

Using the Health Professions Data System to Inform Policy:

Examples from the North Carolina Experience

Tom Bacon, DrPH

Program on Health Workforce Research & Policy, Cecil G. Sheps Center for Health
Services Research, University of North Carolina at Chapel Hill;
and the Health Workforce Technical Assistance Center

*Kentucky Center for Education and Workforce Statistics Data Conference
September 22, 2015*



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Examples of how workforce data are used to inform policy decisions

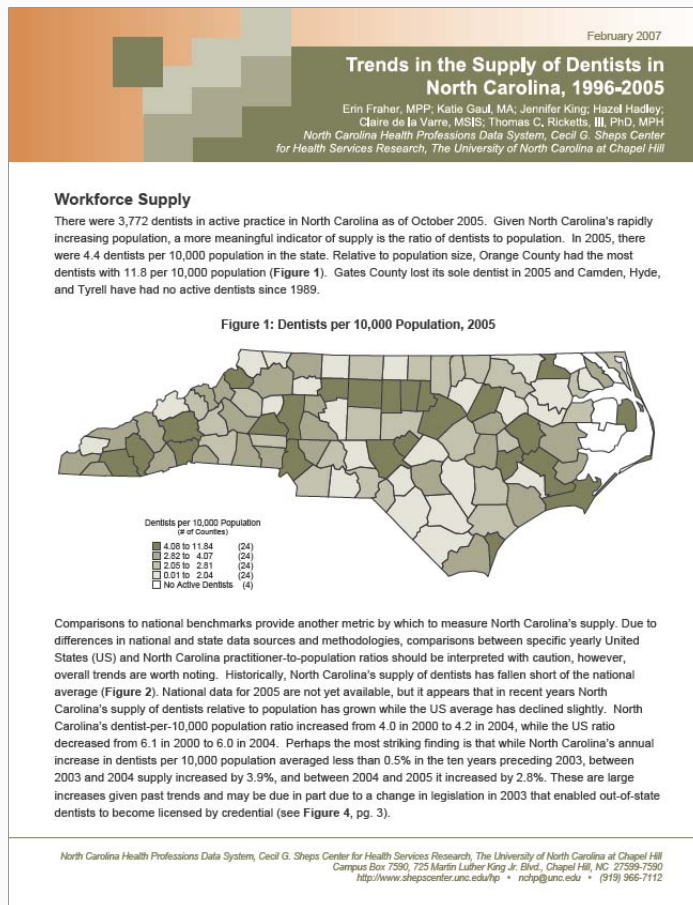
- Should we build a new dental school at ECU?
- Should we build a new pharmacy school at UNC Greensboro?
- How does the diversity of our health professionals compare to the diversity of our population?
- Do we have a shortage of physicians, and if so, what is the best strategy to address it?



Should we build a new dental school at East Carolina University?



Trends in the Supply of Dentists in North Carolina, 1996-2005



Policy Issue: Dental access in North Carolina

Key Findings:

- NC lags behind national supply
- Between 1996-2005, 33% of counties experienced decline in dentists per 10,000 pop; 26 of 33 were rural counties
- Aging dental workforce, especially in *rural* counties
- 87% of dentists are white

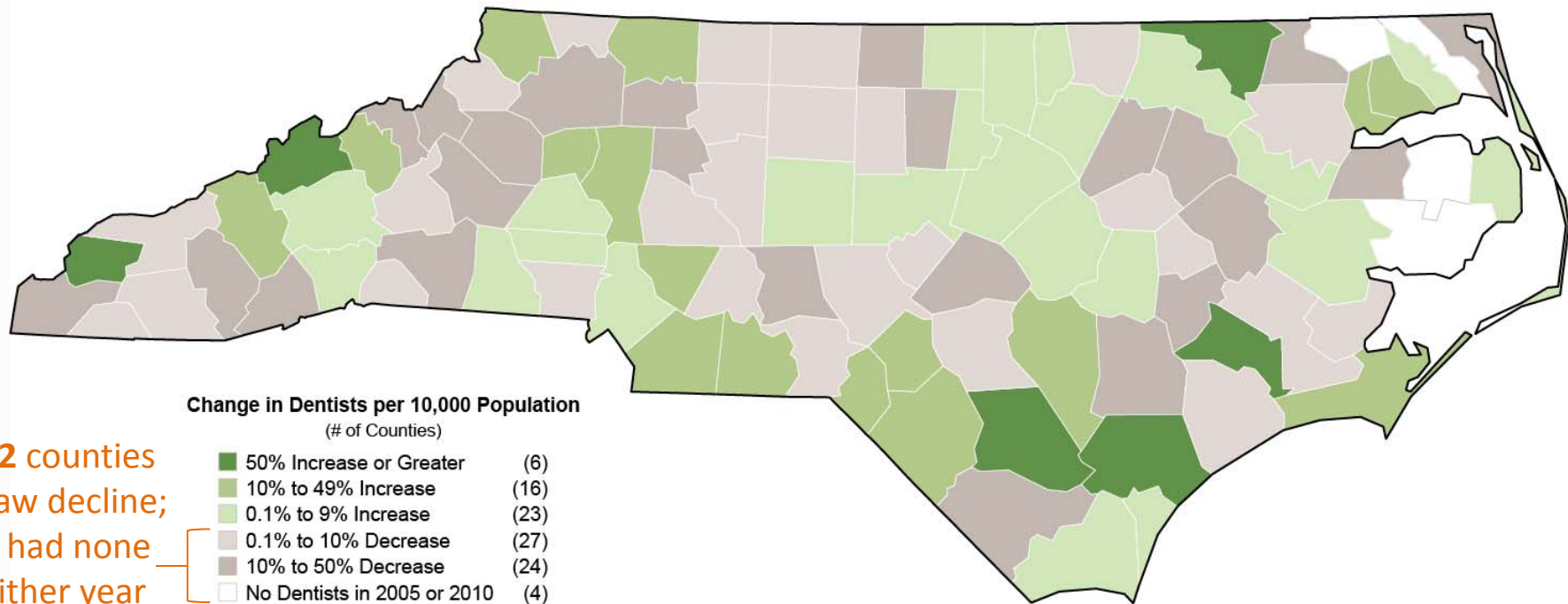
Policy Response:

- Legislature appropriated \$89.6 million for new dental school at ECU and \$96 million for expansion at UNC-CH

February 2007, updated data in Fall 2008

Supply and distribution issues still exist

Change in Dentists per 10,000 Population
North Carolina, 2005-2010



52 counties
saw decline;
4 had none
either year

Note: Data include all active, in-state dentists.

