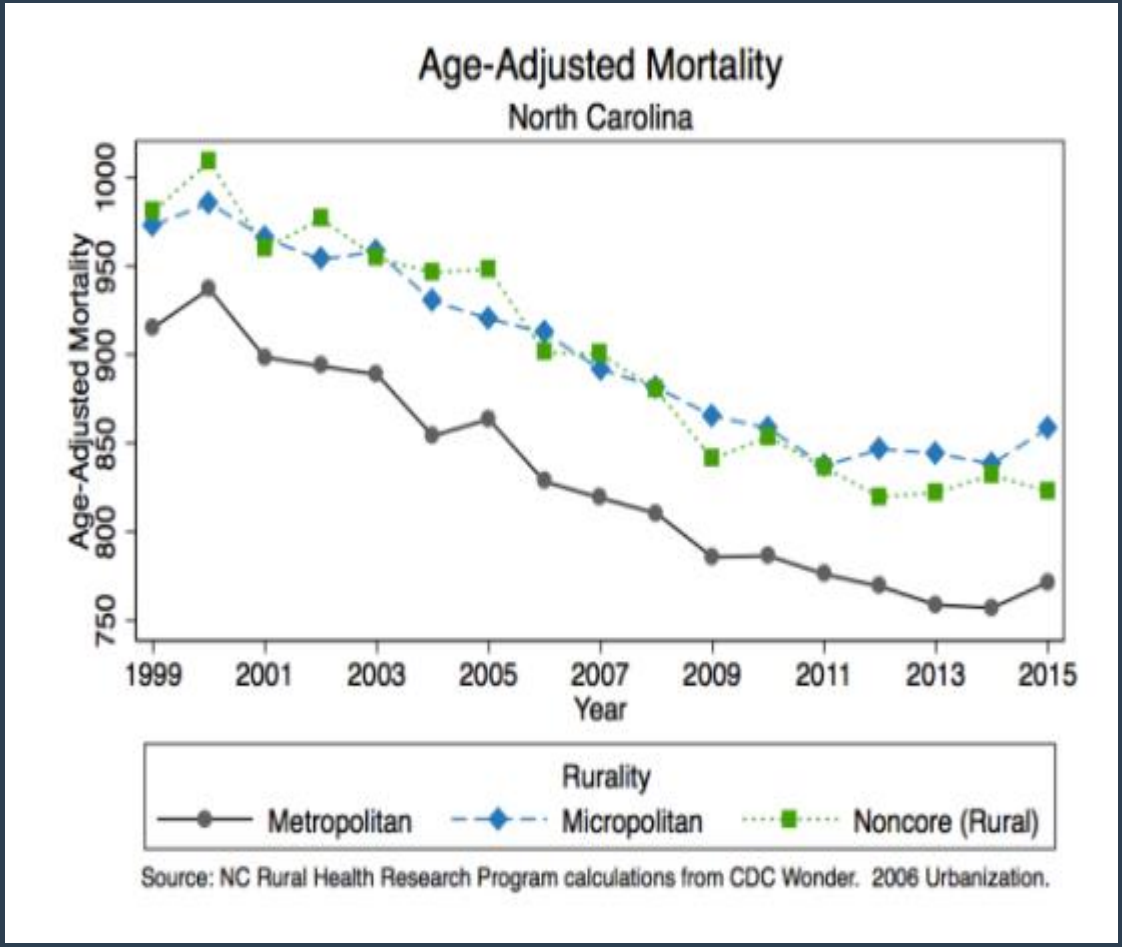


Source:
NC Rural Center: https://www.nccommerce.com/lead/research-publications/the-lead-feed/artmid/11056/articleid/123/rural-center-expands-its-classification-of-north-carolina-counties

Rural Counties Have Higher Mortality Rate

Rural communities have less healthcare infrastructure

- Fewer physicians,
- Fewer hospitals,
- Fewer clinics
- Higher mortality rate for their citizens.

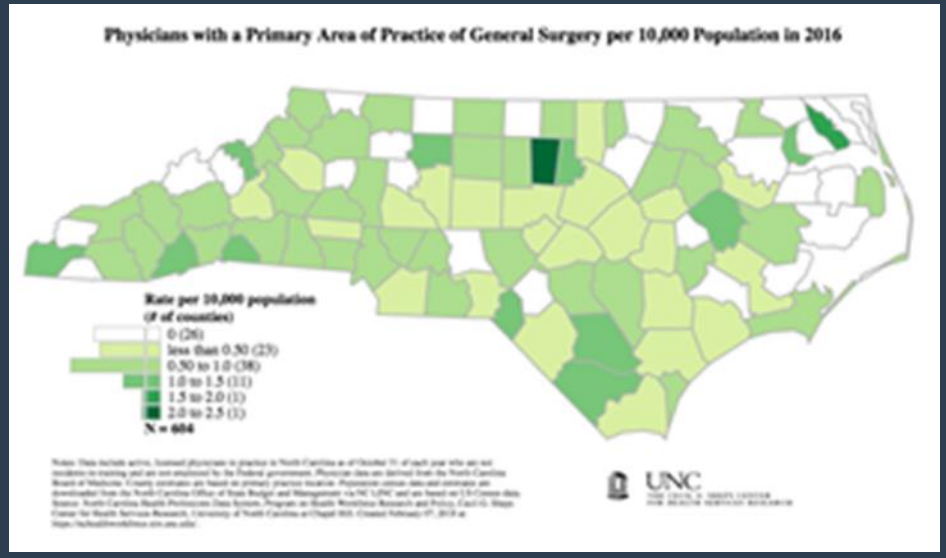


Source:
North Carolina Health News: https://www.northcarolinahealthnews.org/2018/01/22/n-c-rural-health-numbers/

