

The Rural Health Professions Workforce: An Overview of Needs, Gaps, and Coming Crises



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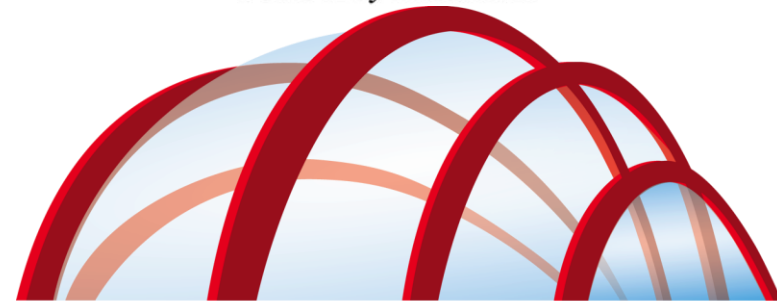
Professor, Family Medicine

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TEXAS TECH UNIVERSITY
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School of Medicine



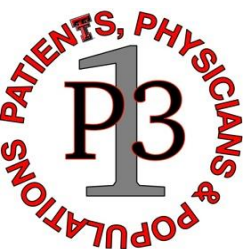
TTU DOME

Department of Medical Education



Session Objectives

- List recent trends in the rural U.S.
- Define Social Determinants of Health and their relevance to rural health
- Identify challenges to health care in rural settings
- Evaluate strategies to encourage growth in the rural health care workforce



Your Patient: *Rachel*

Her Health Conditions:

- ✓ Type 2 Diabetes
- ✓ Hypertension
- ✓ Neuropathy
- ✓ Obesity
- ✓ High Cholesterol
- ✓ Tobacco Use
- ✓ Breast Cancer





Your Patient: *Rachel*

Her Social Conditions:

- ✓ Grew up in poverty
- ✓ Immigrated from Mexico at age 19
- ✓ Widowed at 35
- ✓ Prefers to speak Spanish
- ✓ No health insurance
- ✓ Doesn't have a drivers' license
- ✓ Lives in rural Texas



SDH

Social Determinants of Health

WHO Definition

- The **social determinants of health** are the conditions in which people are born, grow, live, work and age, including the health system.
- These circumstances are shaped by the distribution of money, power and resources at global, national and local levels.
- The social determinants of health are mostly responsible for health inequities - the unfair and avoidable differences in health status seen within and between countries.

Determinants of Health

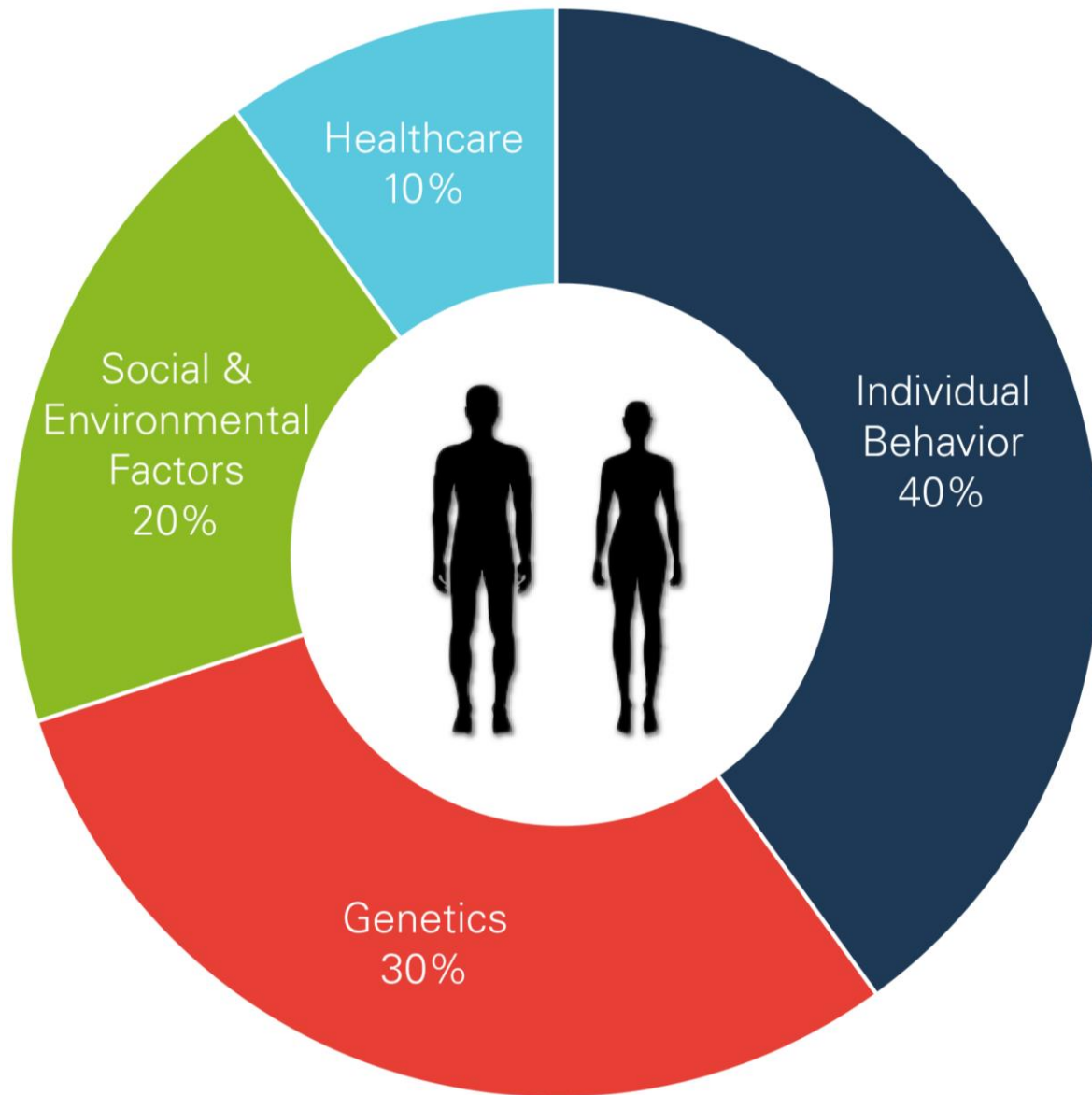
Rachel's Social Conditions:

