



Rural Hospital Response to COVID-19

Mark Holmes (@gmarkholmes)

Director, NC Rural Health Research Program (@ncrural), Sheps Center

Professor, Health Policy and Management, UNC Gillings School of Global Public Health

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Agricultural and Rural Development Committee
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Collaborative work: project team listed at
end of presentation

About the NC Rural Health Research Program

- Based at The Cecil G. Sheps Center for Health Services Research, University of North Carolina
- Major funder: Federal Office of Rural Health Policy (HRSA/HHS)
 - Conduct research to advise “the Secretary on health issues within these communities, including the effects of Medicare and Medicaid on rural citizens’ access to care, the viability of rural hospitals, and the availability of physicians and other health professionals” (§711 SSA)

This talk in one slide

- Last year saw the highest number of rural hospital closures in at least 20 years
- Lots of headwinds suggest rates may get worse: rate has abated last 12 months, but is that a respite until we emerge from the pandemic?

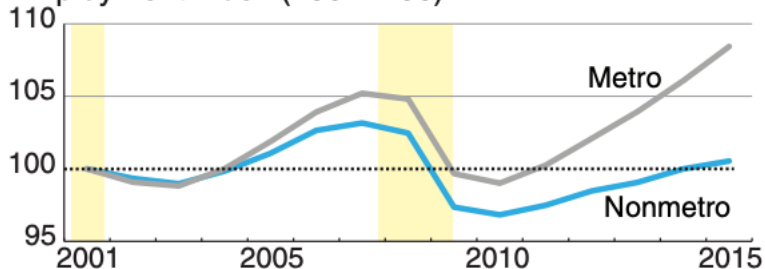
The Rural Context

Economics of Rural America

▶ Slower economic recovery

Nonmetro employment back to 2001 levels in 2015, still far below levels prior to the Great Recession

Employment index (2001=100)



▶ Older, less insured, lower income...

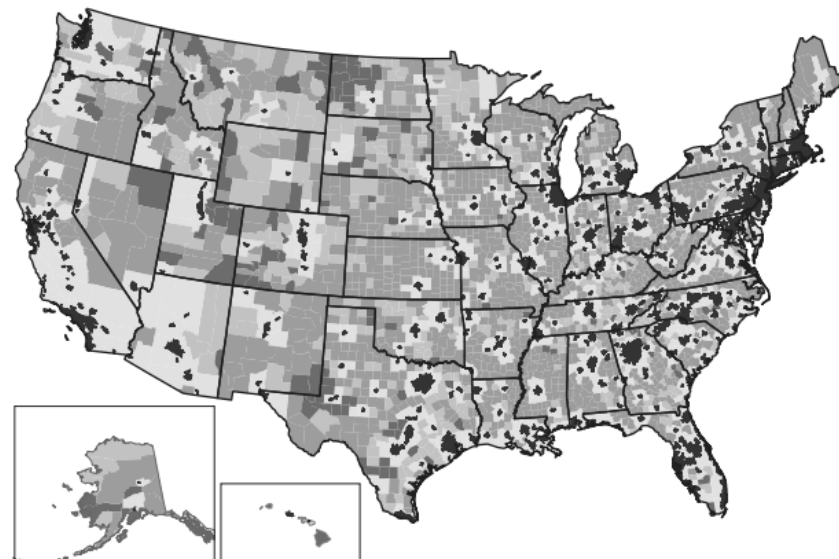
POPULATION CHARACTERISTICS¹

	Urban (Metropolitan)	Rural (Non-Metropolitan)		
		All Non-Metro	Micropolitan	Neither/Non-Core
Counties (% in 2015) ²	37.1	62.9	20.9	41.9
Population (% in 2015) ²	85.7	14.3	8.6	5.7
Population change (% 2010 to 2015) ²	4.6	-0.3	0.3	-1.2
People aged 65 and over (% in 2014) ³	14.0	17.8	16.8	19.2
Household income (median in 2014) ³	\$58,229	\$43,616	\$44,801	\$41,852
Children in poverty (% in 2014) ³	21.0	25.4	24.6	26.6
Adults with some college (% of adults aged 25-44 with some post-secondary education) ³	64.9	53.7	55.5	51.2

▶ Widespread population loss

- ▶ 2/3 of rural areas lost pop 2010-2016
- ▶ Evidence of recent reversal?

Nonmetro population loss is now widespread in the eastern United States



Population change, 2010-16

- Population loss (1,351 counties)
- Population growth below 5 percent (487 counties)
- Population growth 5 percent or higher (138 counties)
- Metro areas (1,166 counties)
- Urbanized areas as of 2013

Source: USDA, Economic Research Service using data from the U.S. Census Bureau.

Source: *Rural Health Snapshot* (2017). NC RHRP.

Source: *Rural America at a Glance*, 2017 Edition, USDA.