The Challenge – Physician Supply

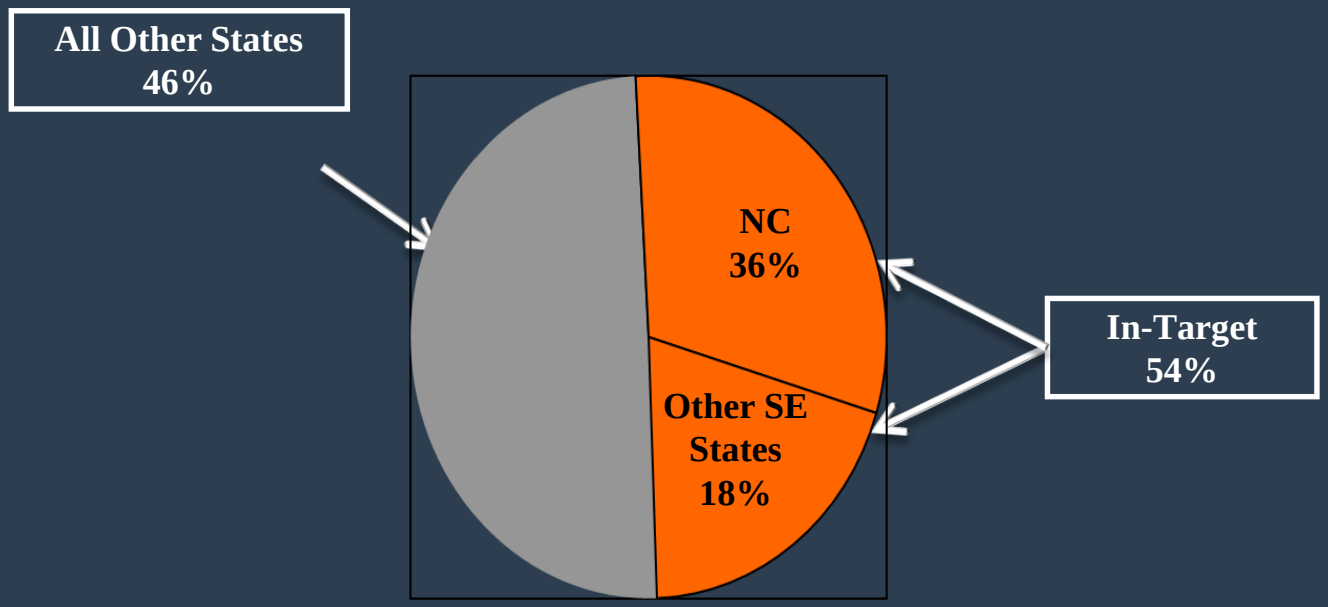
- NC Ranks 29th in Active Physicians per 100,000 Population for a total of 249.3 physicians per 100,000. The state Median is 257.6
- NC Ranks 33rd in Primary Care Physicians per 100,000 at 85.2. The state median is 90.8
- North Carolina (42%) lags behind the national average (48%) in retaining physicians in-state after they complete residency training in North Carolina.
- Only 21% of those retained physicians go into primary care and only 5% go into rural primary care

- 26 counties without an OBGYN
- 26 counties without a General Surgeon
- 32 counties without a Psychiatrist
  - *> 1,000 in the entire state*
- 20 counties without a Pediatrician