- ✓ Grew up in poverty
- ✓ Immigrated from Mexico at age 19
- ✓ Widowed at 35
- ✓ Prefers to speak Spanish
- ✓ No health insurance
- ✓ Doesn't have a drivers' license
- ✓ Lives in rural Texas

Economic Stability	Neighborhood and Physical Environment	Education	Food	Community and Social Context	Health Care System
Employment	Housing	Literacy	Hunger	Social integration	Health coverage
Income	Transportation	Language	Access to healthy options	Support systems	Provider availability
Expenses	Safety	Early childhood education		Community engagement	Provider linguistic and cultural competency
Debt	Parks	Vocational training		Discrimination	Quality of care
Medical bills	Playgrounds	Higher education			
Support	Walkability				

Health Outcomes

Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations



Impact of Factors on Risk of Premature Death

Exacerbating Health Risks: Climate Change

- Increasingly frequent extreme weather events
- Extreme heatwaves
- Storms and floods
- Disruption of food systems
- Increases in zoonoses and food-, water- and vector-borne diseases
- Mental health issues

Estimated Deaths Due to Social Factors in the US, 2000

Deaths Due to Social Factors

➤ Low education:	245,000
➤ Racial segregation:	176,000
➤ Low social support:	162,000
➤ Individual poverty:	133,000
➤ Income inequality:	119,000
➤ Area level poverty:	39,000

In Contrast...

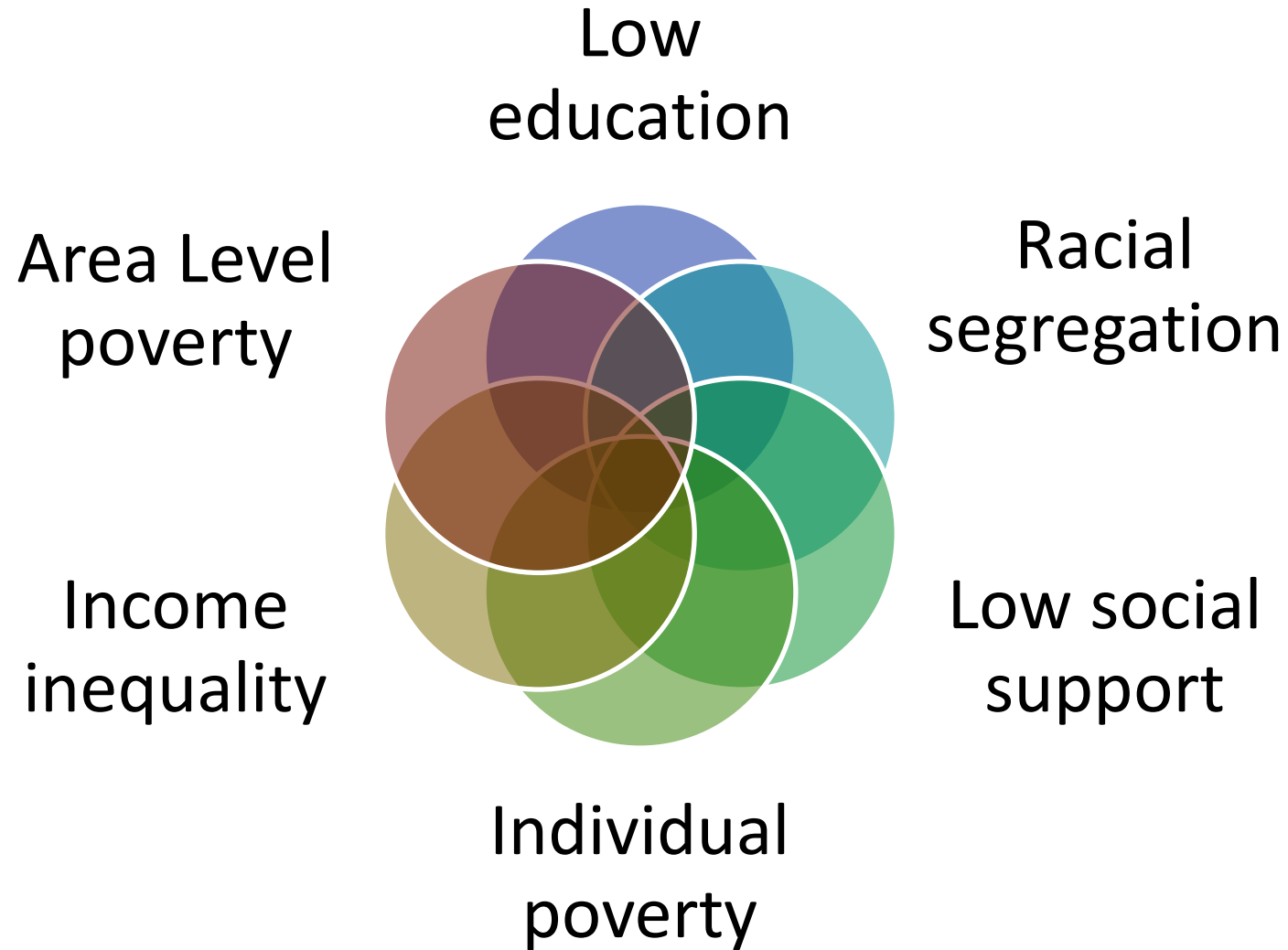
➤ Acute MI:	192,898
➤ Cerebrovascular dx:	167,661
➤ Lung cancer:	155,521