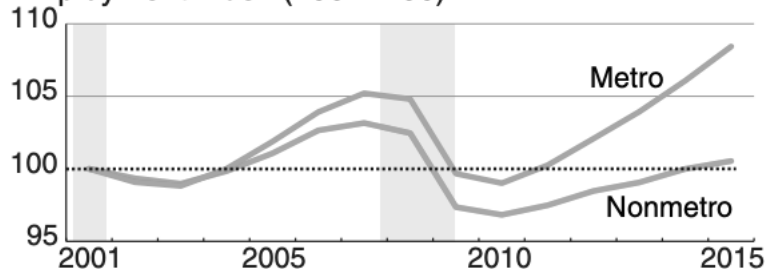
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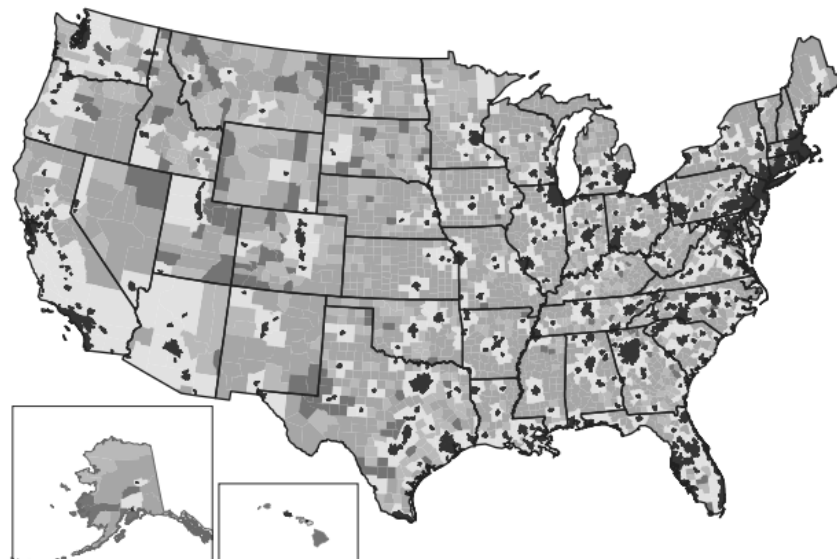
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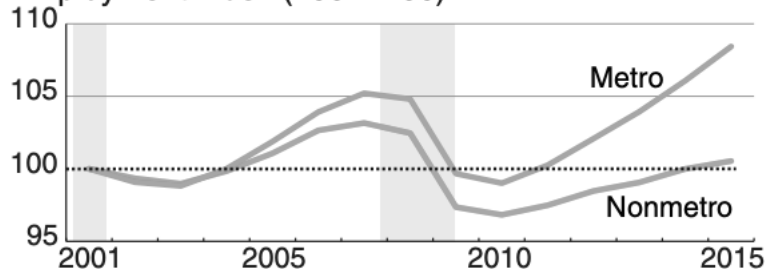
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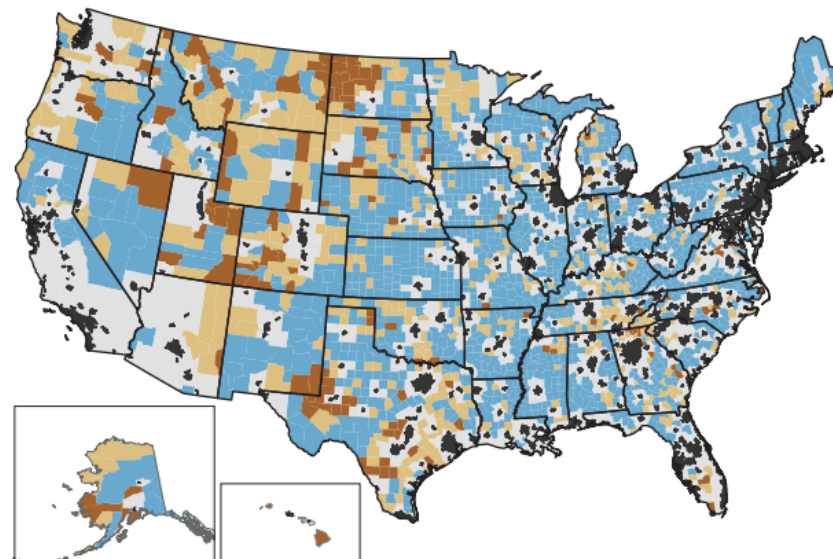
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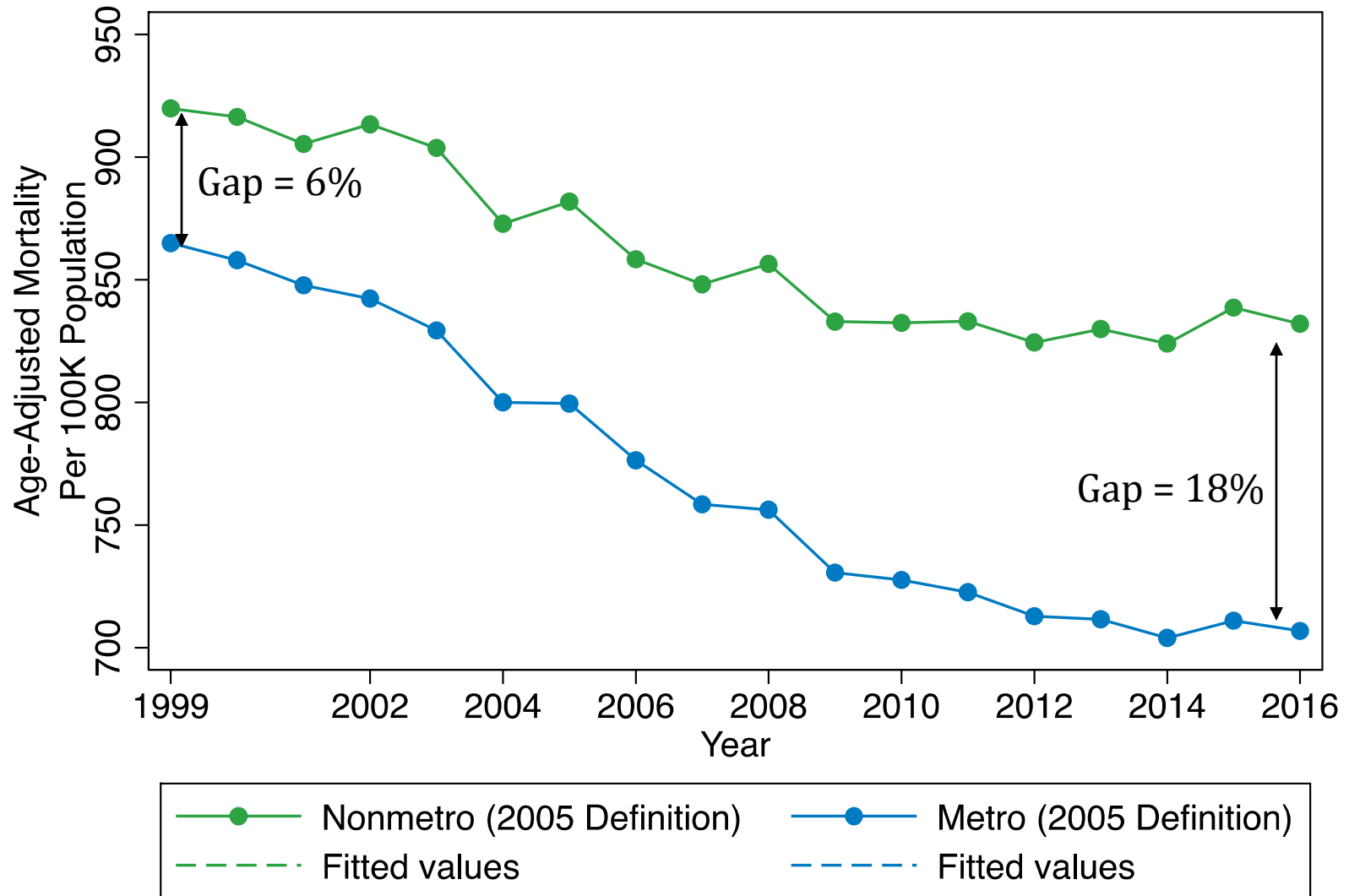
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Rural mortality falling more slowly than urban

