

# Access to Healthcare in Rural North Carolina

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UNC

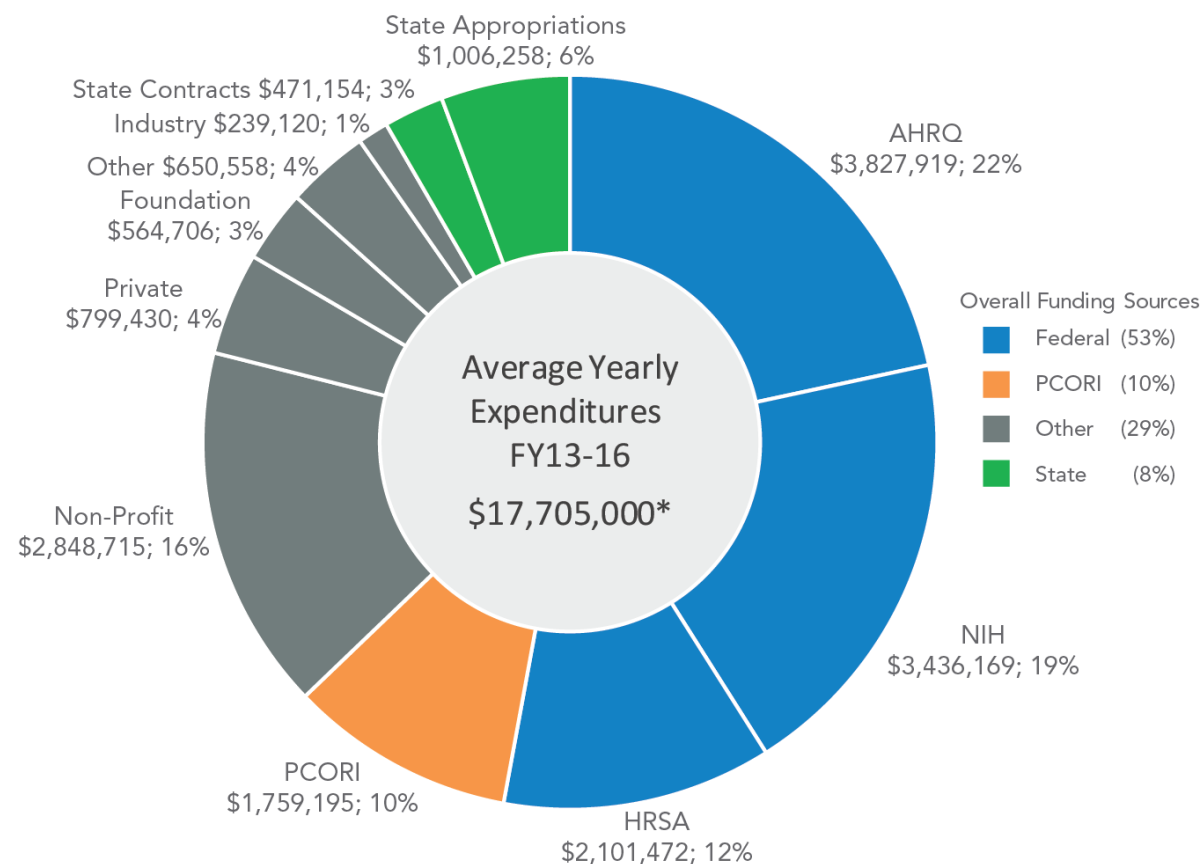
THE CECIL G. SHEPS CENTER  
FOR HEALTH SERVICES RESEARCH

# About the Cecil G. Sheps Center for Health Services Research

About Sheps  
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- Research Center at UNC-CH, focus: understanding the problems, issues, and alternatives in the design and delivery of health care services.
- Approximately 60-70 research and service projects and contracts at any time.
- Research is funded by NIH, AHRQ, PCORI, HRSA, foundations, and others.
- Annual budget ~\$18 million, only ~6% state support (mostly “directed funding”).