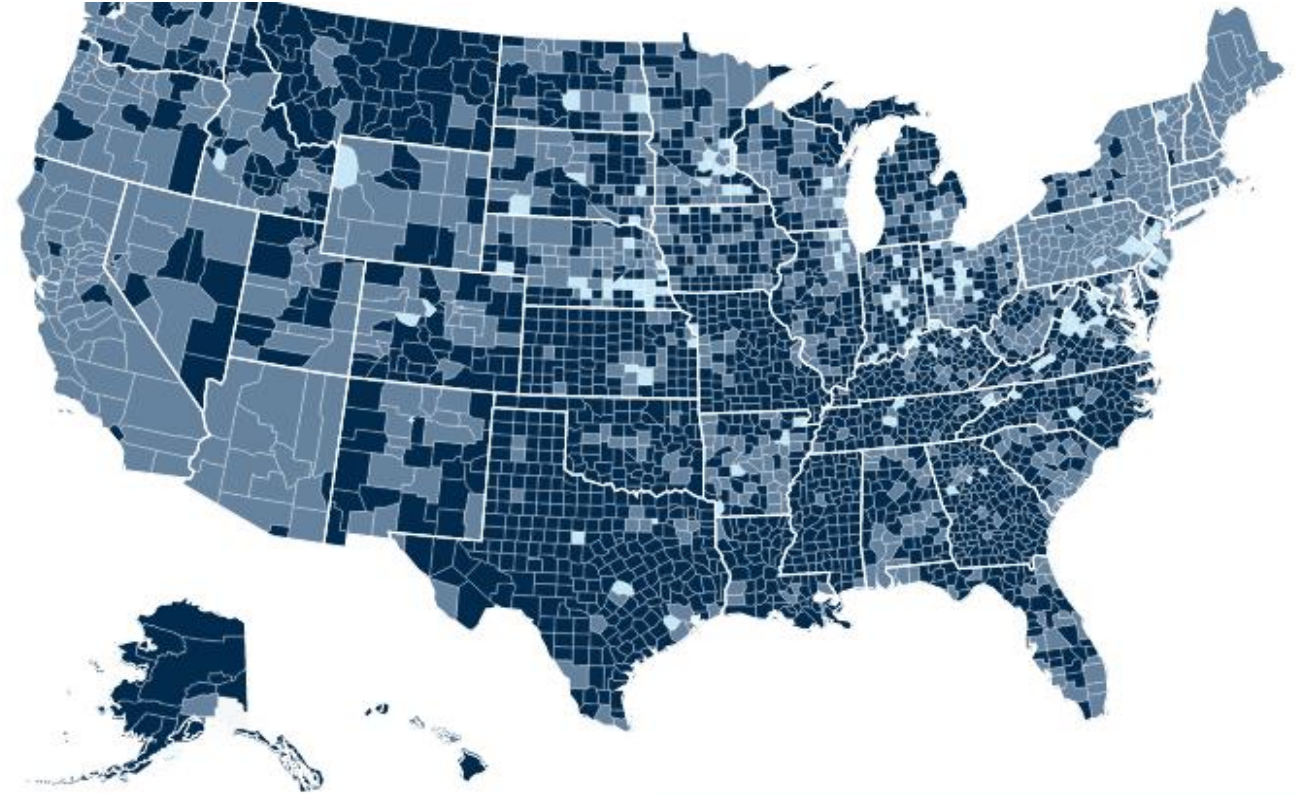
“Social causes can be linked to death as readily as can pathophysiological and behavioral causes. All of these factors contribute substantially to the burden of disease in the United States, and all need focused research.”

Estimated Deaths Attributable to Social Factors in the US. Galea S et.al. Am J Public Health. 2011 August; 101(8): 1456–1465.



Where do you find concentrations of...





None of county is shortage area Part of county is shortage area Whole county is shortage area

Rural America

Defining “Rural” & “Nonmetro”?

- Nonmetropolitan (nonmetro) counties are defined by the Office of Management and Budget and include a combination of...
 - Open countryside
 - Rural towns (places with fewer than 2,500 people)
 - Urban areas with populations less than 50,000 that are not part of larger labor market areas (metropolitan areas).