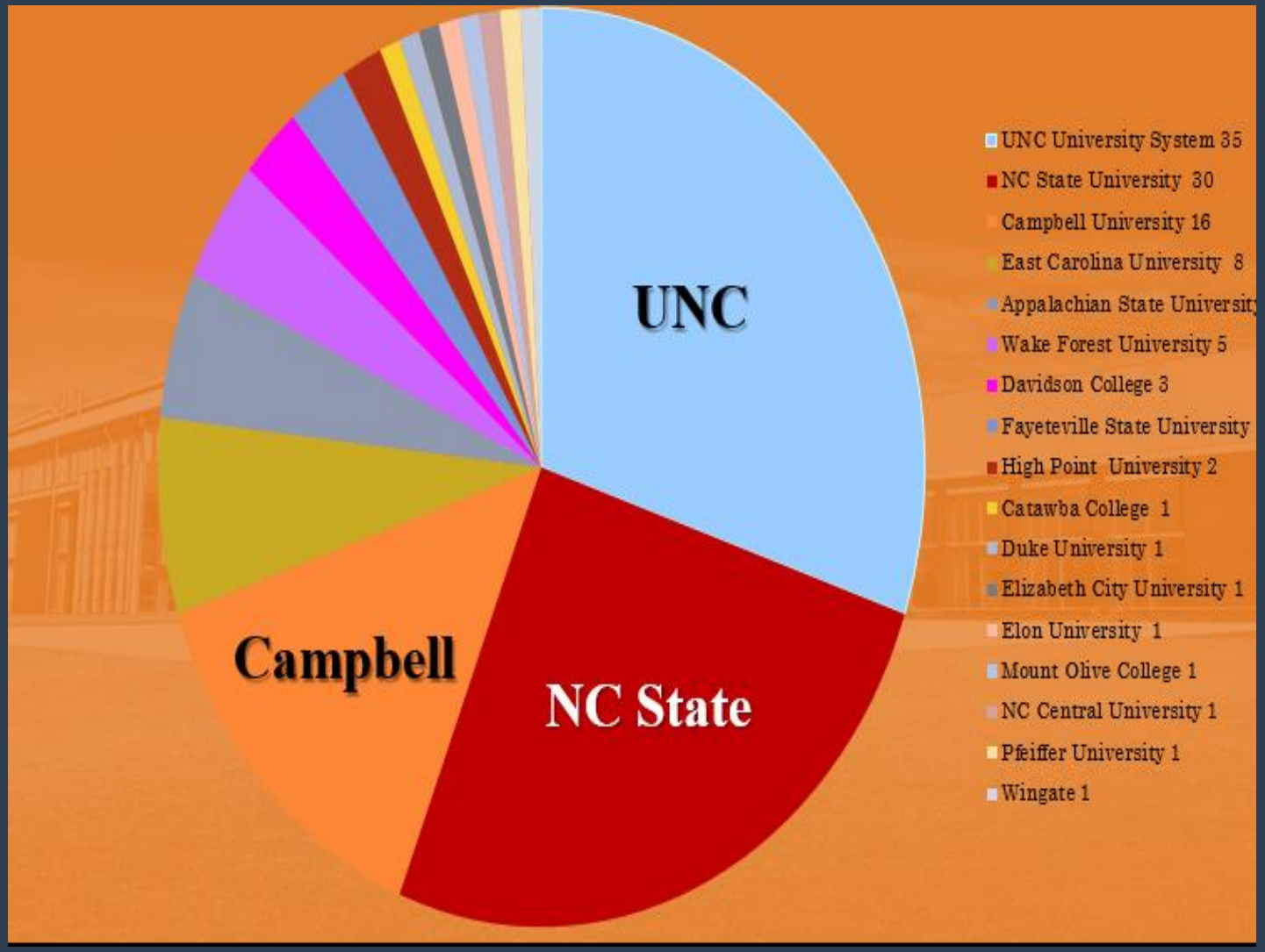


Source:
*American Association of Medical Colleges (AAMC) North Carolina Physician Workforce Profile: 2016.
** UNC Sheps Center for Health Services Research Health Professions Data Set : https://nchealthworkforce.sirs.unc.edu/

Admissions Statistics



Admissions Statistics



Residency Placement of our Inaugural Class

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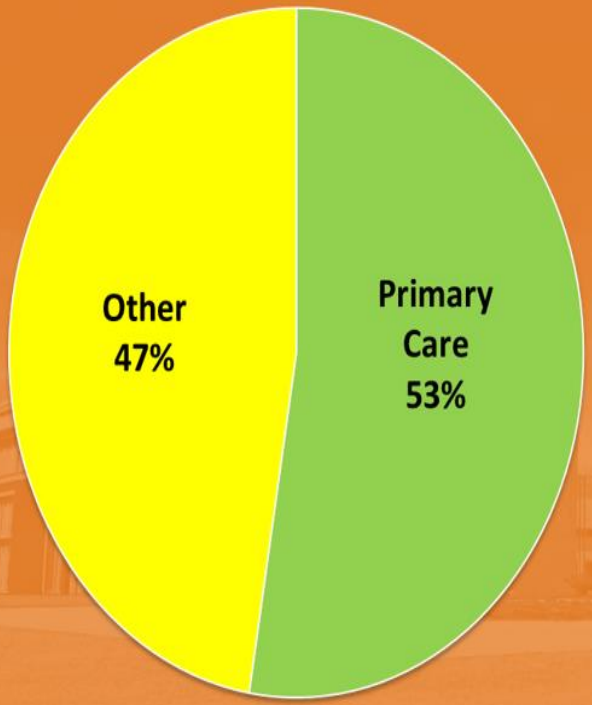
Class of 2017 Placement by Primary Care Specialties



Primary Care	Number Matched
Internal Medicine	36
Family Medicine	31
Pediatrics	10
Ob/Gyn	3