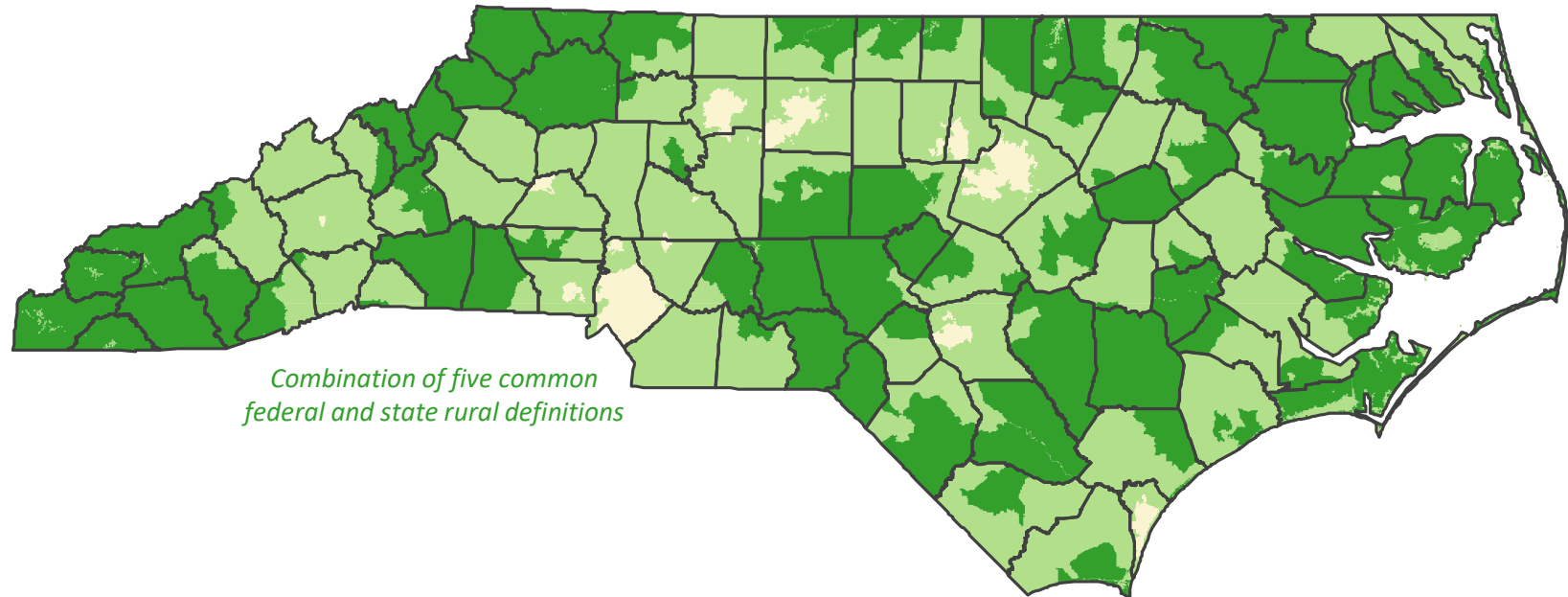
Average Yearly Expenditures by Major Funding Source  
Sheps Center, July 1, 2013 - June 30, 2016



Note: Data and chart do not include "Other Federal" funds of \$14,979 expended in FY2015-16.  
Source: Business Office, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

# What is “Rural”?

- *Rural* is a continuum, but we often think of as dichotomous (rural v. urban)
- Federal government has over seventeen definitions of “rural”: our use depends on context
- County-based: metro (Target), micro (Applebees), non-core
- Darker green = rural in more classifications



# Rural Health at a Glance

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Rural areas poorer health on almost every measure

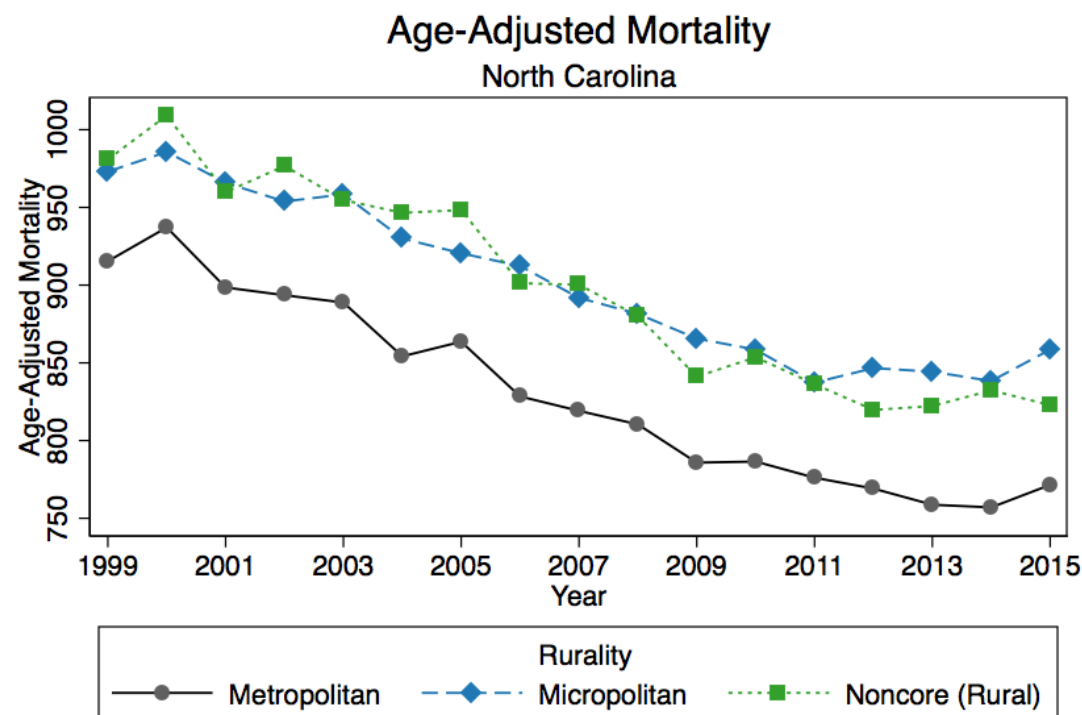
- Older, poorer, more isolated
- Persistently higher mortality