Economic Research Service
U.S. DEPARTMENT OF AGRICULTURE

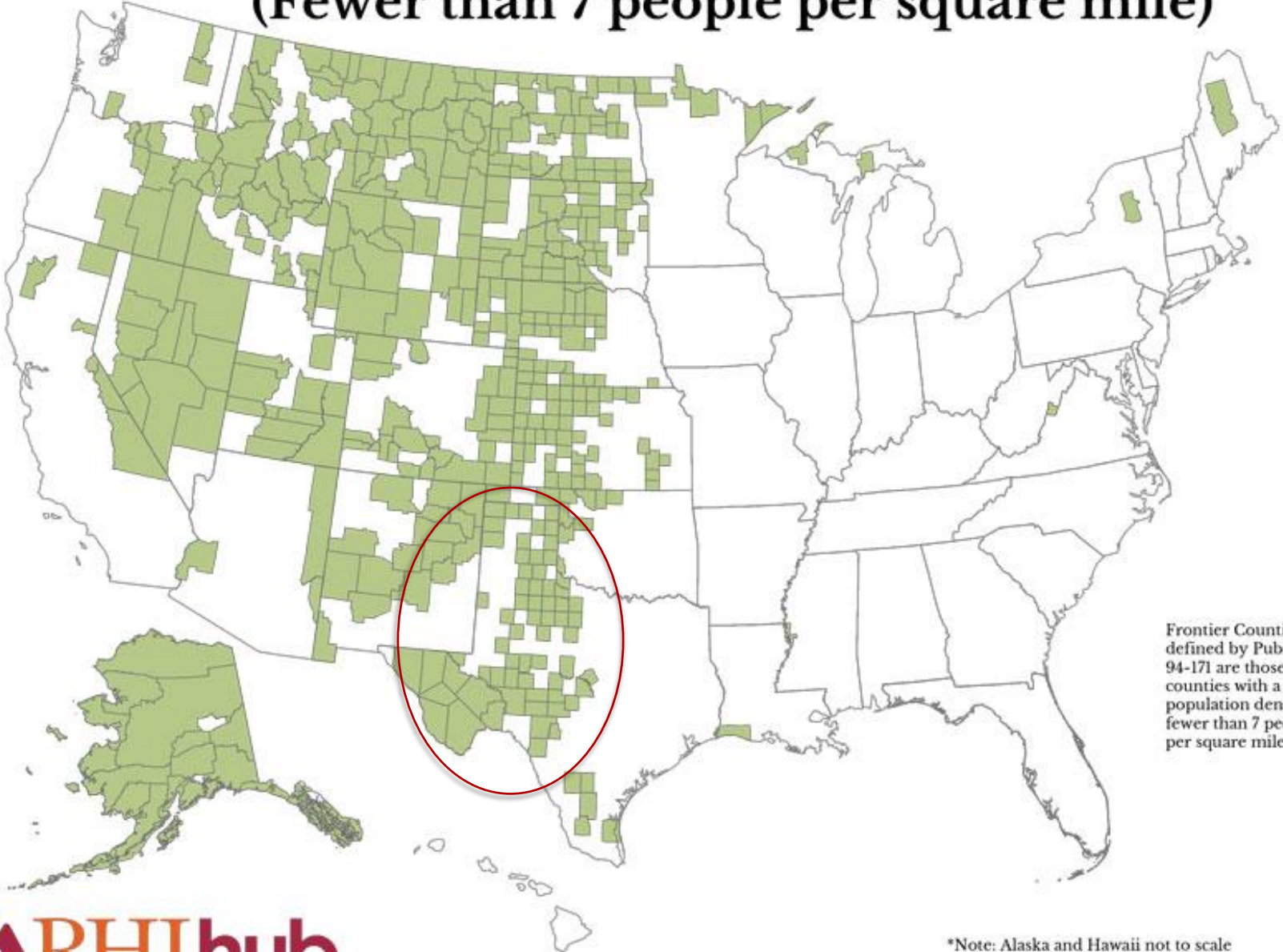


By James C. Davis, Anil Rupasingha, John Cromartie, and Austin Sanders

Frontier Counties (Fewer than 7 people per square mile)

Frontier Counties

Frontier
Counties:
Those with a
population
density of fewer
than 7 people
per square mile



Frontier Counties as defined by Public Law 94-171 are those counties with a population density of fewer than 7 people per square mile.

*Note: Alaska and Hawaii not to scale
Source(s): U.S. Census Bureau, 2010 Decennial Census, Summary File 1

Examples of Rural Health Care Challenges

Obstetricians

Over 1/2
of rural counties
have no hospital-based
obstetrics services



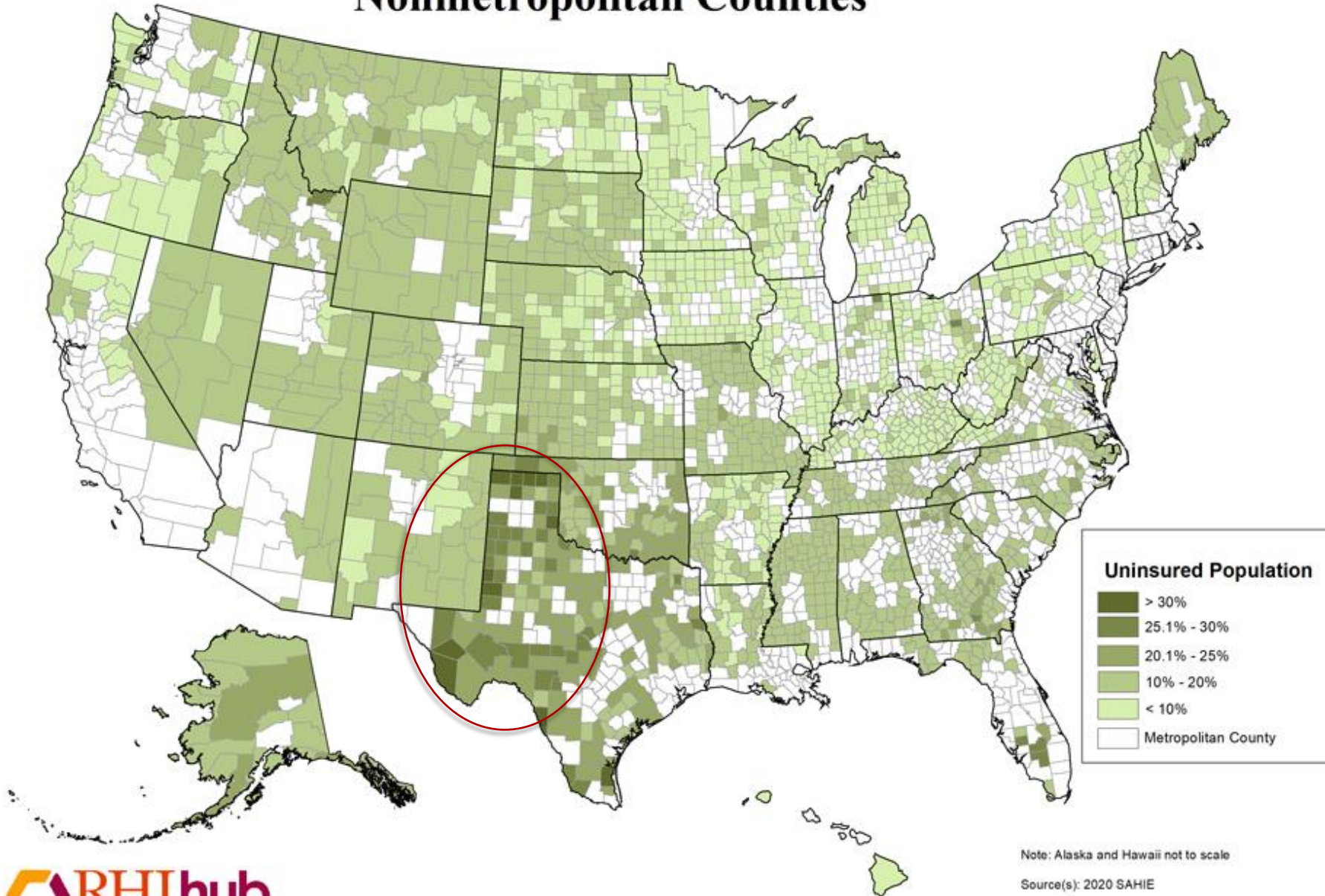
6%

of the
nation's
OB-GYNs
work in
rural areas

- Lower provider-to-population ratios in rural areas despite the disproportionate need for health services due to older population age and more chronic conditions
- Availability of Physician Specialists:
 - **Rural** 40.1 /100K people vs. **Metro** 134.1 /100K people
- Suicide Rate:
 - **Rural** 18.9 /100K people vs. **Metro** 13.2 /100K people
- Motor Vehicle Accidents:
 - **Rural** 43% vs. **Metro** 56% (compared with 14% vs. 86% of US population)