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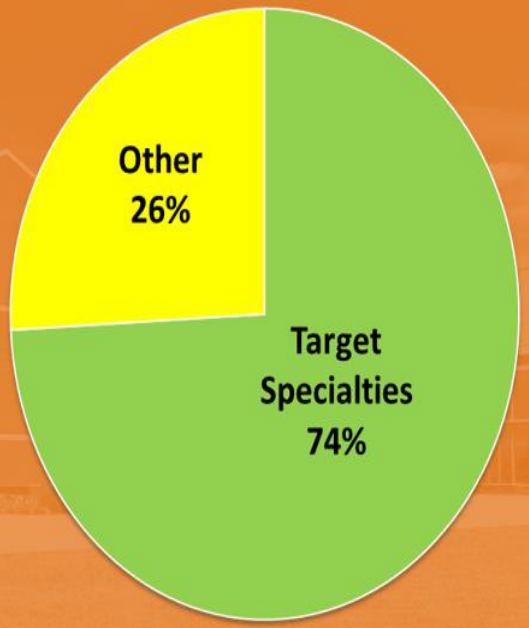
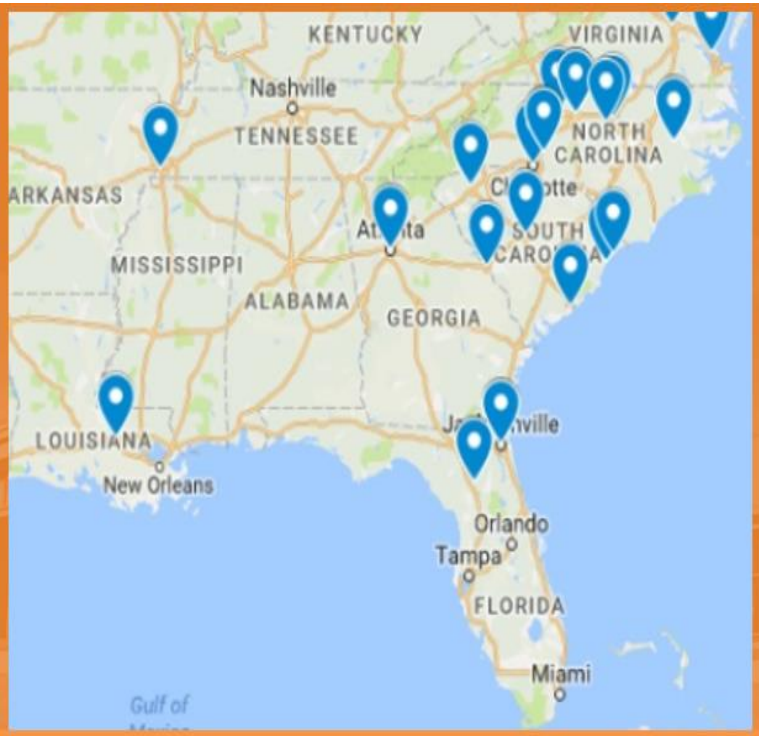
Class of 2017 Placement by Target Specialties

Target Specialties	Number Matched
Internal Medicine	36
Family Medicine	31
Emergency Medicine	19
Pediatrics	10
General Surgery	9
Psychiatry	4
Ob/Gyn	3



Other Specialties	Number Matched
Anesthesiology	4
Orthopedic Surgery	4
PM&R	3
Dermatology	2
Med / Peds	2
Neurology	2
Child Neurology	1
Pathology	1
Radiology	1
Urology	1
Internships	16

Class of 2017 Placement by Location



State	Number Matched
North Carolina	25
Florida	9
Virginia	6
South Carolina	5
Georgia	4
Tennessee	1
Kentucky	2
West Virginia	0
Alabama	0
TOTAL	**52**

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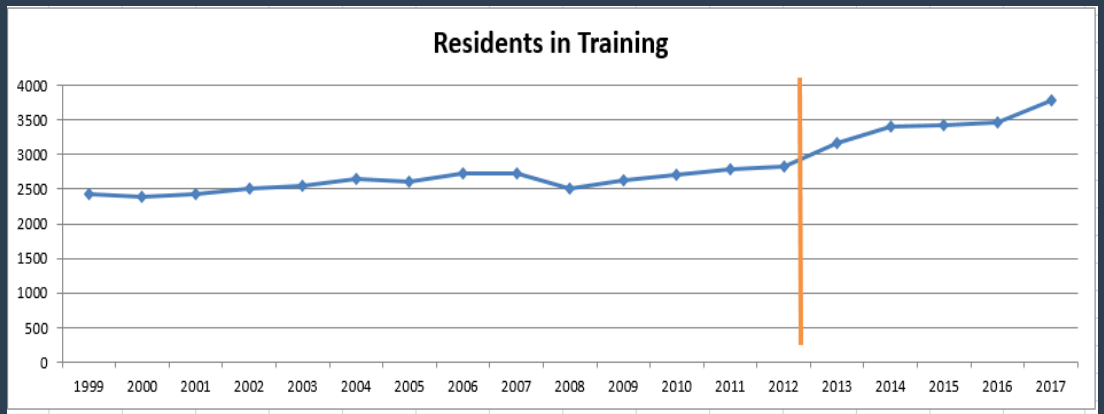
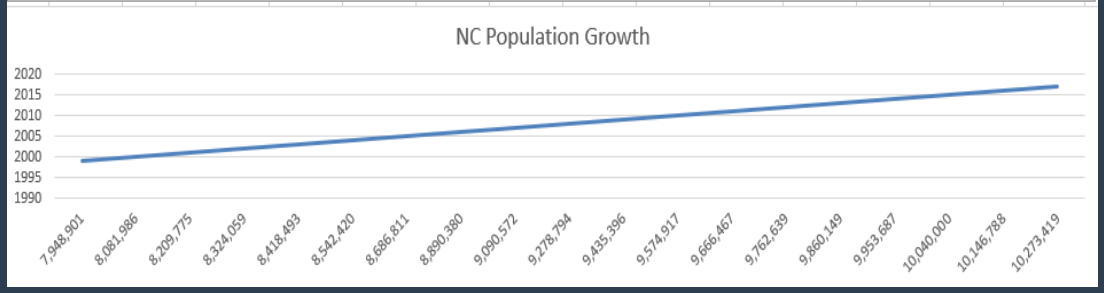
NC Growth in Residency vs. Population Growth