Less healthcare infrastructure

- Fewer docs, smaller hospitals
- Half of rural hospitals lose money

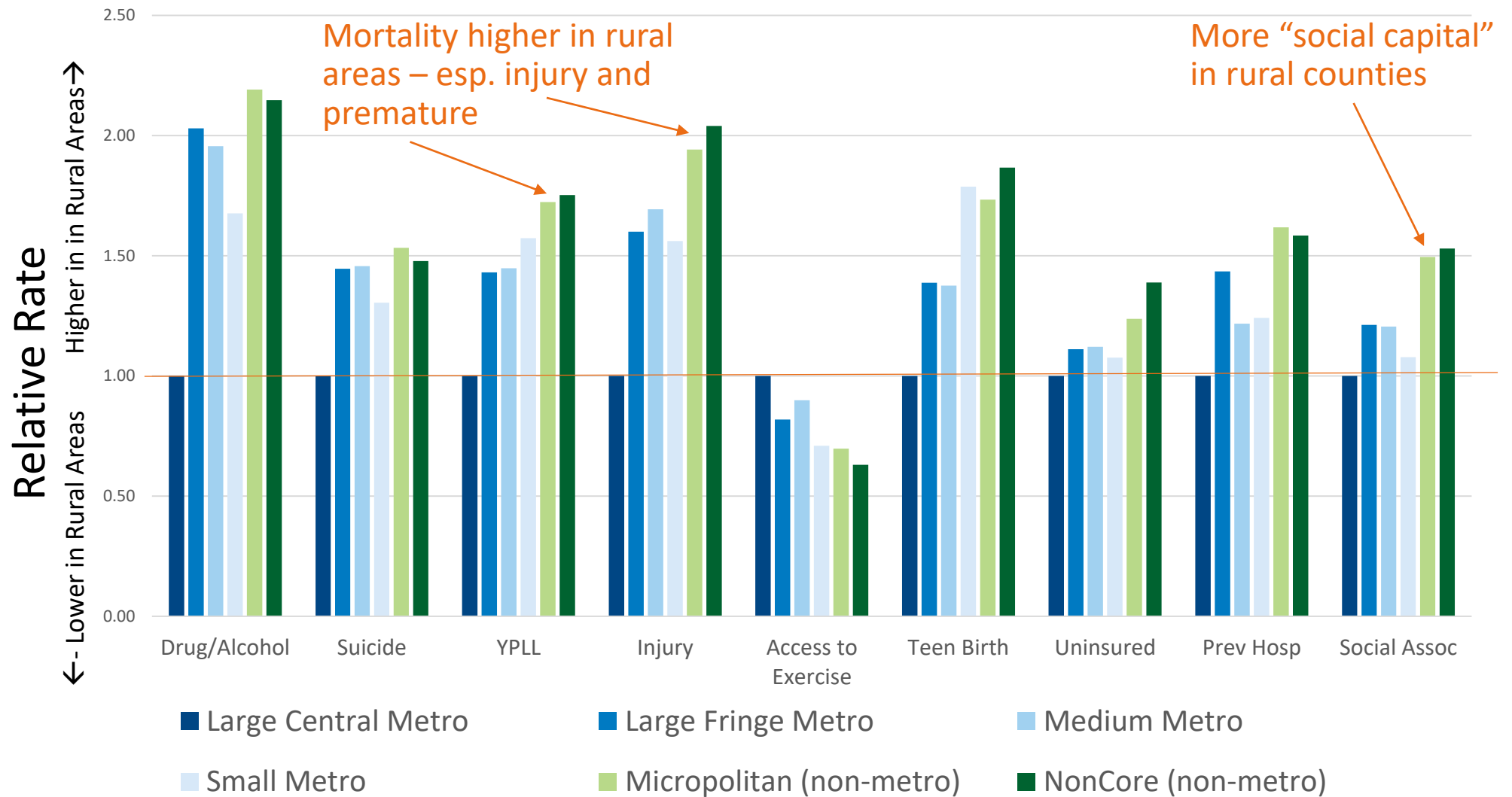
Nationally, 120 rural hospital closures since 2005