Uninsured Population in Nonmetropolitan Counties

Uninsured

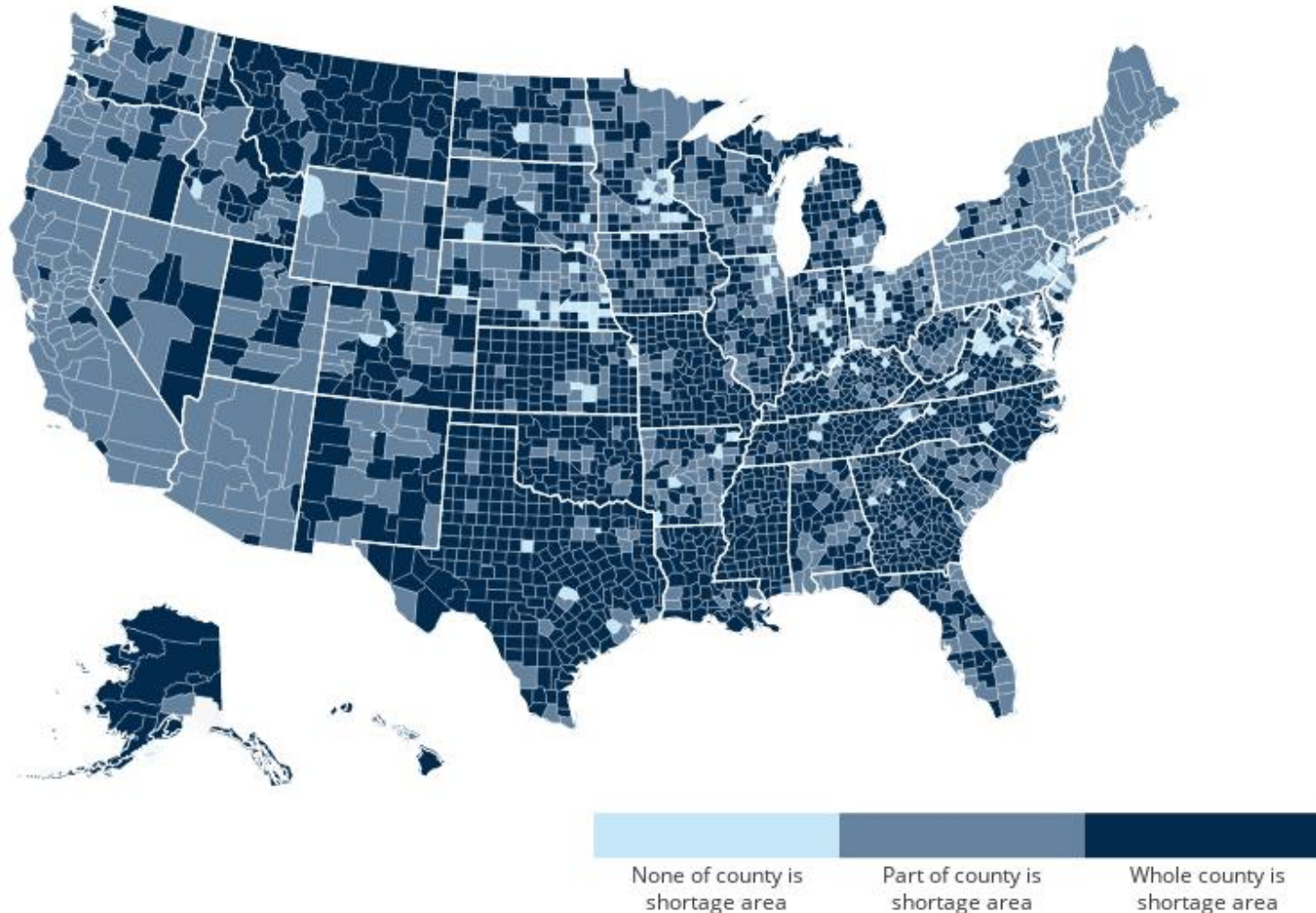


Note: Alaska and Hawaii not to scale

Source(s): 2020 SAHIE

HPSAs

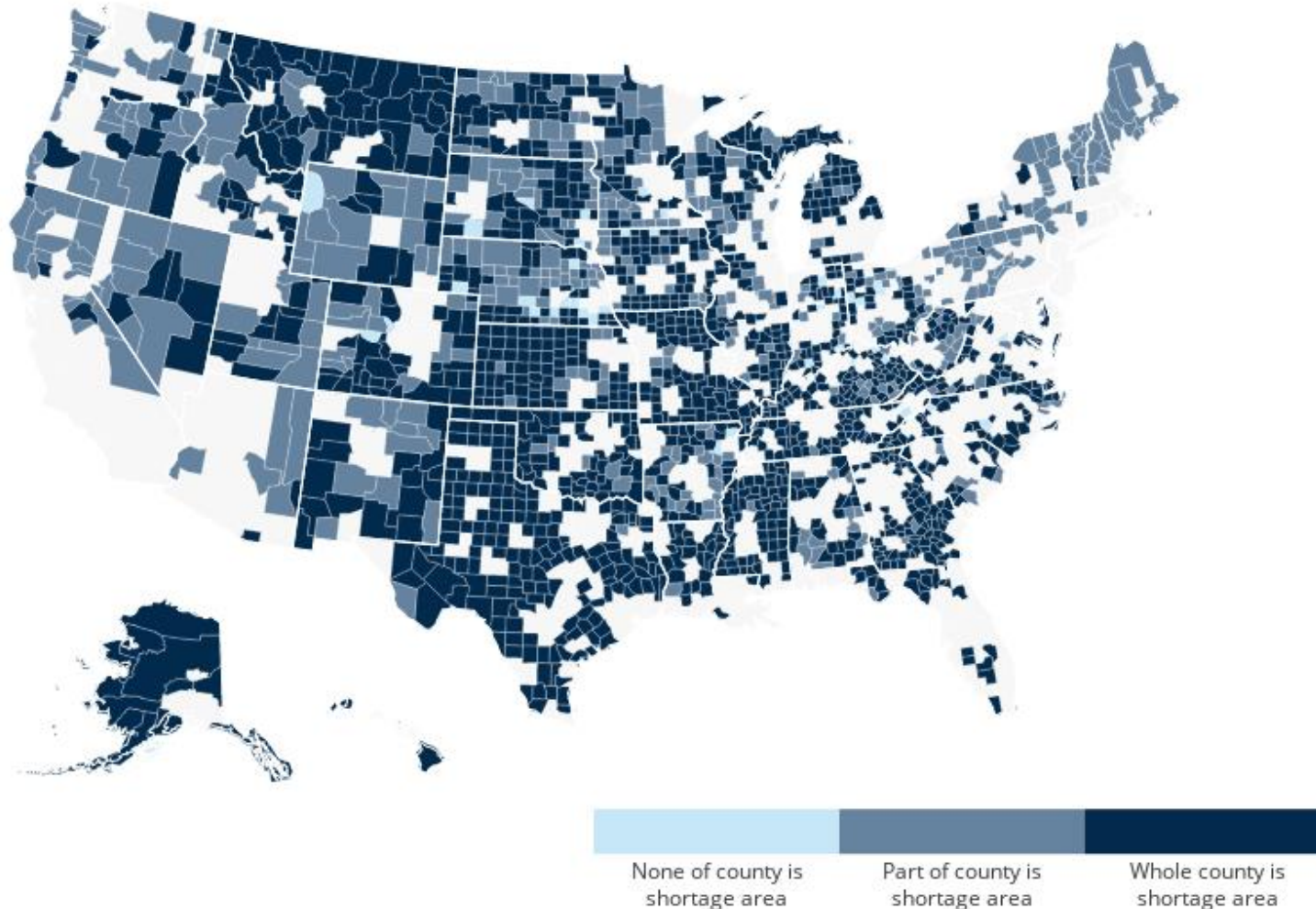
Health Professional Shortage Areas: Primary Care, by County, 2022