Source: North Carolina Health Professions Data System, with data derived from the NC State Board of Dental Examiners, 2005 & 2010.

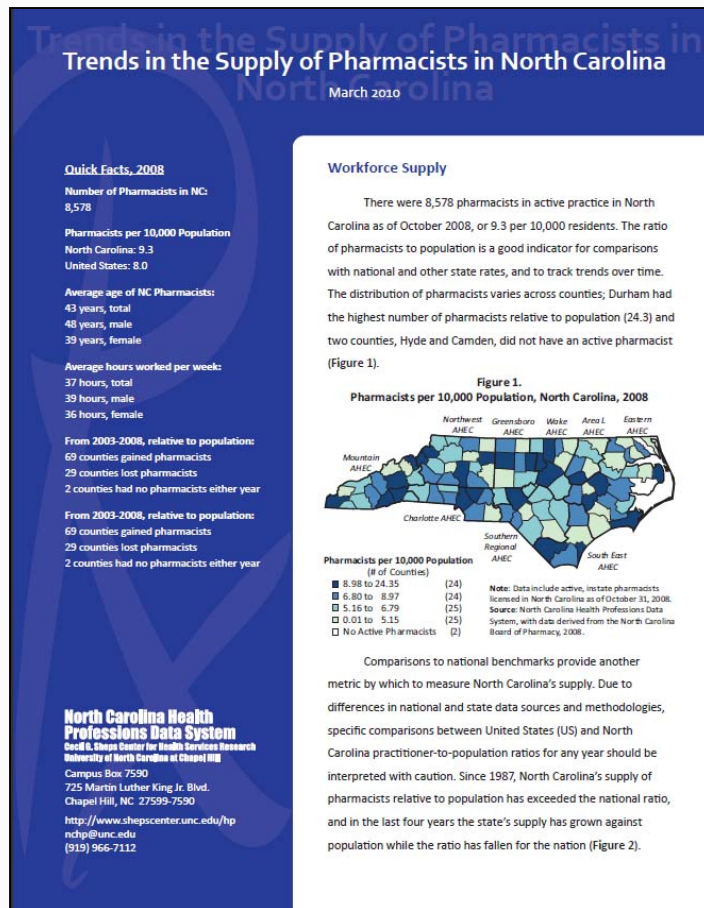
Produced by: North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.



**Should we build a new or expand
the existing public school of
pharmacy in the state?**



Trends in the Supply of Pharmacists in North Carolina, 2008



March 2010

Policy Issue: Whether or not to build new pharmacy school in North Carolina

Key Findings:

- NC supply exceeds national benchmarks
- Between 2003-2008, 69 counties gained pharmacists relative to population
- In 2000, NC pharmacists filled roughly 12 prescriptions per hour; in 2008, they filled 13

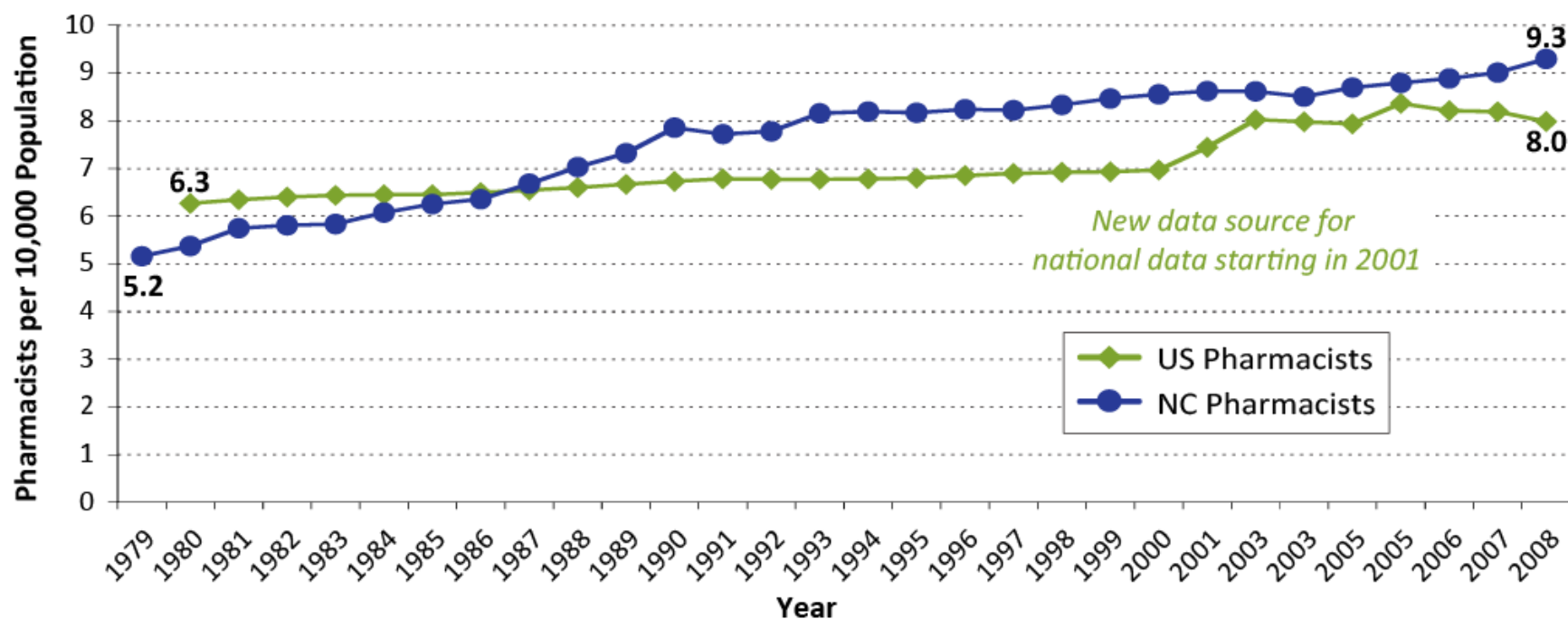
Policy Response:

- Legislature approved expansion of UNC-CH School of Pharmacy to Asheville; Rejected UNC-G's proposal

— *Decided NOT to spend nearly \$80M*

NC supply of pharmacists per population exceeds national average

Figure 2. Pharmacists per 10,000 Population
US and NC, 1979-2008



Sources: North Carolina Health Professions Data System, 1979 to 2008; HRSA, Bureau of Health Professions; US Census Bureau; North Carolina Office of State Planning. Figures include all licensed, active, instate pharmacists. Population data are smoothed figures based on 1980, 1990 and 2000 Censuses.



**How does the diversity of our
health professionals compare to
the diversity of our population?**



The Diversity of North Carolina's Health Care Workforce

The Diversity of North Carolina's Health Care Workforce

Victoria McGee and Erin Freiber
North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill

August 2012

Introduction

Racial and ethnic diversity among health care professionals is vital to maintaining high quality health care that is accessible, equitable, and culturally competent.^{1,2,3} The provision of culturally competent health care requires not only a health care workforce that is prepared to interact with the variety of cultures represented in North Carolina's population, but also requires a workforce that represents the population and communities they serve.^{4,5,6,7,8}

Methods

To assess North Carolina's capacity to deliver health care through a racially and ethnically diverse health care workforce, descriptive analyses were conducted using 1994-2009 North Carolina licensure data housed within the North Carolina Health Professions Data System (NC HPDS). The data used in this analysis, including race/ethnicity, were self-reported at time of initial licensure or subsequent renewal by health professionals licensed to practice in North Carolina as of October 31 of each year. Data include active, in-state, non-federal, non-resident-in-training physicians and active, in-state practitioners in the other professions. Primary care includes general practice, family practice, general internal medicine, pediatrics and obstetrics and gynecology.

Findings

The racial/ethnic diversity of North Carolina's health care professionals falls short of matching state population diversity (Figure 1).

- One in three (33%) North Carolina residents is nonwhite compared to 17% of health professionals.
- There is an overall lack of diversity among North Carolina's health professionals, and while some professions have lagged behind, licensed practical nurses (LPN) and primary care physicians (PCP) can be considered "best practice" professions.

Figure 1. Diversity of North Carolina's Population Compared to Diversity of Selected Health Professions, 2009

Group	White	African American/Black	Hispanic/Latino	Asian/Pacific Islander	American Indian/Alaska Native	Other/Multiracial
NC Population	67%	27%	3%	1%	0%	2%
Licensed Practical Nurses	69%	27%	3%	1%	0%	2%
Primary Care Physicians	67%	27%	3%	1%	0%	2%
Registered Nurses	64%	28%	3%	1%	0%	4%
Dentists	65%	28%	3%	1%	0%	3%
Pharmacists	65%	28%	3%	1%	0%	3%
Nurse Practitioners	65%	28%	3%	1%	0%	3%
Dental Hygienists	65%	28%	3%	1%	0%	3%

Total Number of Providers
Licensed Practical Nurses: 17,925
Primary Care Physicians: 8,423
Registered Nurses: 3,628
Registered Nurses: 90,487
Dentists: 4,091
Pharmacists: 6,676
Surgeons: 1,963
Nurse Practitioners: 3,190
Dental Hygienists: 5,130
Total NC Population: 9,045,705

Note: Data include active, inactive, unexpired health care professionals licensed as of October 31, 2009. "Standard" refers to those who self-identify racially as African American/Black, Asian/Pacific Islander, American Indian/Alaska Native, and ethnically as Hispanic/Latino. Source: North Carolina Health Professions Data System, with data derived from the North Carolina Board of Medicine, Nursing, Pharmacy, Dentistry, Physical Therapy, Occupational Therapy and Respiratory Therapy, with US Census Bureau, American Factfinder. http://factfinder.census.gov. Accessed August 24, 2011. Produced by North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

North Carolina Health Professions Data System
The Cecil G. Sheps Center for Health Services Research
The University of North Carolina at Chapel Hill
Campus Box 7590 • 725 Martin Luther King Jr. Blvd. • Chapel Hill, NC 27599-7590
http://www.shepscenter.unc.edu/hp • nchp@unc.edu • (919) 966-7112