- 5 in NC since 2010



Source: NC Rural Health Research Program calculations from CDC Wonder. 2006 Urbanization.

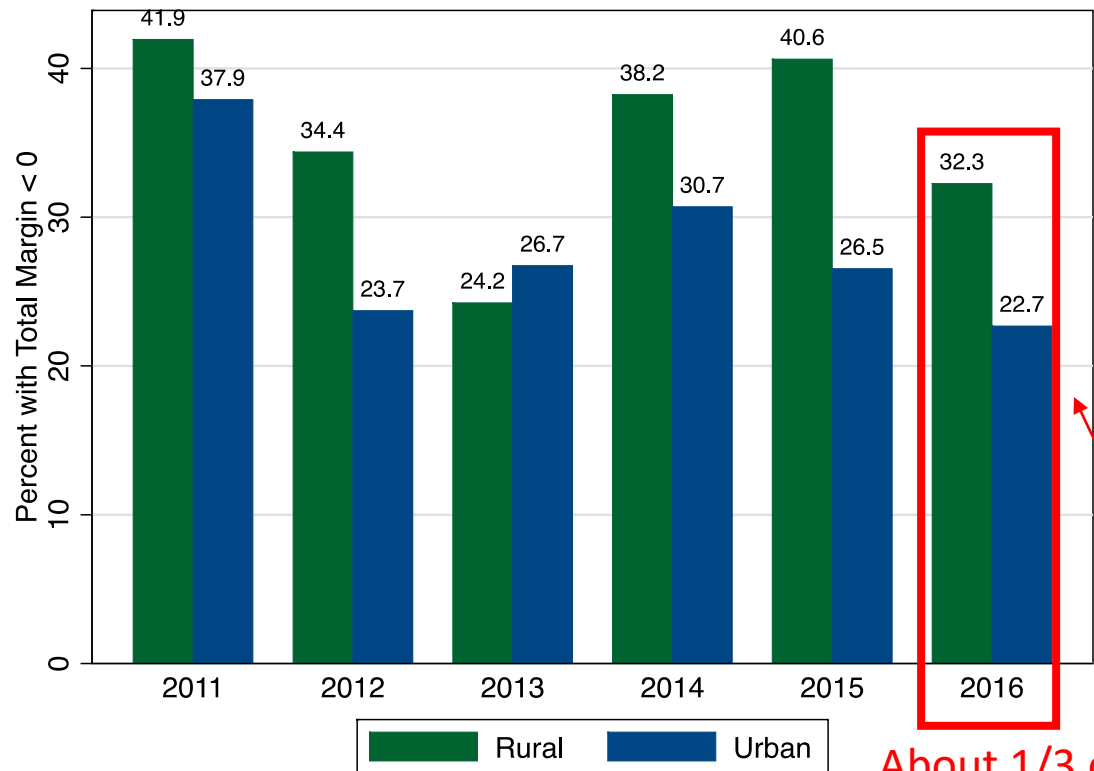
## Health Factors: Urban-Rural Health Disparities in NC



CDC: 5 county types: **Large central** (Wake, Mecklenburg); **Fringe of large** (e.g., Union, Lincoln); **Medium metro** (e.g., Guilford, Madison); **Small metro** (e.g., Pitt, Onslow+Jones); **Micropolitan** (e.g., Harnett, Tyrrell); **NonCore/Rural** (e.g., Columbus, Ashe)