- Health Professional Shortage Area (HPSAs) can be geographic areas, populations, or facilities.
- These areas have a shortage of primary, dental or mental health care providers.

HPSAs

Health Professional Shortage Areas: Primary Care, by County, 2022 - Nonmetropolitan

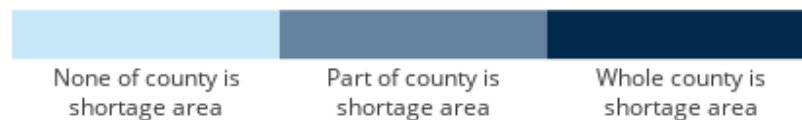
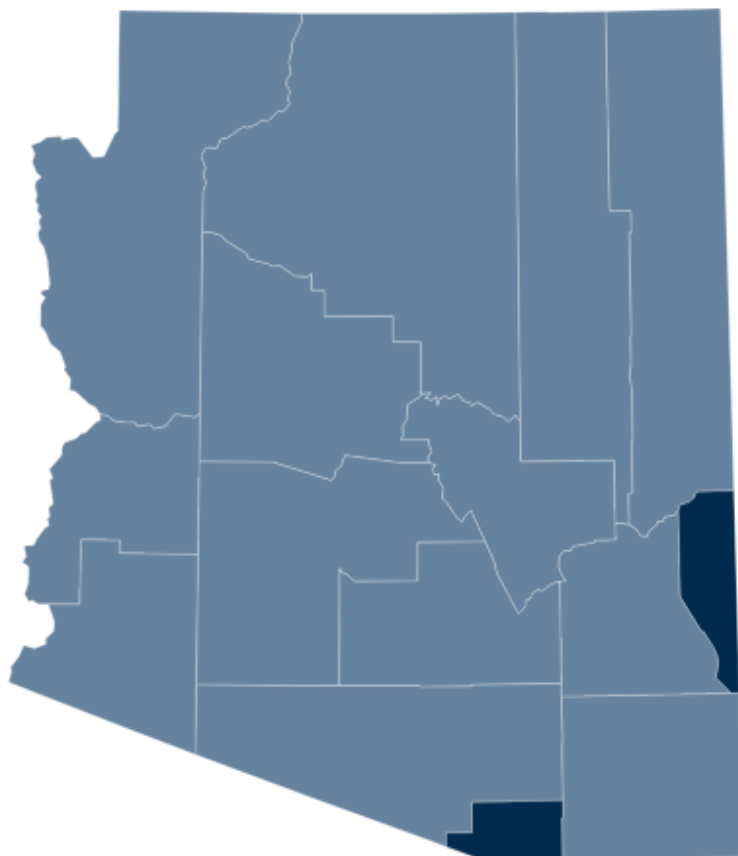