NC Population Growth from 1999 to 2017 totals 2,324,518 or 29% growth rate

During the same time period, residents in training have grown by 1,353

Sources: NC Health Professions Data Book – Cecil G. Shepps Center for Health Services Research – 1999 – 2014, AOA Opportunities, and US Census Bureau

NC Physician Supply - Retention of Trainees

- NC Ranks 18th in the number of Residents/ Fellows per 100,000 Population with 32.6
- In NC, Undergraduate Medical Education (UME) alone yields a **38.5%** chance you will come back to the state to practice after residency
- In NC, Graduate Medical Education (GME) alone yields a **41.9%** chance you will stay in the state to practice after residency
- In NC, if you complete UME + GME in NC, there is a **67%** chance you will stay in the state to practice

Source: American Association of Medical Colleges (AAMC) North Carolina Physician Workforce Profile: 2016.

Residency Positions Created to Date

- 350 New Residency Positions Created
- 18 Programs
- 5 Affiliated Organizations

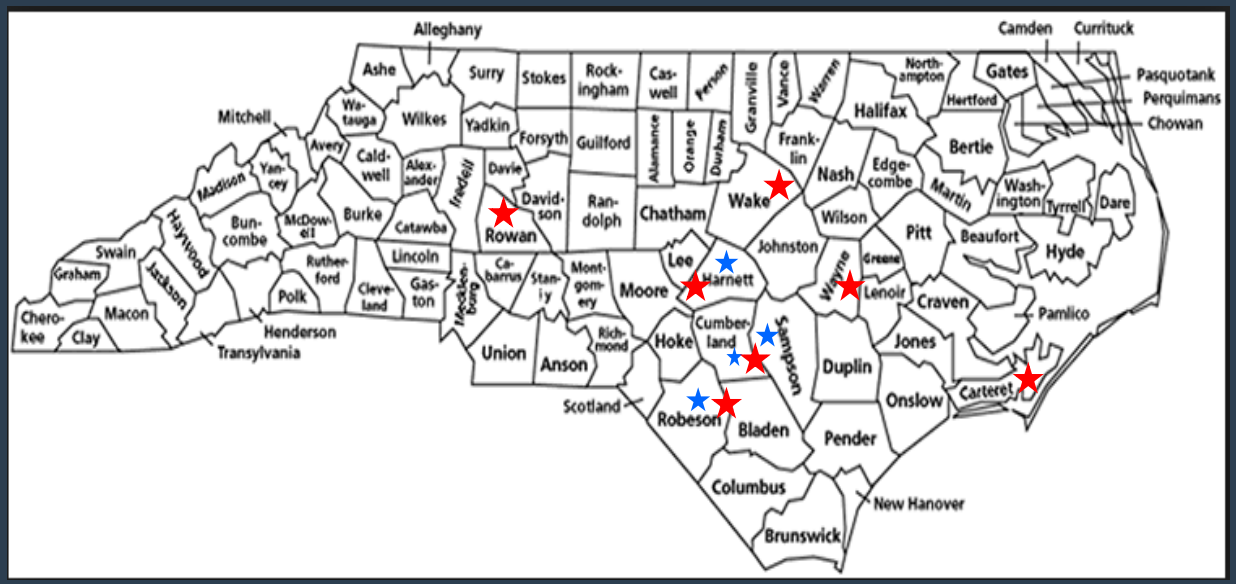
Programs
- General Surgery (20)
- Emergency Medicine (56)
- OBGYN (16)
- Psychiatry (16)
- Dermatology (6)
- Internal Medicine (108)
- Family Medicine (60)
- Sports Medicine (3)
- Neuromuscular Med (3)
- Internship (62)

Organization	Discipline	# of Positions
Campbell University	Sports Medicine Fellowship	3
	Neuromusculoskeletal Medicine +1	3
Cape Fear Valley Health	General Surgery	20
	Psychiatry	16
	OBGYN	16
	Emergency Medicine	32
	Internal Medicine	45
	Traditional Rotating Internship	26
Harnett Health	Internal Medicine	24
	Family Medicine	18
	Traditional Rotating Internship	13
Sampson Regional Medical Center	Dermatology	6
	Family Medicine	18
	Traditional Rotating Internship	10
Southeastern Health	Emergency Medicine	24
	Family Medicine	24
	Internal Medicine	39
	Traditional Rotating Internship	13