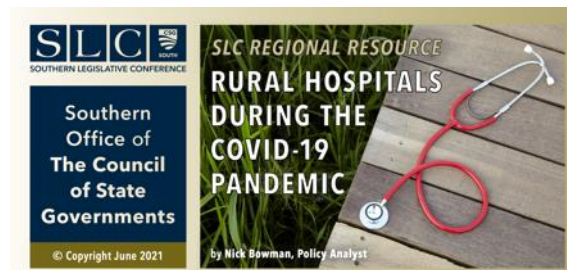
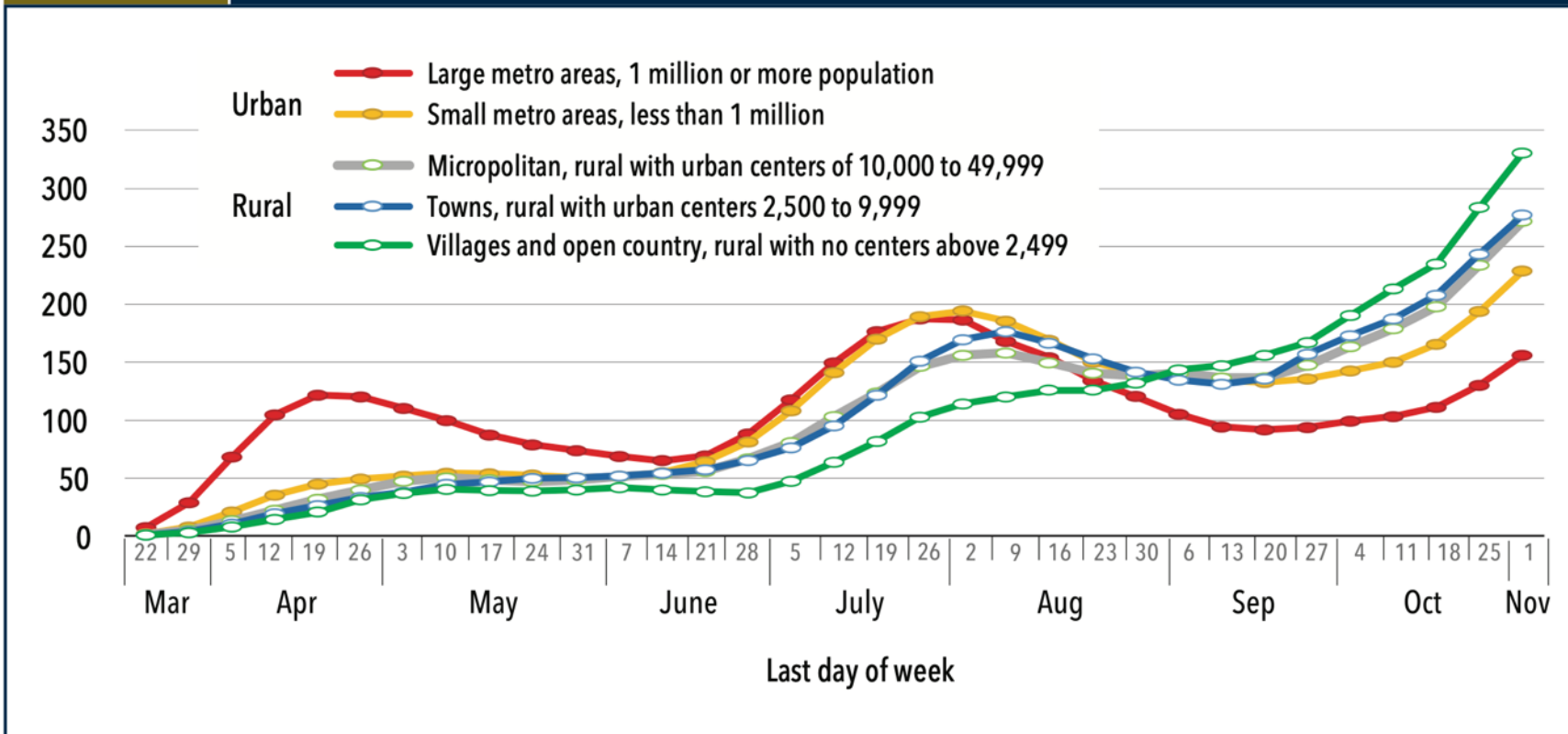