# Hospital profitability is increasing, but more slowly in rural areas

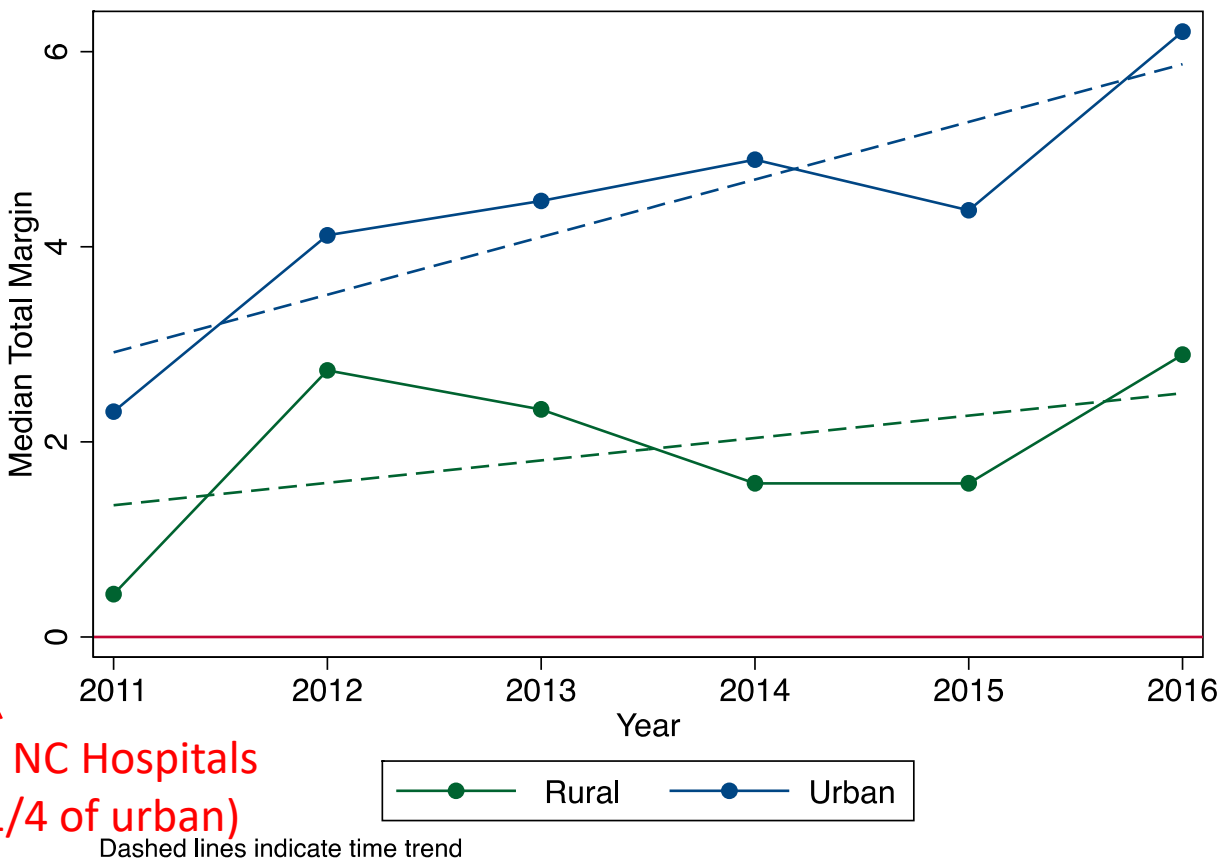
Percent NC Hospitals with Negative Total Margin



Rural/urban defined by RUCA

About 1/3 of rural NC Hospitals losing money, vs. 1/4 of urban)