Primary Care- Rural

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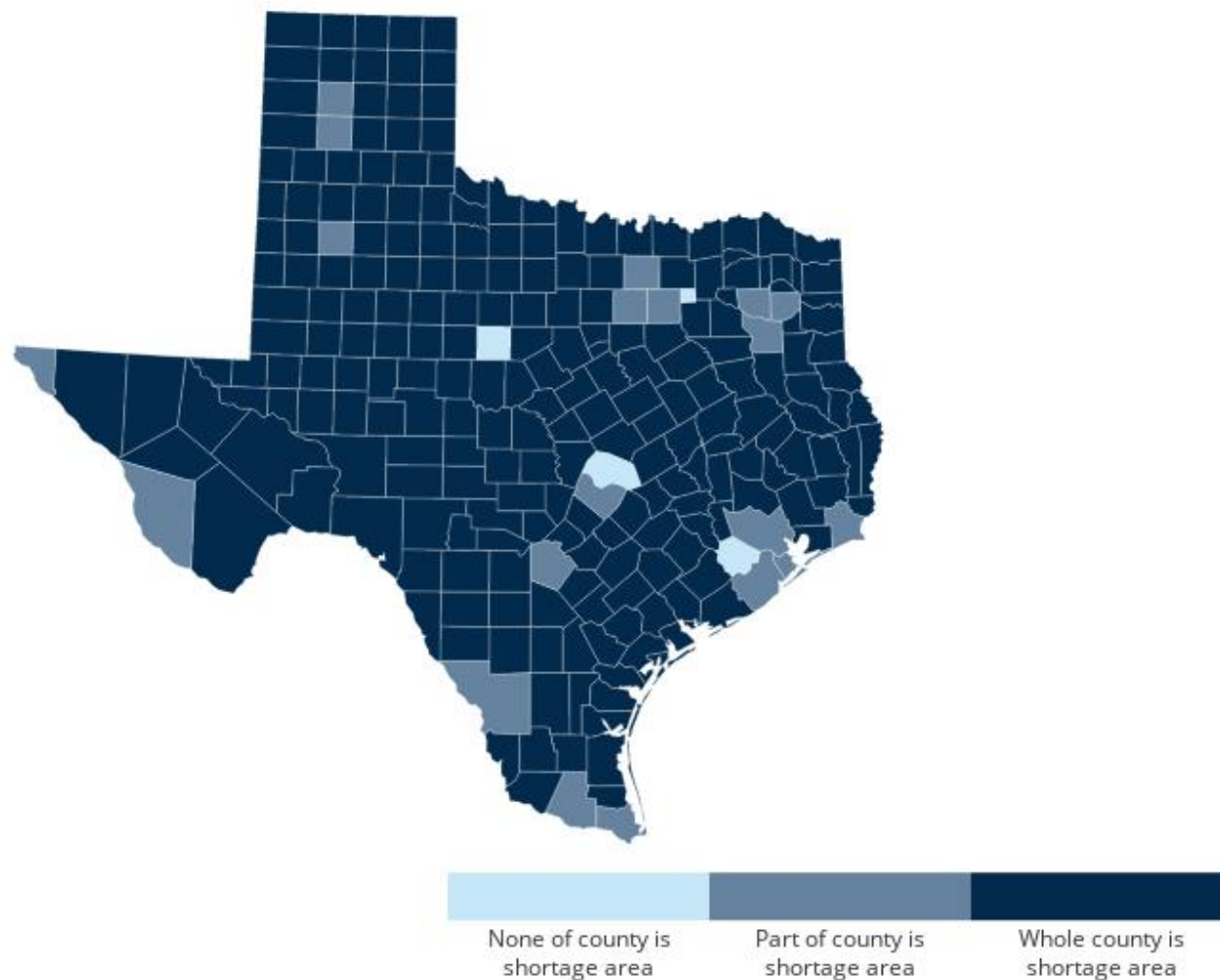
HPSAs Arizona

Health Professional Shortage Areas: Primary Care, by County, 2022 - Arizona



HPSAs Texas

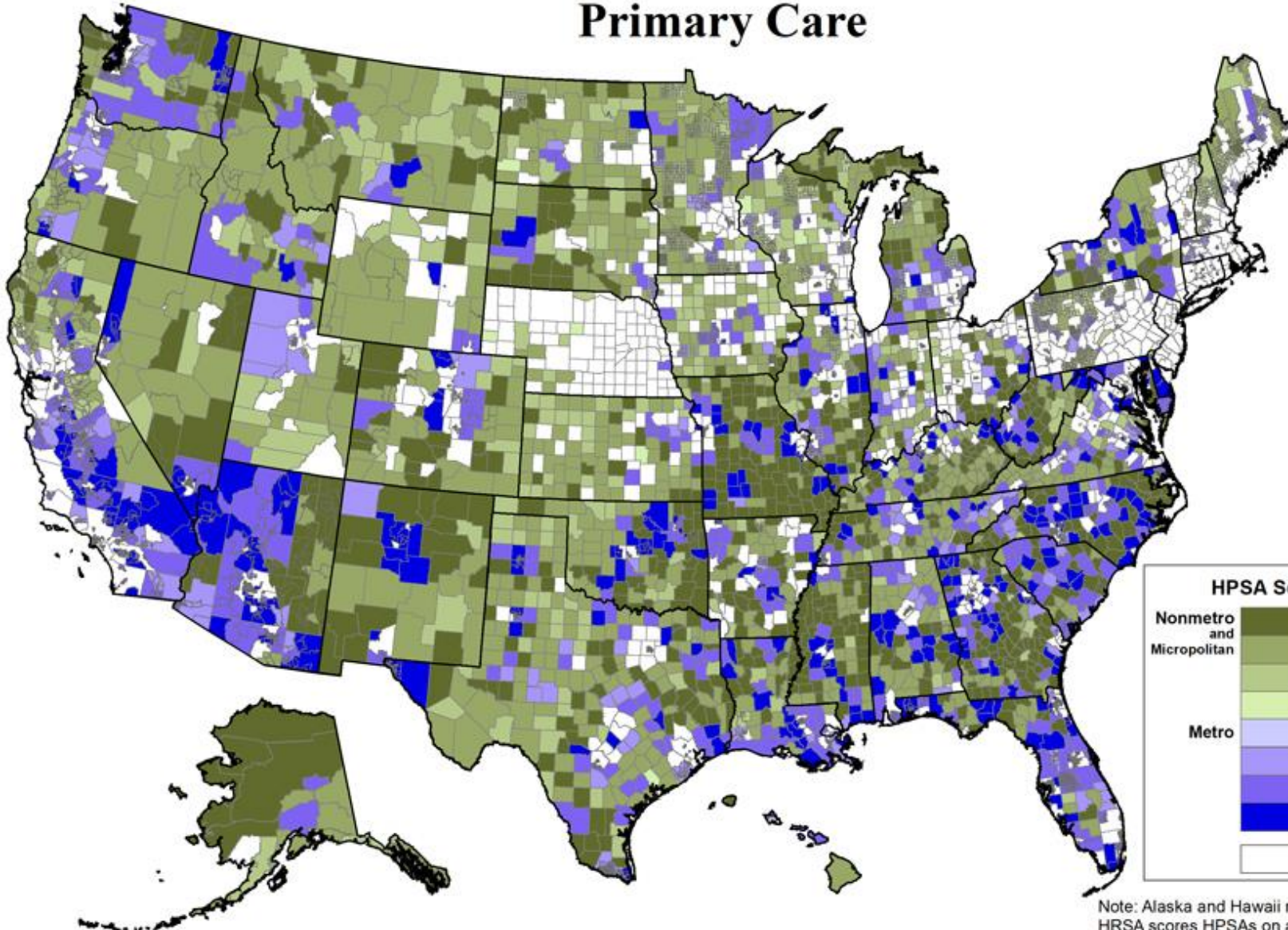
Health Professional Shortage Areas: Primary Care, by County, 2022 - Texas