Source: CDC WONDER / Compressed Mortality File

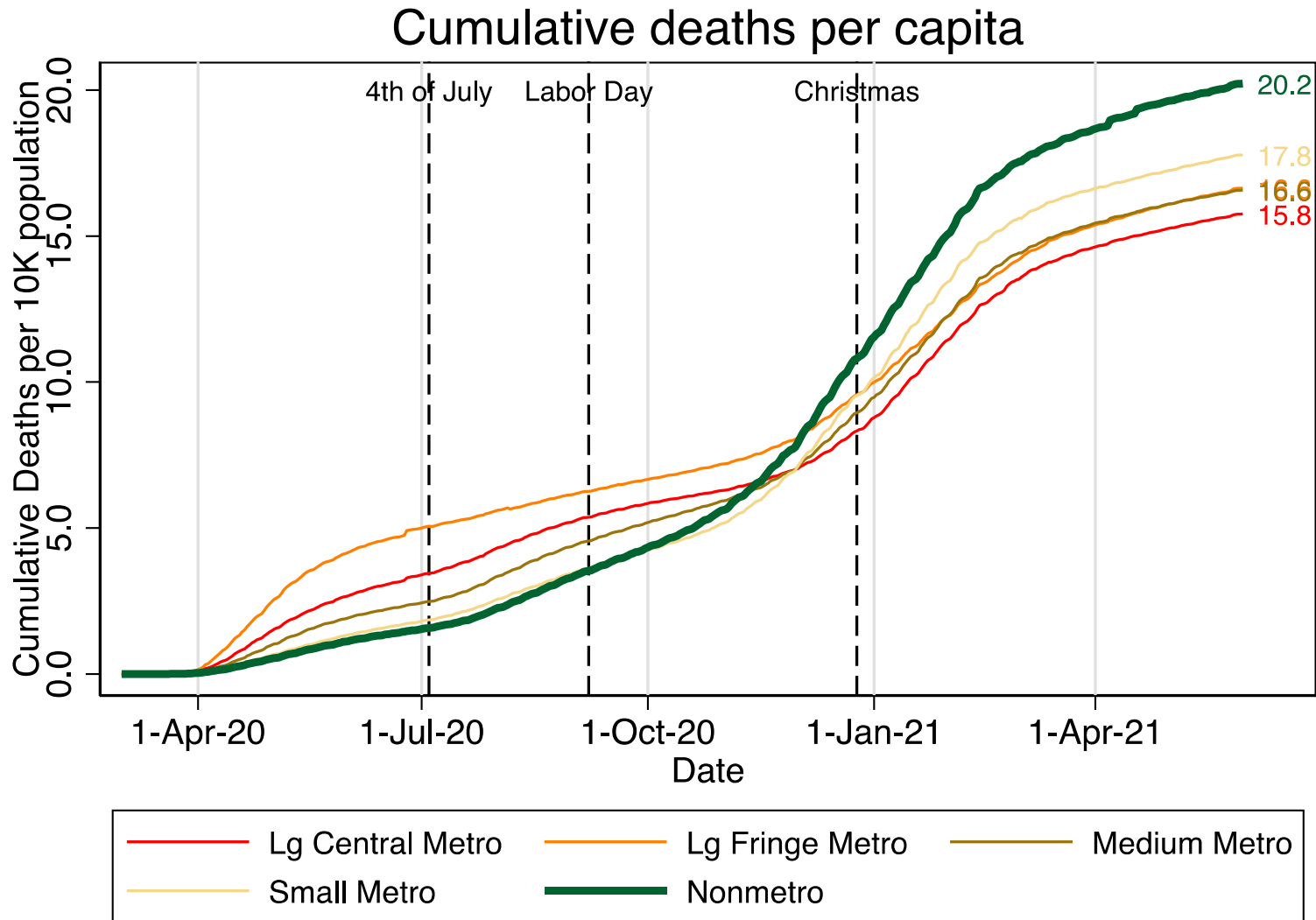
COVID-19 hit rural late but hard

Figure 3

Weekly New COVID-19 Cases by County Type (per 100,000 adults, ages 20 and up)