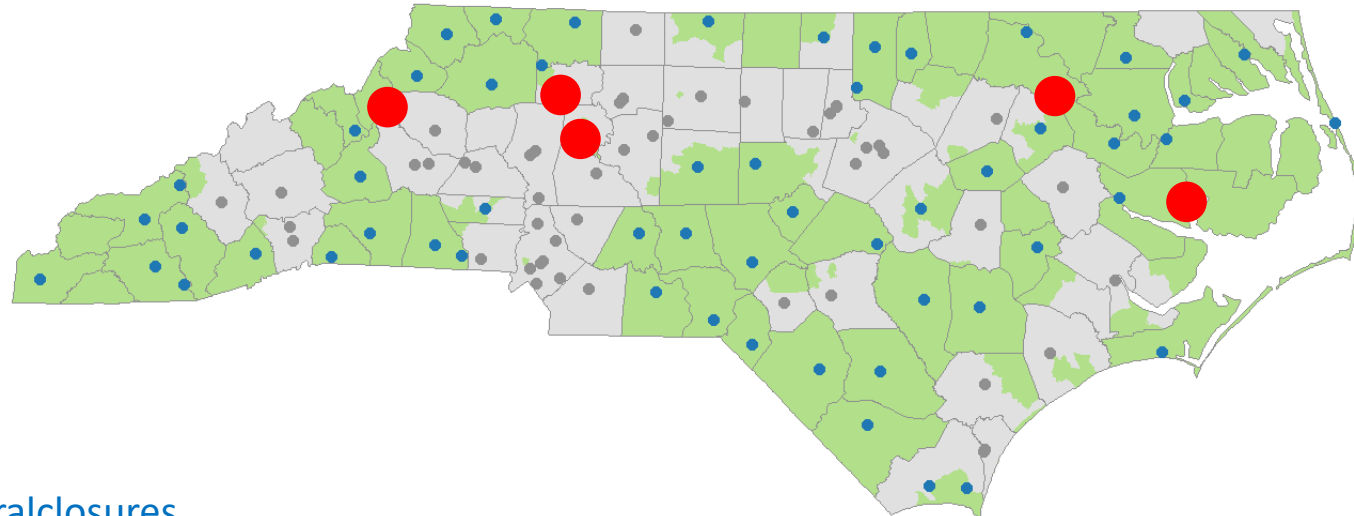
Median Total Margin





# Rural Hospital Closures

- Nationwide increase in last five years in rate of rural hospital closures, decrease as of late?
- Causes multi-factorial
  - Contextual: Declining population, economics, industry trends/technology
  - Policy: Medicaid, ACA, reimb./regs
- Five (rural-ish) closures in NC since 2010 (although “rural closure” definition is debatable)



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# Impact of closures

- Not much evidence that hospital closures lead to poorer health outcomes
  - Small sample / power problems?
  - OIG: surveys revealed few reported access problems post-closure
  - Literature suggests some access decrease, but magnitude mixed
  - Joynt et al (2015) found no effect, but mostly urban hospitals
- Economic cost:
  - Often one of top two employers
  - Magnet effects – hospital close, other clinics close?
  - Losing the only hospital in a county implies a decrease of about \$1300 (today's dollars) in per capita income (Holmes et al 2006)



# Fast facts on physician supply in NC

- For most specialties, the major issue is not total supply, but distribution – they cluster in affluent urban areas
  - Shortages do exist for general surgeons, mental health providers, geriatricians
- “Growing our own” with a wider training funnel has low ROI: 3% of 2008 NC medical school grads doing primary care in rural NC
- Increasing shortage of health professionals performing deliveries → closure of rural obstetric units
  - Nationwide trend
- The promise (potential?) of non-traditional (read: face-to-face w/ physician) model
  - Telehealth – e.g. MAT for opioids, tele-psych
  - New models: community health workers, “outreach teams” (SW, OT, handyman)
  - PA/NP