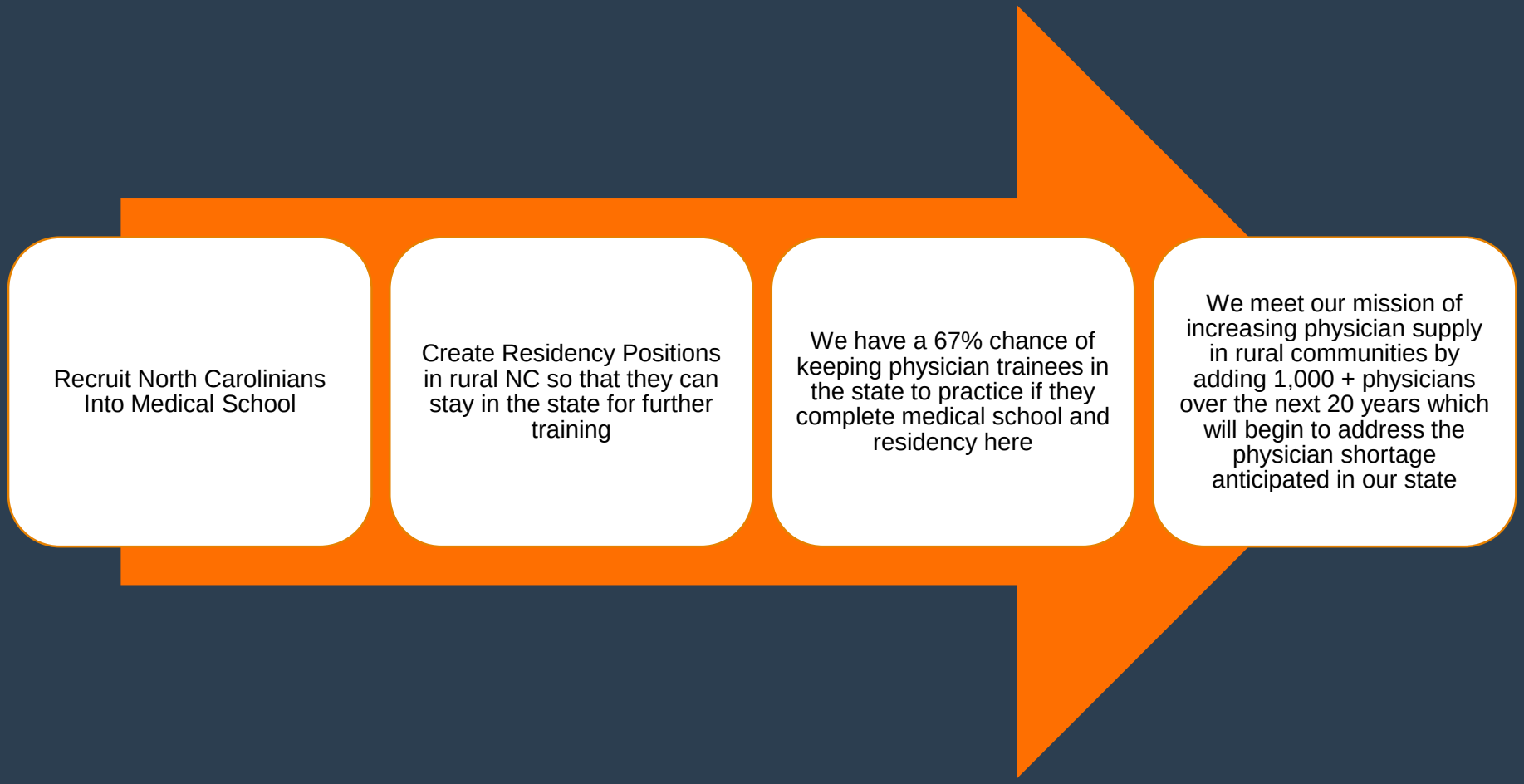
Residency and Student Clinical Training Locations

★ Residency Program Locations
- Cumberland County
- Robeson County
- Harnett County
- Sampson County

★ Medical Student Clinical Campuses
- Cumberland County
- Robeson County
- Harnett County
- Rowan County
- Wake County
- Wayne County
- Carteret County



Strategy


Recruit North Carolinians Into Medical School
Create Residency Positions in rural NC so that they can stay in the state for further training
We have a 67% chance of keeping physician trainees in the state to practice if they complete medical school and residency here
We meet our mission of increasing physician supply in rural communities by adding 1,000 + physicians over the next 20 years which will begin to address the physician shortage anticipated in our state

II. The Cost of Medical Education in North Carolina

Current State Appropriations for medical education totals approximately $400,000,000

NC AHEC $48,783,693

Since 1972, 45 years, AHEC has trained over 3,500 physicians

Source:
Henderson TM . Medicaid Graduate Medical Education Payments: A 50 State Survey. https://members.aamc.org/eweb/upload/Medicaid%20Graduate%20Medical%20Education%20Payments%20A%2050-State%20Survey.pdf. Published 2013.
Trends in Graduate Medical Education in North Carolina: Challenges and Next Steps: http://www.shepscenter.unc.edu/hp/publications/GME_Mar2013.pdf
Health Resources and Service Administration: https://datawarehouse.hrsa.gov/

Medical Education Return On Investment (ROI)

1. The traditional medical education model requires:
   - Research University
   - Large Research University Hospital
2. The traditional medical education model produces:
   - Researchers
   - Sub-Specialists
3. The solution is a de-centralized community-based model that produces:
   - Primary Care Physicians
   - General Specialists

State Investment in Graduate Medical Education

"Growing our own workforce by expanding GME slots will enable us to put in place programs and policies that specifically address the needs of North Carolina's citizens, prioritizing medical specialties in greatest need and encouraging practice in underserved areas."