COVID-19 Mortality is Higher in Rural Areas



Death rate as of Jun 1 is 28% higher in nonmetro vs. central cities

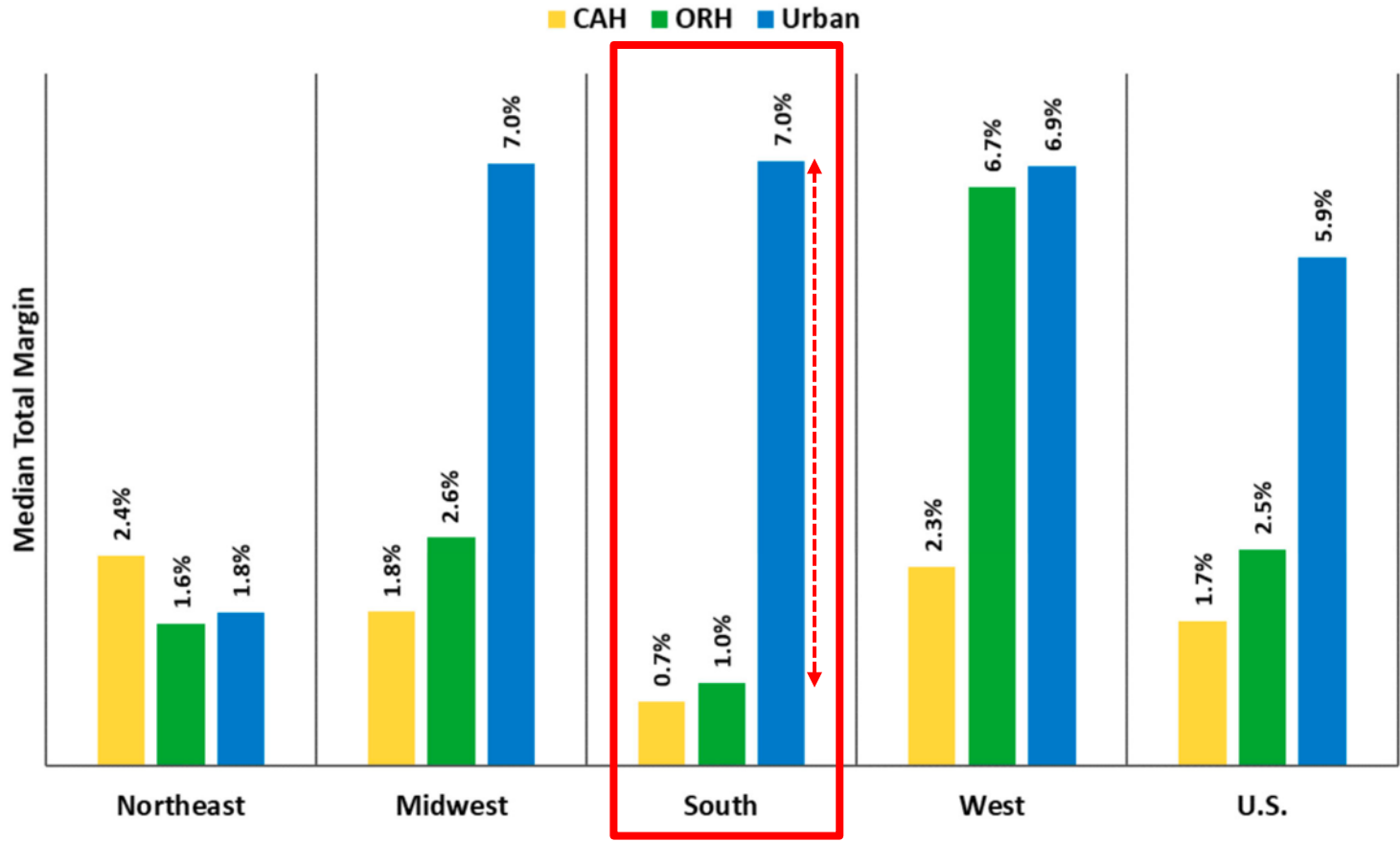
Data from The New York Times, based on reports from state and local health agencies.

<https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html>

Focus on Hospitals and Closures

The rural-urban hospital profitability gap is largest in the South

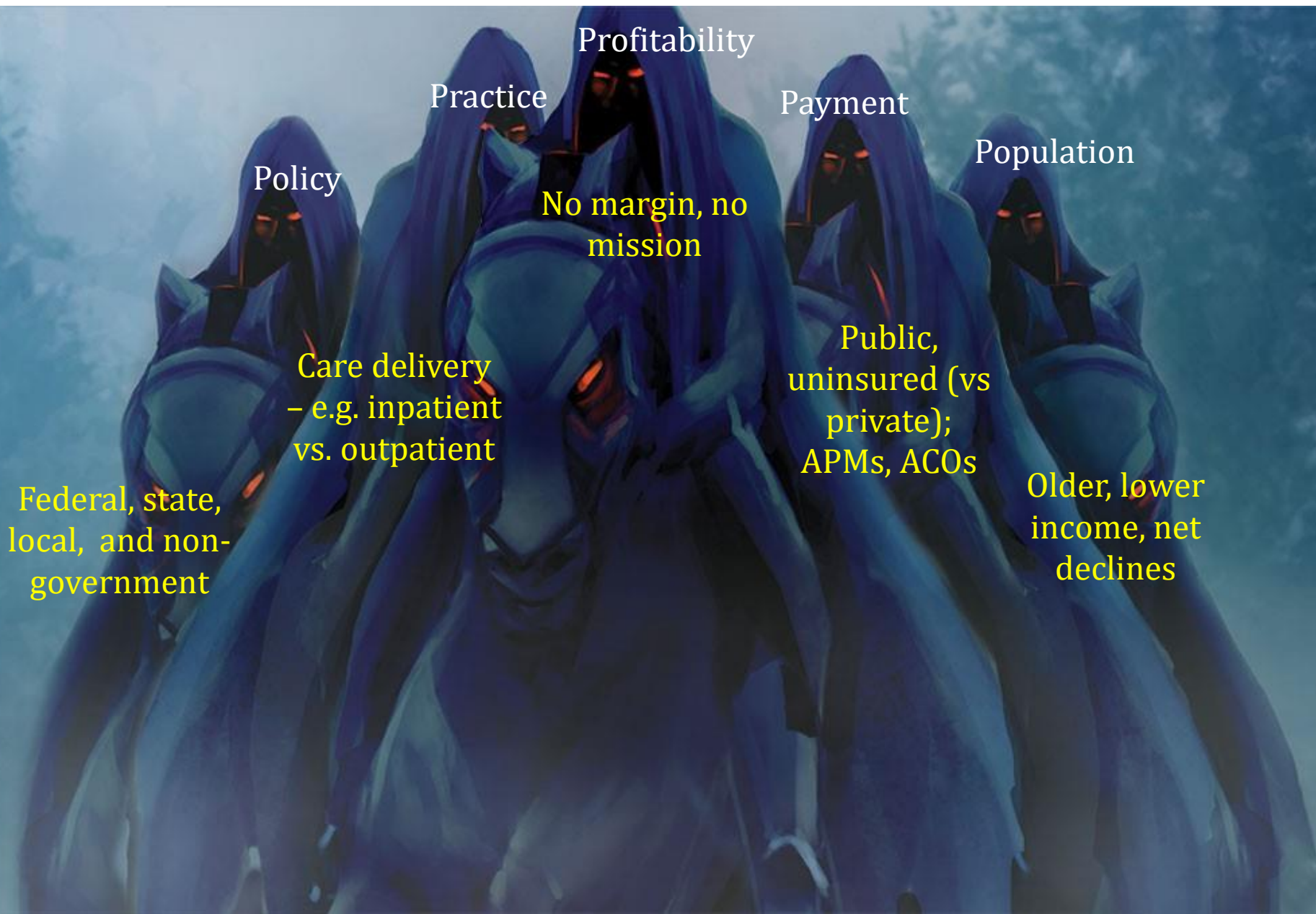
Figure 1. 2018 Median Total Margins for CAHs, ORHs and Urban Hospitals by Census Region