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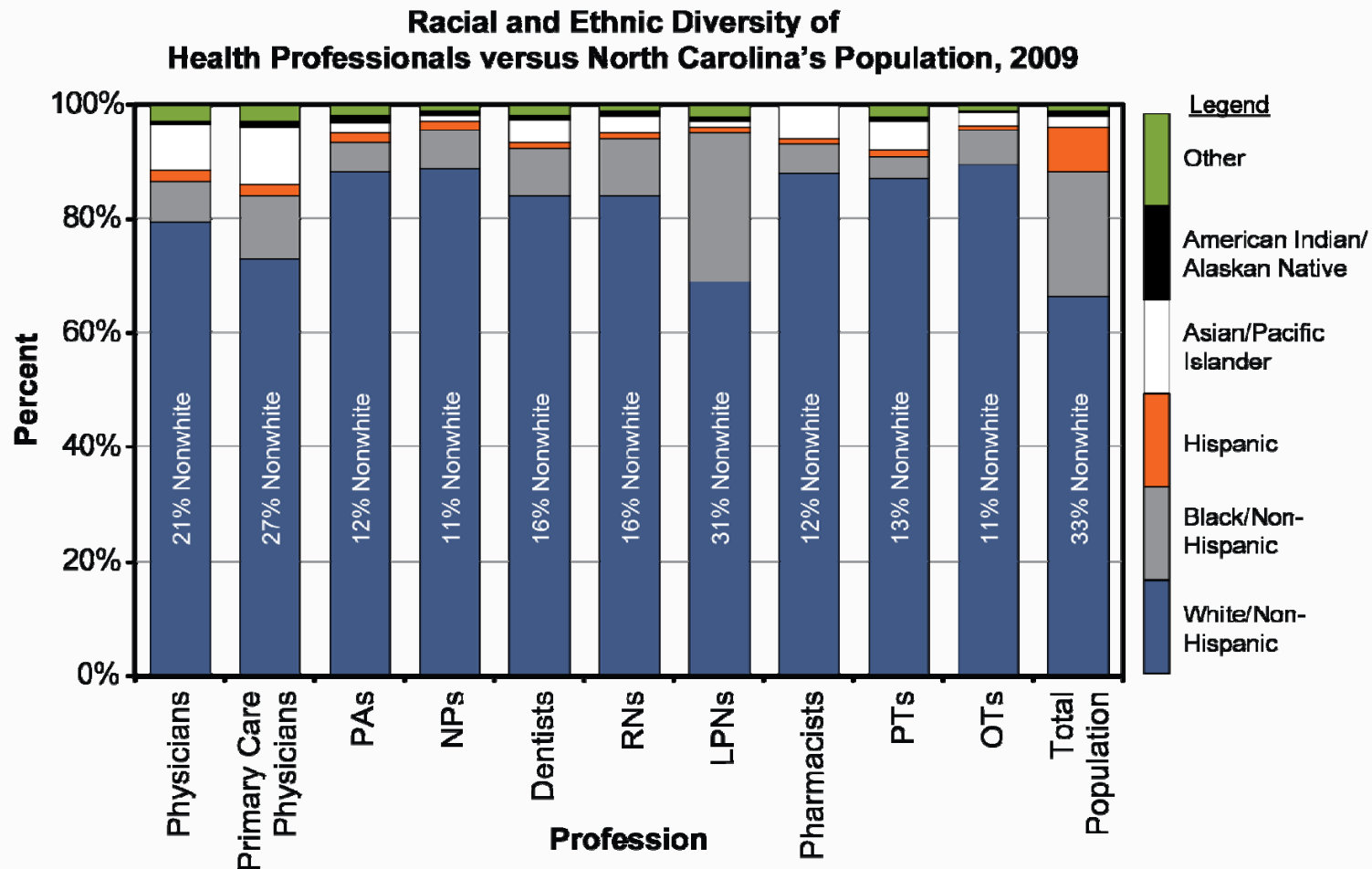
Policy Issue: Lack of racial/ethnic diversity in health workforce

Key Findings:

- The racial/ethnic diversity of NC health care professionals does not reflect state population diversity
- NC's health professions are diversifying slowly over time and at different rates
- There are differences in racial/ethnic group representation among professions
- NC's nonwhite racial/ethnic health care practitioners cluster regionally.

Policy Response: Creation of new Alliance on Health Workforce Diversity

The uncomfortable truth: Lack of diversity in most health professions in NC, 2009



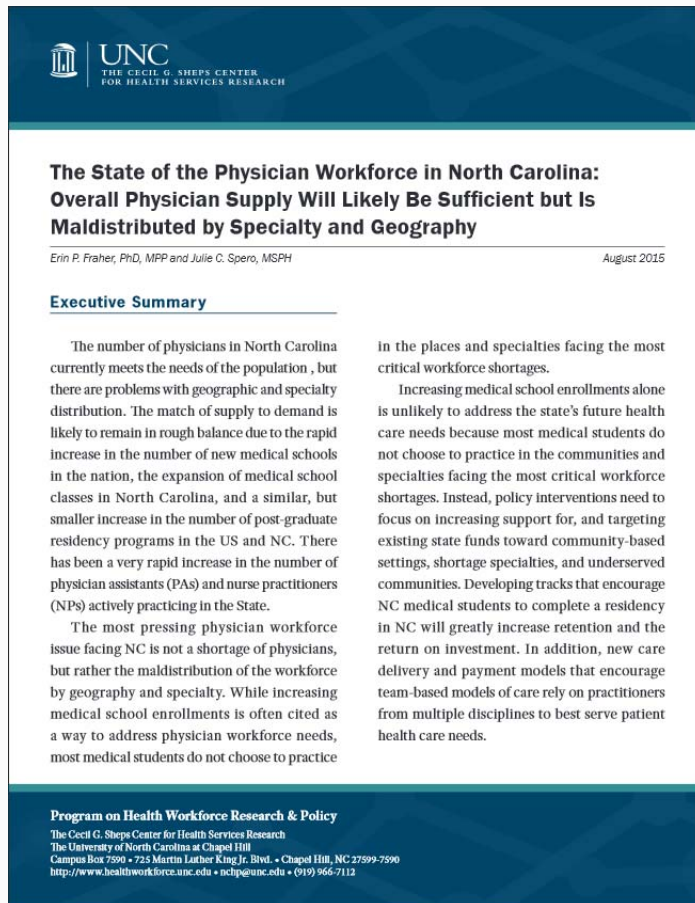
Sources: NC Health Professions Data System with data derived from the following boards: NC State Board of Dental Examiners, NC Medical Board, NC Board of Pharmacy, NC Board of Physical Therapy Examiners, NC Board of Nursing and the NC Board of Occupational Therapy. Population data derived from Population Estimates, U.S. Census Bureau: State and County QuickFacts. Missing race data were excluded from this analysis.