Many states have already made the investment.

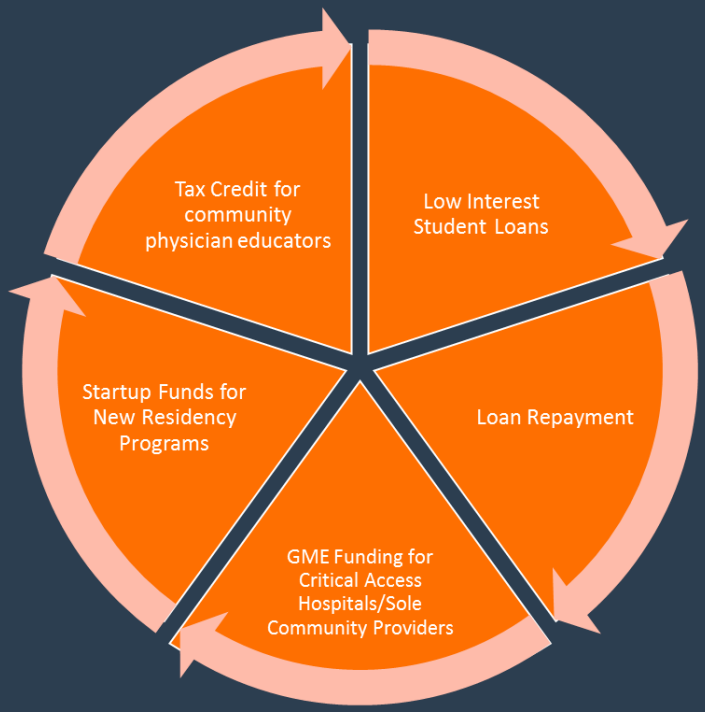
- Georgia
- New Mexico
- Texas

Average Cost per resident $150,000

Source:
*Trends in Graduate Medical Education in North Carolina: Challenges and Next Steps: http://www.shepscenter.unc.edu/hp/publications/GME_Mar2013.pdf
*Health Resources and Service Administration: https://datawarehouse.hrsa.gov/
*https://www.healthaffairs.org/do/10.1377/hblog20150731.049707/full/

III. Support for Medical Education and Residency Programs in Rural Communities

1. Loan Repayment for medical students, residents, and physicians practicing in rural underserved areas
2. Startup Funds for New Residency Programs in Rural Areas
3. Supplemental Funding for Residency Programs in Critical Access Hospitals and Sole Community Providers and any hospital not eligible for both federal Medicare (CMS) DME and IME funding
4. Tax Credit for community physicians who train residents, health profession and medical students



Loan Repayment

Student Costs	State Average Cost
Tuition, Fees, and Health Insurance	**$45,553**
Living Expenses at 200% FPL	$24,280
Total Cost Per Year of Attendance	$69,833
Total Cost of Attendance	$269,332 ($249,000 National AVG.)
Interest While in School @ 6%	$43,586
Total Cost Upon Graduation	$312,918
Interest Accrued During Residency (3 years)	**$58,556**
Total Cost Upon Residency Completion	$371,474
15 year term – Interest Accrued	$192,774
Total Cost of Education	$564,248

Source: American Association of Medical Colleges – 2012 – 2018 Tuition and Fee Report

Student Loan Interest Represents 52% of total cost of education at a total of $294,916 over a 15 year loan

Solution: Loan Repayment for those who successfully match into and complete a NC Residency Program and sign a 5 year contract in a rural or underserved NC

Invest in Community Based Graduate Medical Education

- As the GME taskforce recommended in 2008, create a GME Board to oversee GME-related matters including how any new GME funds should be allocated among specialties, geographies and institutions to address the workforce needs of the state.

- Appropriate the financial support need to by community hospitals to host medical education programs – approximately $150,000 per resident.

Source:
Trends in Graduate Medical Education in North Carolina: Challenges and Next Steps: http://www.shepscenter.unc.edu/hp/publications/GME_Mar2013.pdf
Health Resources and Service Administration: https://datawarehouse.hrsa.gov/