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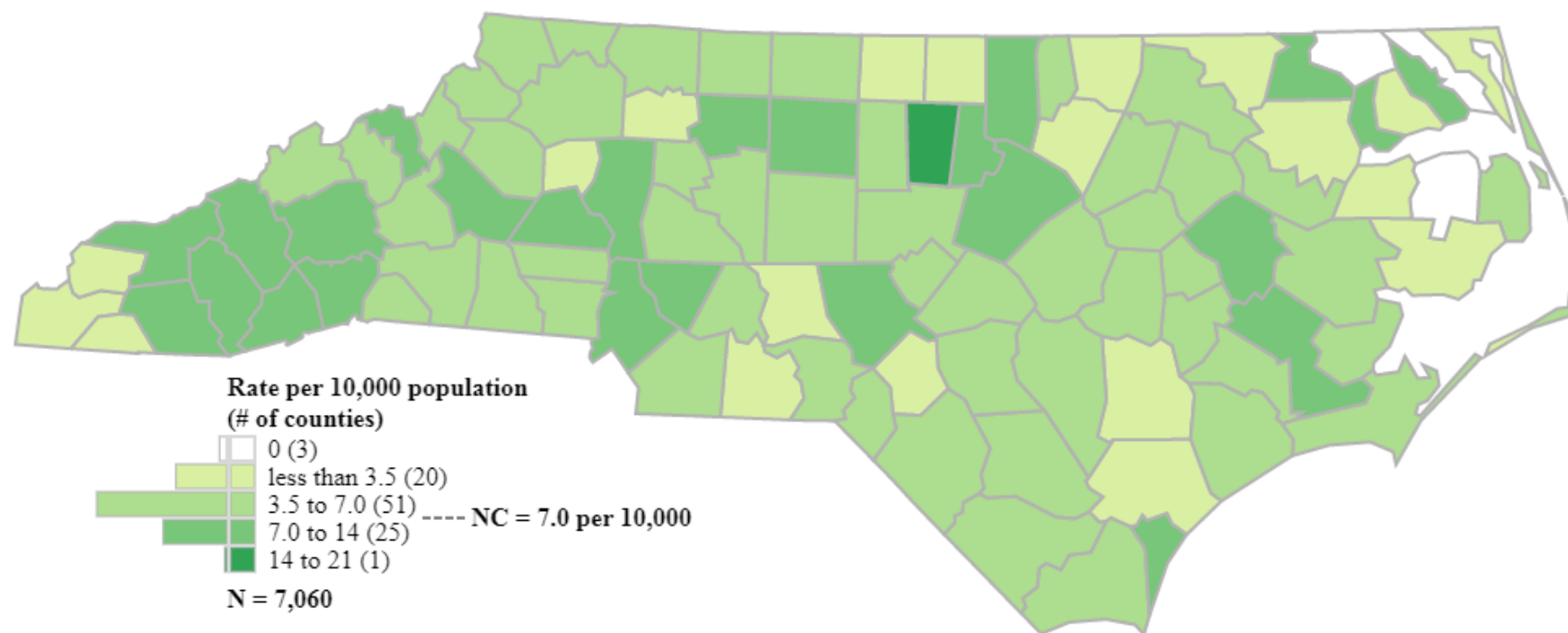
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# 20 counties have relatively few primary care physicians; 3 counties have none

Physicians with a Primary Area of Practice of Primary Care per 10,000 Population in 2016



Notes: Data include active, licensed physicians in practice in North Carolina as of October 31 of each year who are not residents-in-training and are not employed by the Federal government. Physician data are derived from the North Carolina Board of Medicine. County estimates are based on primary practice location. Population census data and estimates are downloaded from the North Carolina Office of State Budget and Management via NC LINC and are based on US Census data. Source: North Carolina Health Professions Data System, Program on Health Workforce Research and Policy, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill. Created October 05, 2017 at <https://hpds.sirsdemo.unc.edu/>.

# Residents trained in community based settings more likely to practice in rural counties

## Urban versus rural location for community-based vs. non-community-based residents

	<i>Number</i>				<i>Percent</i>		
	Urban	Rural	Total		Urban	Rural	Total
Not Community - Based	6,363	711	7,074	Not Community - Based	90%	10%	100%
Community -Based	68	14	82	Community -Based	83%	17%	100%
Total	6,431	725	7,156	Total	90%	10%	100%

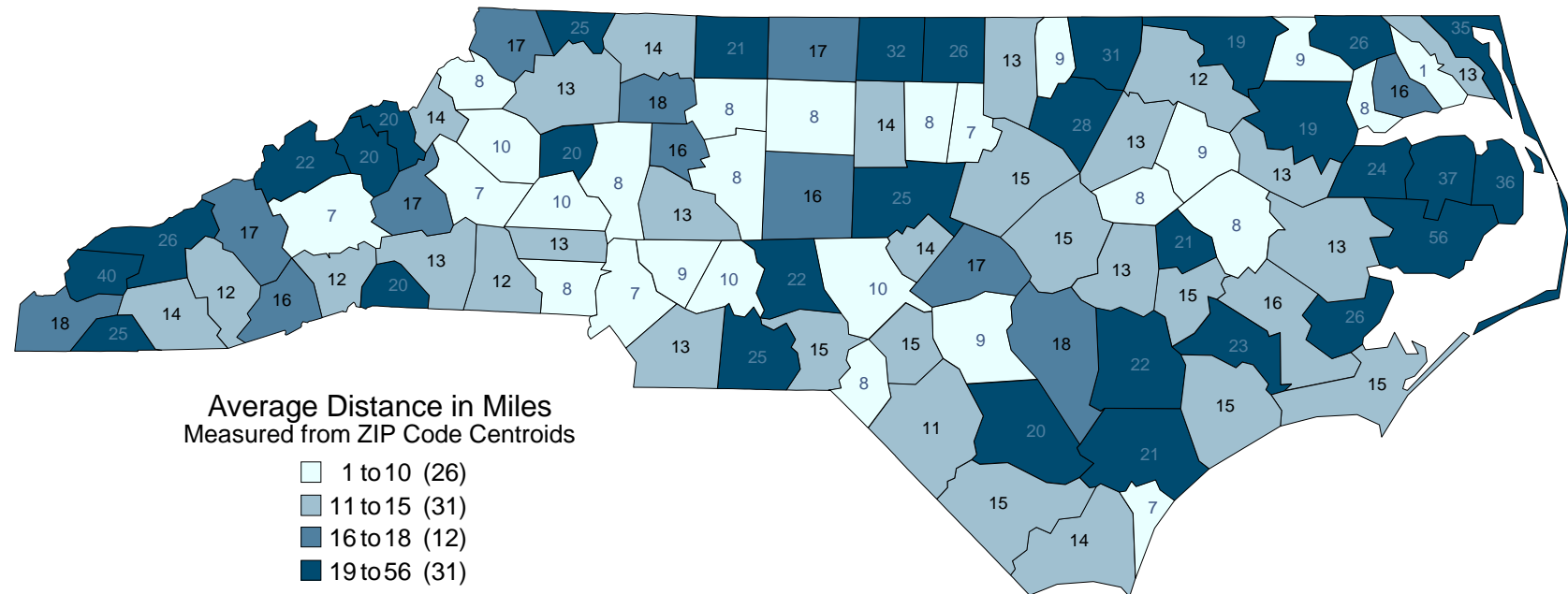
Note: 2 residents missing information. Pearson  $\chi^2(1)=4.3902$ ,  $Pf=0.036$