**Is there a physician shortage and
what are the appropriate policy
interventions?**



The State of the Physician Workforce in North Carolina:

Overall Physician Supply Will Likely Be Sufficient but Is Maldistributed by Specialty and Geography



August 2015

Policy Issue: Whether to build new medical school in Charlotte, NC

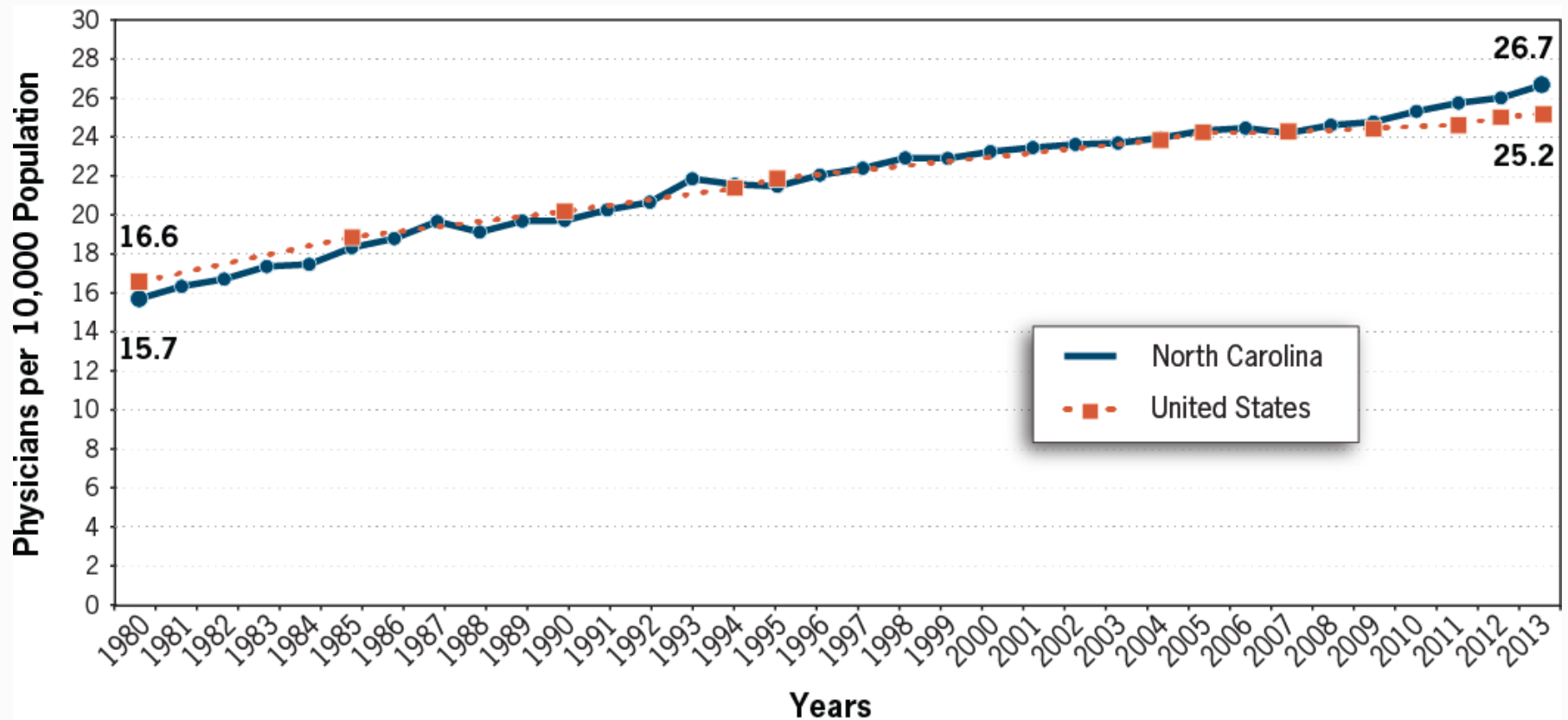
Key Findings:

- NC growth in physician supply outpacing national average
- Physician supply is maldistributed by location and specialty
- Physicians who complete medical school and residency in NC are more likely to stay in NC
- The supply of non-physician clinicians (NPs, PAs, pharmacists, etc) is growing and taking on new roles

Policy Response: Pending.

Fears of physician shortages create headlines but we see steady increase in supply