The operating reality of rural hospitals

- Low volumes: more vulnerable to variation (loss of one doc)
- Payer mix: greater proportion of Medicare, Medicaid, and self-pay
- Market structure: competitors are larger, more complex, and far
- Population served: smaller numbers and more who are older, sicker, lower income, unemployed, un- and -underinsured
- Service mix: lower complexity, primarily outpatient
- Workforce: recruitment and retention; impacts service mix and profitability (eg surgery)
- Technology: lower access to capital => less IT (e.g. EHR); broadband

THE FIVE HORSEMEN OF RURAL HOSPITAL CLOSURES



Profitability

Practice

Payment

Population

Policy

No margin, no mission

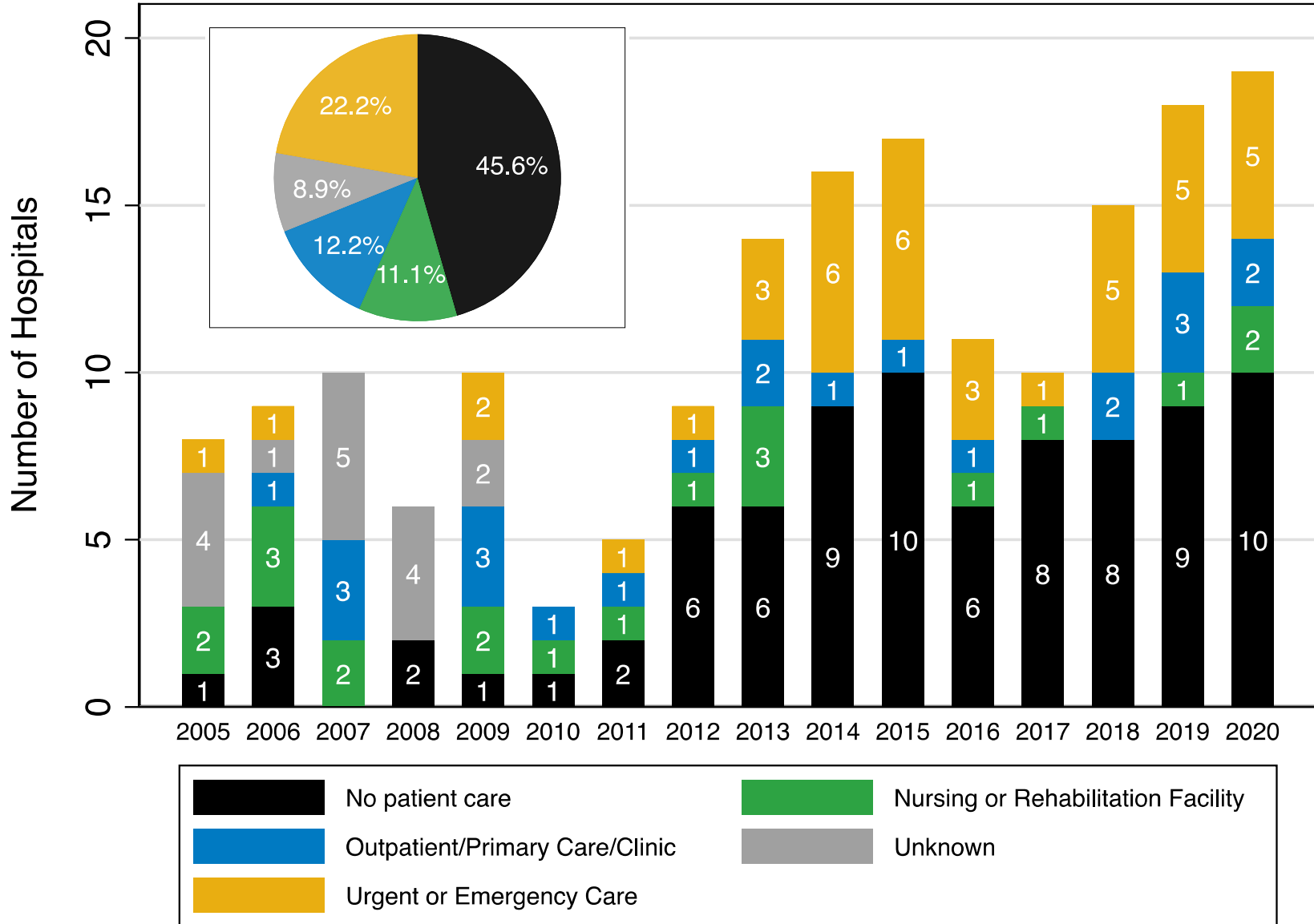
Care delivery
– e.g. inpatient vs. outpatient