Source: NC Health Professions Data System, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill, with data derived from the NC Medical Board , 2012.

# Significant variation in travel times to birth, high travel times in counties with no obstetric care providers

## Average Distance to Care for Discharges for Childbirth Miles from Residence to Hospital

Residents Discharged from North Carolina Hospitals: October 1, 2010 to September 30, 2011



County labels are the average distance by county.

**Note:** Childbirth discharges include DRGs 765-768, 774, 775. Data exclude North Carolina residents delivering babies in facilities across state lines.  
**Source:** Truven Health Analytics (formerly Thomson Healthcare), Fiscal Year 2011. **Produced By:** Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

# More information

## Sheps Center:

- <http://shepscenter.unc.edu>

## NC Rural Health Research Program

- <http://go.unc.edu/ncrhrc>

## NC Health Professions Data System

- <http://www.shepscenter.unc.edu/programs-projects/workforce/projects/hpds/>

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### Events

- Jan 16 @ 9:00 AM  
Mental Health Fellowship Seminar Series | TBD | Mike Belden
- Jan 30 @ 9:00 AM  
Mental Health Fellowship Seminar Series | Documentation Policy, Stress Proliferation, and Mental Health in the Dominican Republic | Trenita Childers
- Feb 13 @ 9:00 AM  
Mental Health Fellowship Seminar Series | When talk is not cheap: Evaluating the impact of medical communication on psychiatric patient experiences and outcomes | Katie Hale
- May 15 @ 9:00 AM  
Mental Health Fellowship Seminar Series | Behavioral Health Interventions by Private Insurers | Dawn Porter

[See More](#)

### News

Access to Mental Health Care Has Increased Under the Affordable Care Act  
ARLINGTON, Va., Nov. 15, 2017 – People with mental illness reported that...

Kathleen C. Thomas Receives 2017 Banks Award for Mentoring  
Kathleen C. Thomas, PhD, MPH, was awarded the 2017 Steven M. Banks Award...

Tamera Coyne-Beasley profiled in The Lancet Child & Adolescent Health  
Tamera Coyne-Beasley, MD MPH, is profiled in the first issue of The Lancet...

### Products

Characteristics of Communities Served by Hospitals at High Risk of Financial Distress  
Since 2005, there have been 124 rural hospital closures in the United...

Differences in Community Characteristics of Sole Community Hospitals  
In 1983, Congress created the Sole Community Hospital (SCH) program to...

Health Disparities in Appalachia  
"Creating a Culture of Health in Appalachia: Disparities and Bright...

### Projects

Tough choices: Autism, private health insurance and family out-of-pocket spending  
Emerging patterns in our current work suggest that insurance choices of...

Adequate Health Insurance for Children with Autism  
Evidence and Implications for Defining Essential Benefits – Families...

Understanding How the Diffusion of Physicians Creates Areas of Underservice  
Investigators: Thomas Ricketts, PhD; Erin Fraher, PhD, MPP; Andy Knapton,...