Physicians per 10,000 population, North Carolina and United States, 1980 - 2013

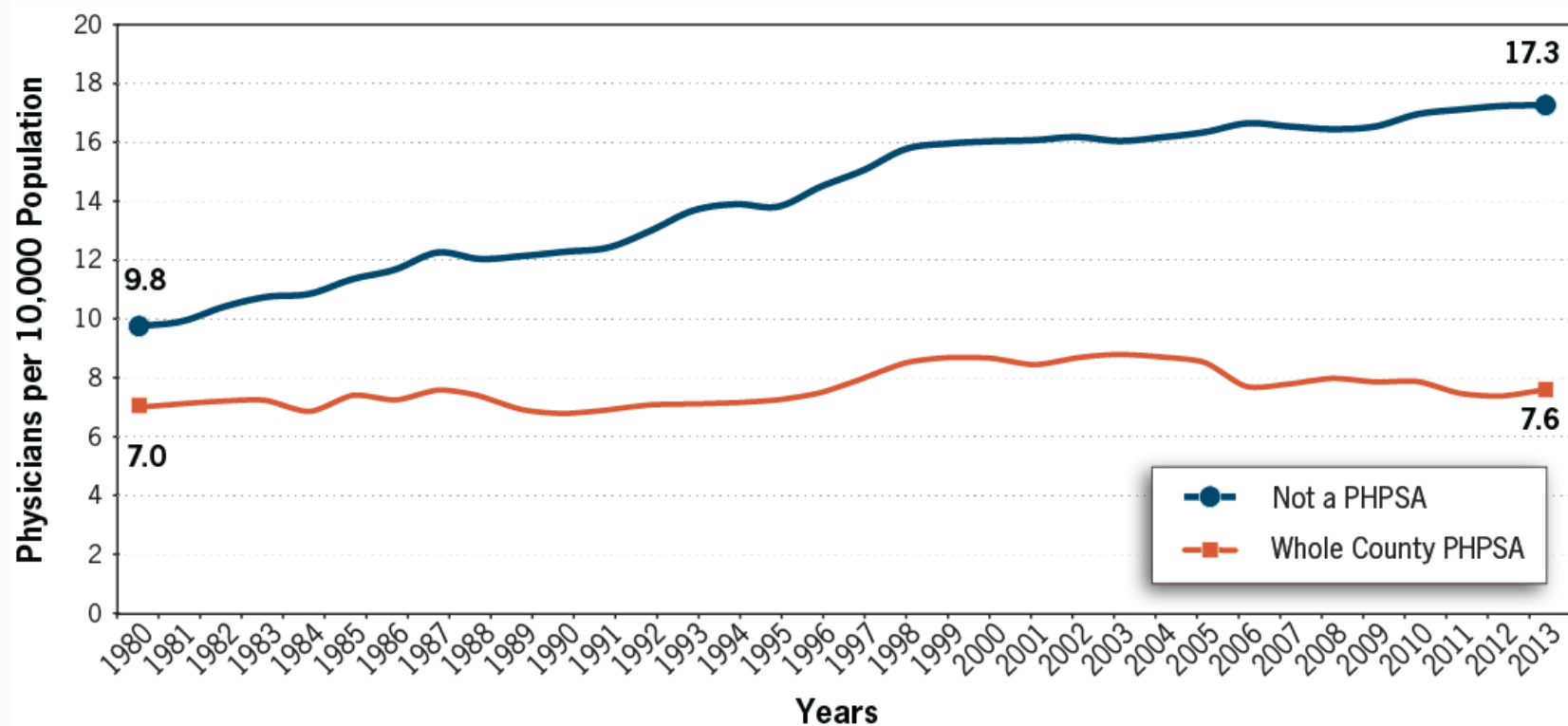


Sources: North Carolina Health Professions Data System, 1979 to 2013; American Medical Association Physician Databook, selected years; US Census Bureau; North Carolina Office of State Planning. North Carolina physician data include all licensed, active, physicians practicing in-state, inclusive of residents in-training and federally employed physicians, US data includes total physicians in patient care, which is inclusive of residents-in-training and federally employed physicians. US physician data shown for 1980, 1985, 1990, 1994, 1995, 2004, 2005, 2007, 2009, 2011, 2012, 2013; all other years imputed.



The real issue is maldistribution

Physicians per 10,000 population by Persistent Health Professional Shortage Area (PHPSA) Status, North Carolina, 1980 - 2013



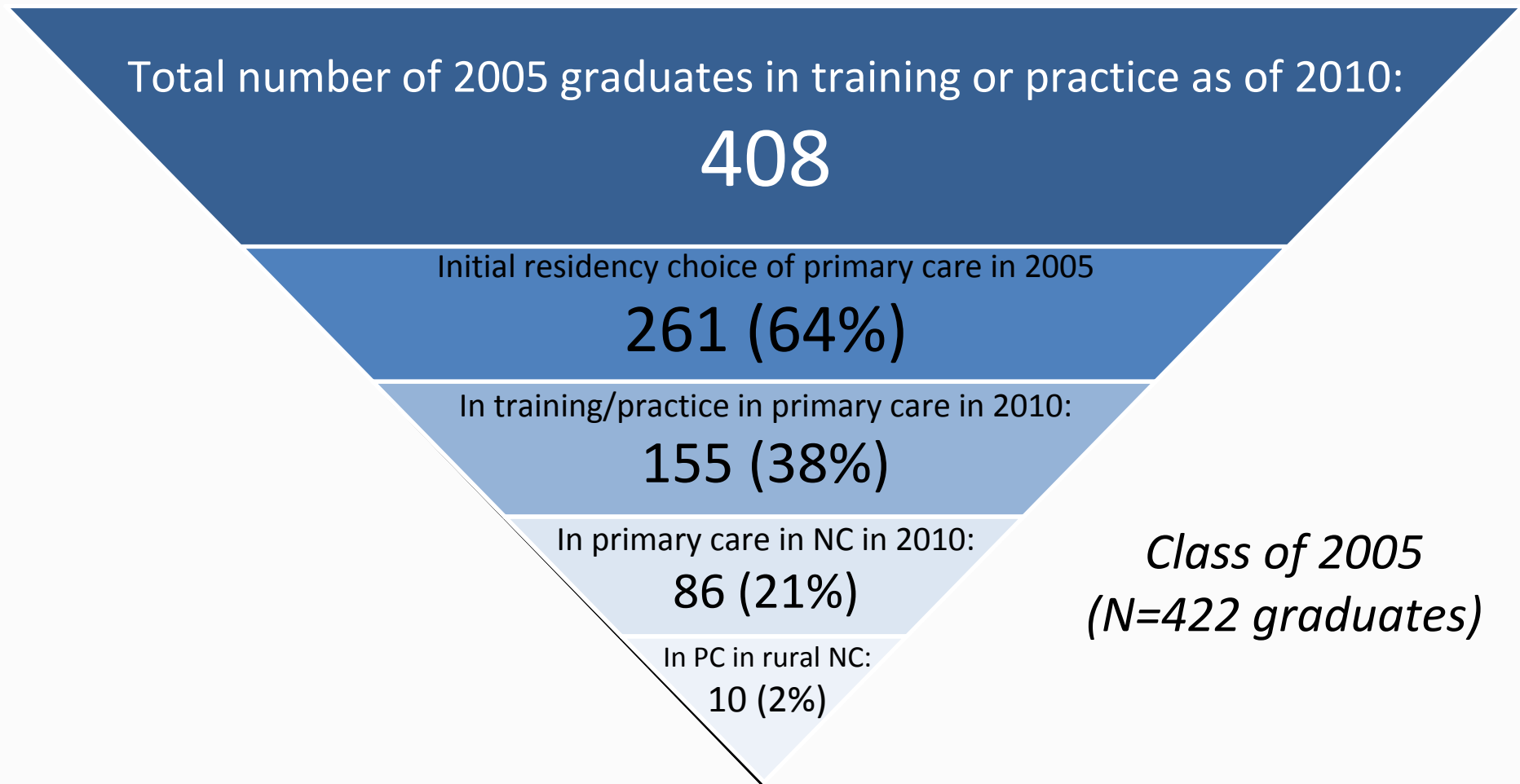
Notes: Figures include active, in-state, nonfederal, non-resident-in-training physicians licensed as of October 31st of the respective year. North Carolina population data are smoothed figures based on 1980, 1990, 2000 and 2010 Censuses. As of 2012, Primary Care PHPSA calculations updated with data from most recent AHRF release. Persistent HPSAs are those designated as HPSAs by HRSA using most recent 7 HPSA designations (2004, 2007-2012). Sources: North Carolina Health Professions Data System, 1980 to 2013; North Carolina Office of State Planning; North Carolina State Data Center, Office of State Budget and Management; Area Health Resource File, HRSA, Department of Health and Human Services.