Public, uninsured (vs private); APMs, ACOs

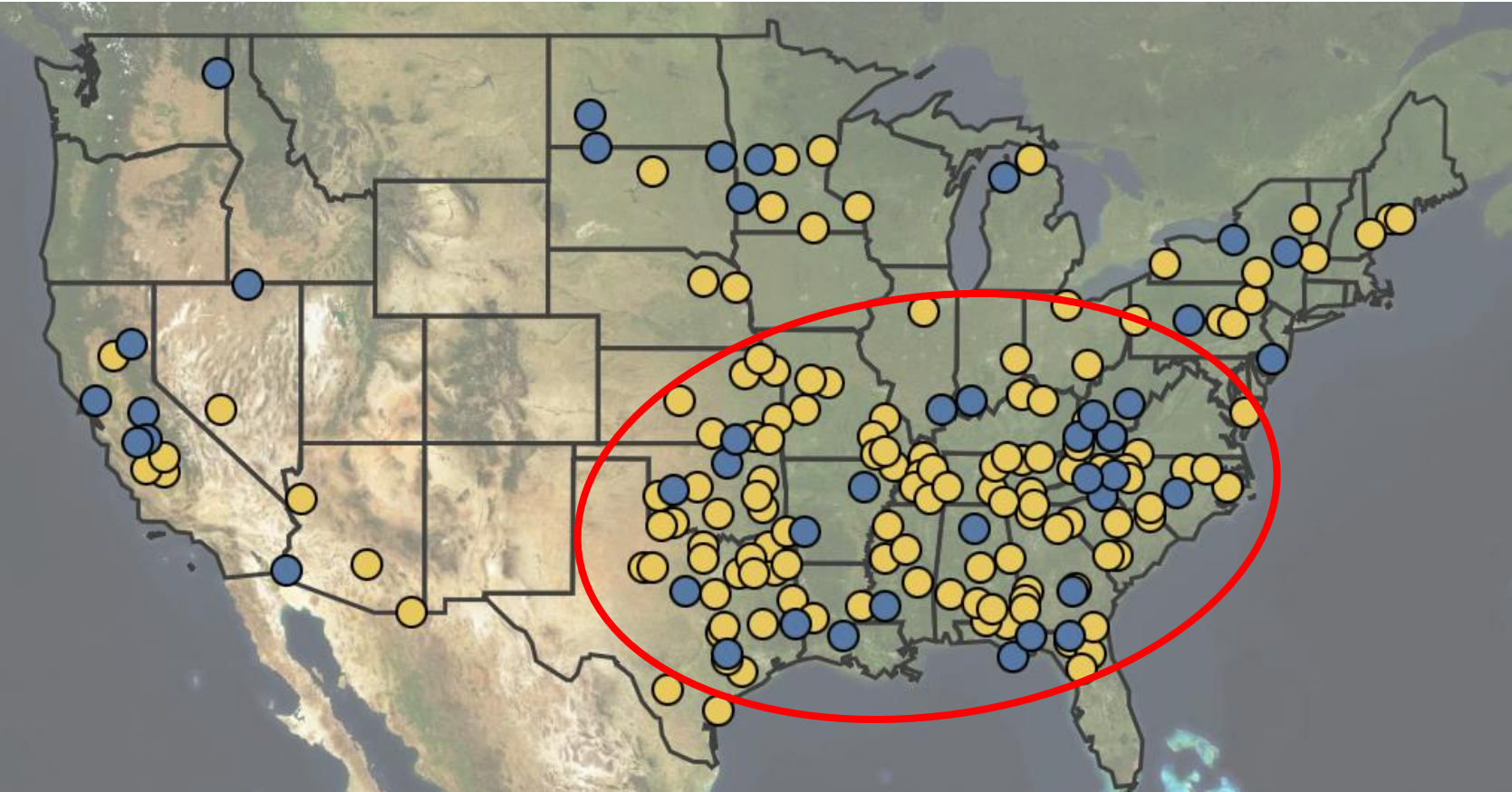
Federal, state, local, and non-government