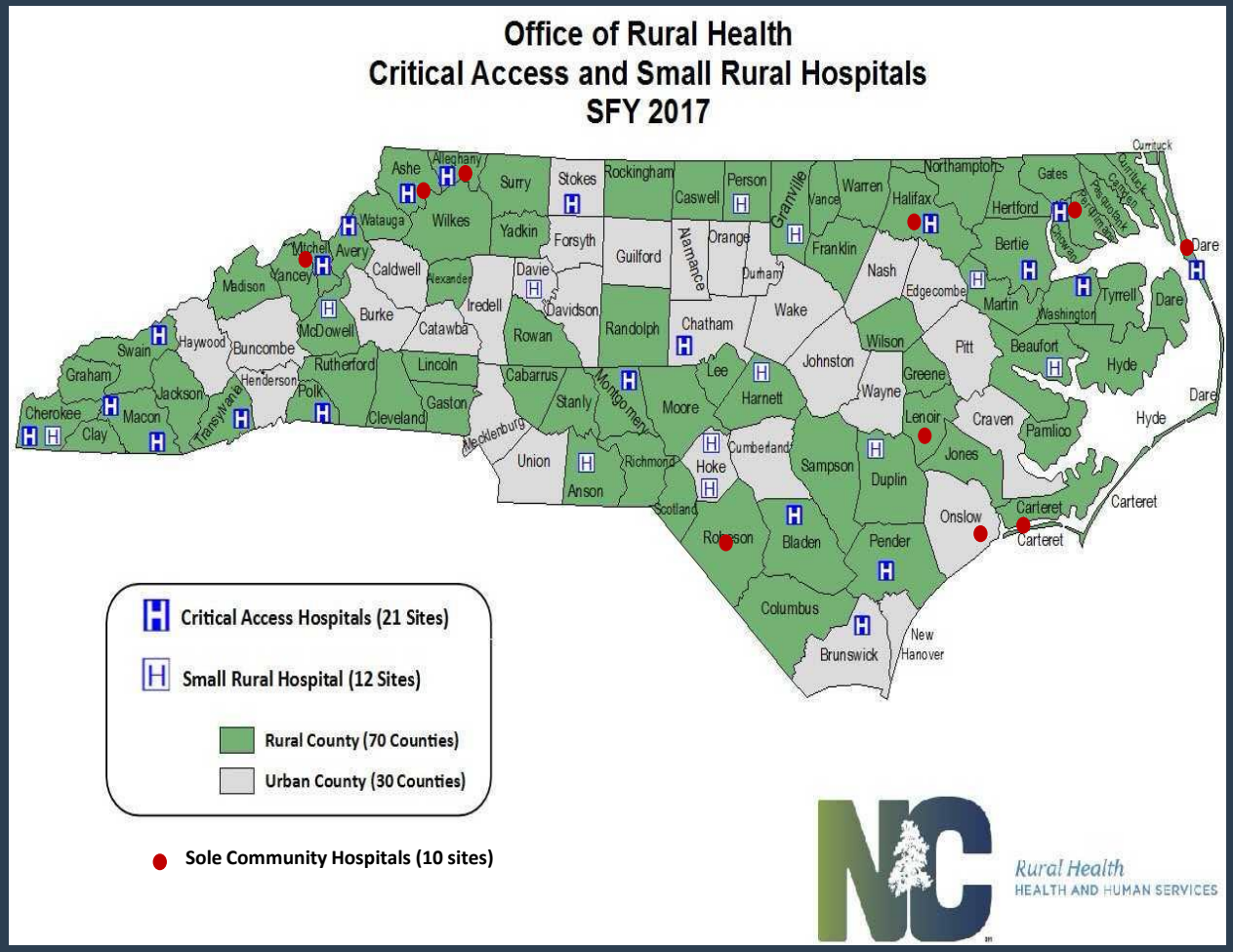
Economic Impact of GME

Annual Economic Impact of One Physician:

- $3,166,901 average total economic output
- 17.07 jobs
- $1,417,958 in total wages
- $126,139 in state and local taxes

Source:
American Association of Medical Colleges (AAMC) North Carolina Physician Workforce Profile: 2016.
The National Economic Impact of Physicians: https://www.ama-assn.org/sites/default/files/media-browser/public/2018-ama-economic-impact-study.pdf

Rural Sole Community Providers and Critical Access Hospitals



https://files.nc.gov/ncdhhs/documents/2017%20NC%20DHHS%20ORH%20Hospital%20Program%20One%20Pager.pdf

IV. Assessment Protocol:

1. Annual measurement of the number of medical school and residency graduates practicing in rural and medically underserved areas
2. Distribution of state GME funds based on success of residency programs regarding placement of graduates in rural and medically underserved areas
3. Ability to reallocate funds from poor performing programs to optimally performing programs
4. Annual measurement of healthcare outcomes as they relate to primary care physicians per capita in rural areas
5. Effectiveness of healthcare dollars as a multiplier to improve economic impact in rural areas
6. Annual measurement of access to care across all ages and economic strata in rural areas as a function of physicians per capita
7. Annual measurement of access to primary, surgical, obstetrical, pediatric, and psychiatric care

SUMMARY

Direct state medical education funding to:

1. Entities which are developing primary care residencies in rural and underserved areas
    a. Start-up funding
    b. Supplemental funding for the first 5 years of operation
    c. Funding for infrastructure such as Equipment, Classrooms, Offices etc.
2. Loan Repayment
    a. Loan repayment for residents training in rural programs
    b. Physicians practicing in a rural underserved area
    c. Low Interest Loans for physicians to establish practices in rural underserved areas
3. Tax Credits for community physicians who train health profession students, medical students and residents
4. Funding for telemedicine and telehealth
    a. Should include funding for infrastructure such as broadband
5. Creation of an advisory task force made up of stakeholders from rural underserved counties to include hospitals, community based medical schools, and rural community based organizations.