NC has recently expanded medical school enrollments

- North Carolina expanded medical school enrollment
 - UNC expanded from 160 to 180 positions with regional placements in Charlotte and Asheville for 3rd and 4th year students
 - ECU expanded from 73-80 students
 - Campbell admitted first class of 150 students in September 2013
- These expansions are not likely to improve workforce supply and distribution in the state

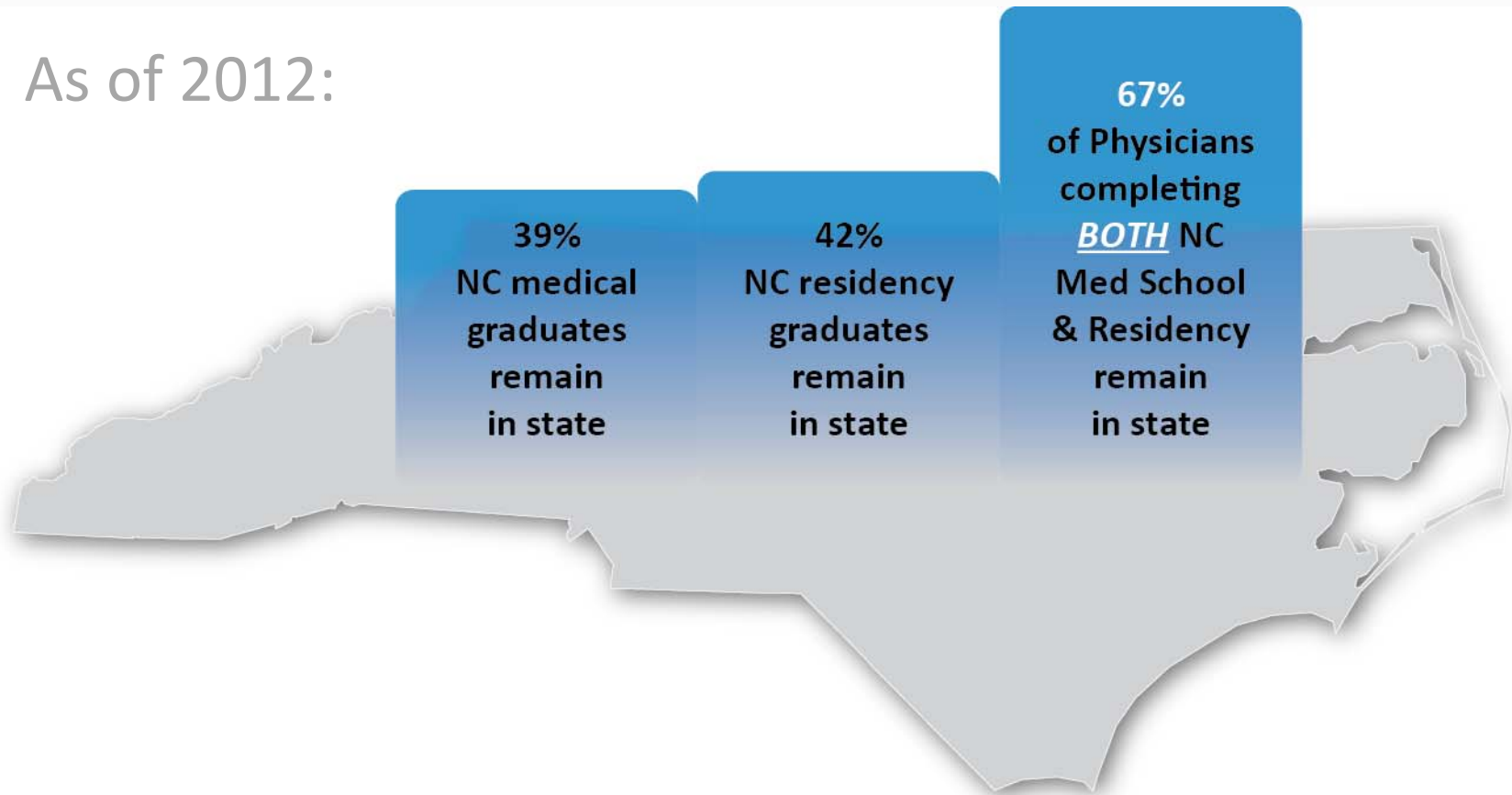
Why not?