Older, lower income, net declines

May 2021 Rural Hospital Closure Snapshot



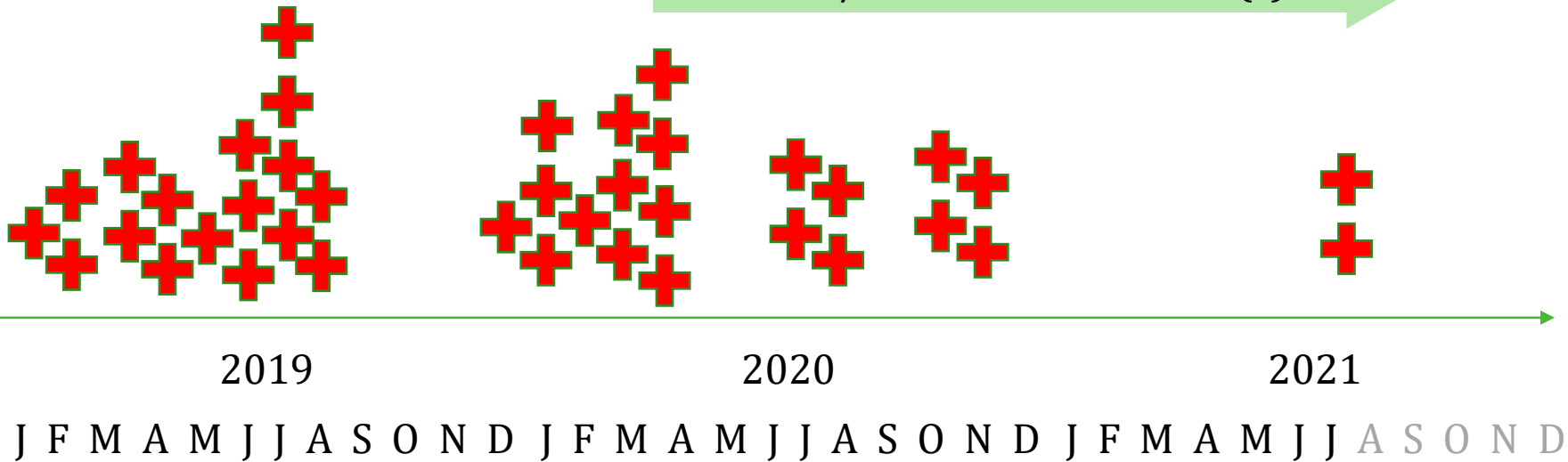
Closures concentrated in the South



Closures 2019-2021

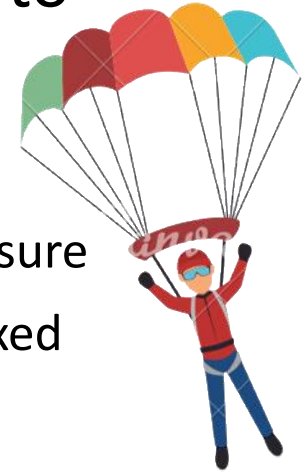


COVID/Provider Relief Fund(s) 



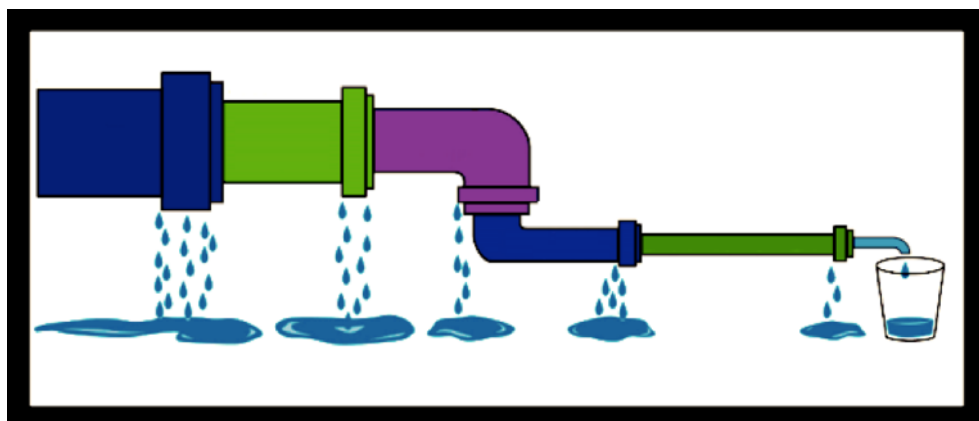
Impact of closures on community

- 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
 - Providers leave
 - Some work on outcomes coming(?)
- 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)



Equity Issues in Rural Hospital Closures

- ▶ Among all rural hospitals, those serving more Black populations are more likely to be distressed
- ▶ Among financially distressed rural hospitals, those serving markets serving more Black and/or Hispanic populations are more likely to close
- ▶ Among rural hospitals that close, those serving markets serving more Black populations are more likely to cease all healthcare services



<http://www.techvision21.com/the-bachelors-to-ph-d-pipeline-is-not-leaking-women-and-underrepresented-minorities/>

- Thomas SR, Pink GH, Reiter KL. Characteristics of Communities Served by Rural Hospitals Predicted to be at High Risk of Financial Distress in 2019 (April 2019). FB 151.
- Sharita R. Thomas, George M. Holmes, George H. Pink. To What Extent do Community Characteristics Explain Differences in Closure among Financially Distressed Rural Hospitals? *Journal of Health Care for the Poor and Underserved* Nov 2016 Supplement;(27,4):194-203.
- Thomas SR, Kaufman BG, Randolph RK, Thompson KW, Perry JR, Pink GH A Comparison of Closed Rural Hospitals and Perceived Impact (April 2015). FB123.

Sample policy solutions *approaches*

- Federal: rural emergency hospital
 - Allow small hospitals to convert to a new provider type: REH
 - Big idea: allows a “step down” for a town that would lose its hospital
 - Most hospitals will need TA, capital to rebuild, community engagement
- State: emergency stabilization fund (e.g. LA, NC)
- Address the vacuum left post-closure: telehealth, provider recruitment
- More from Keith!

North Carolina Rural Health Research Program



Location:

Cecil G. Sheps Center for Health Services Research

University of North Carolina at Chapel Hill

Website: <http://www.shepscenter.unc.edu/programs-projects/rural-health/>
or <http://go.unc.edu/ncrhc>

Email: ncrural@unc.edu

Twitter : @NCRural

Colleagues:

Mark Holmes, PhD

George Pink, PhD

Kristin Reiter, PhD

Erin Kent, PhD

Tyler Malone

Kathleen Knocke, MSPH

Arrianna Planey, PhD

Ann Howard

Sharita Thomas, MPP

Randy Randolph, MRP

Hannah Friedman

Kristie Thompson, MA

Julie Perry



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