NC Medical Students: Retention of Grads in PC in Rural North Carolina After Five Years



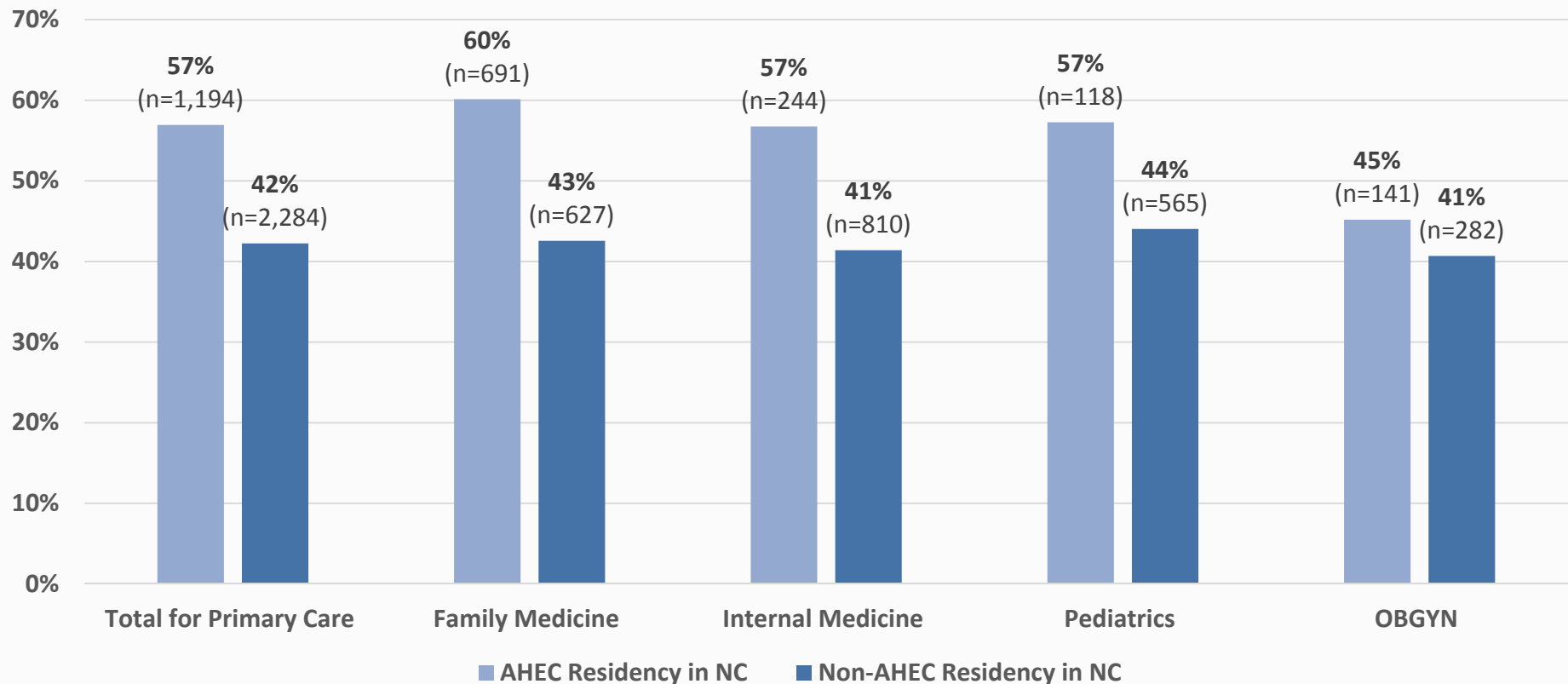
Need to develop NC training tracks: Retention much higher for physicians completing both UME and GME instate

As of 2012:



For primary care physicians, in-state retention of AHEC residents is greater than non-AHEC residents

Primary Care Physicians Practicing in NC who Completed an NC Residency, AHEC vs. Non-AHEC Residency, 2013



Other health workforce issues addressed in recent reports

- Is the supply of **pharmacists** in NC adequate to meet population needs, and what are new roles for pharmacists in a transforming health system? (2014)
<http://www.shepscenter.unc.edu/wp-content/uploads/2014/09/PharmRpt2013-Feb2014-final.pdf>
- Should we build a new **optometry** school in NC? (2015)
<http://www.shepscenter.unc.edu/wp-content/uploads/2015/04/NC-OptometryRpt-March2015.pdf>
- What is the status of the **psychiatry** workforce in the state? (2006)
http://www.shepscenter.unc.edu/hp/publications/Psychiatrist_Brief.pdf
- What is the most effective way to increase the number of baccalaureate **nurses** while assuring they will work in the areas of the state where they are most needed? (2015)
<http://www.shepscenter.unc.edu/wp-content/uploads/2015/04/Fraher-to-RIBN-03-17-15-FINAL.pdf>



Don't hesitate to contact us!

Tom Bacon

tom_bacon@med.unc.edu

(919) 537-3708



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FOR HEALTH SERVICES RESEARCH

Program on Health Workforce Research & Policy
<http://www.healthworkforce.unc.edu>



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