Health Professional Shortage Areas Primary Care

Primary Care HPSAs

Rural vs. Metro Counties



Note: Alaska and Hawaii not to scale
HPSA scores on a scale of a whole number (0-25 for primary care), with higher scores indicating greater need

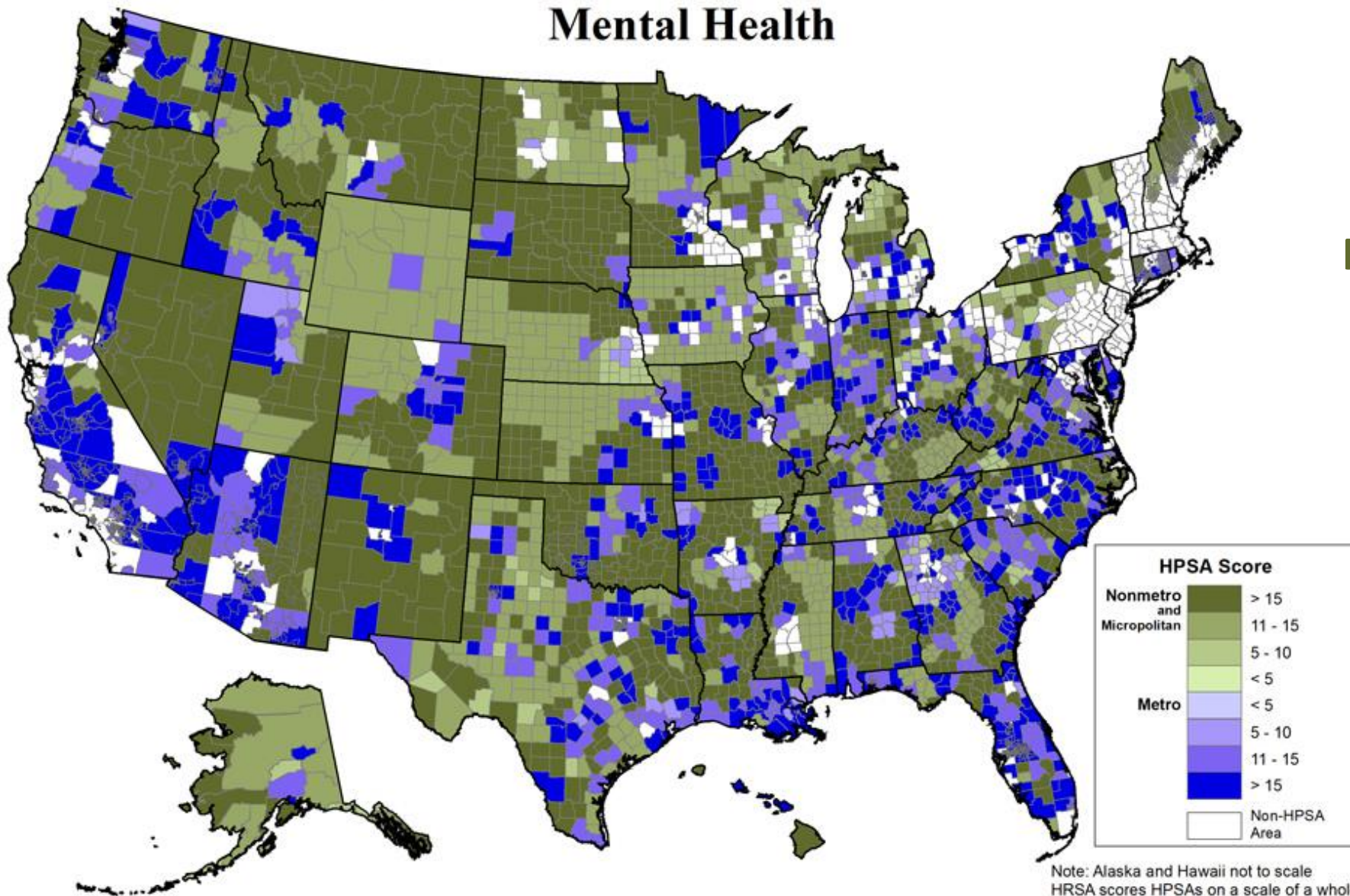
Source(s): data.HRSA.gov, U.S. Department of Health and Human Services, November 2022



Health Professional Shortage Areas Mental Health

Mental Health HPSAs

Rural vs. Metro Counties



Note: Alaska and Hawaii not to scale
HPSA scores on a scale of a whole number (0-25 for mental health), with higher scores indicating greater need

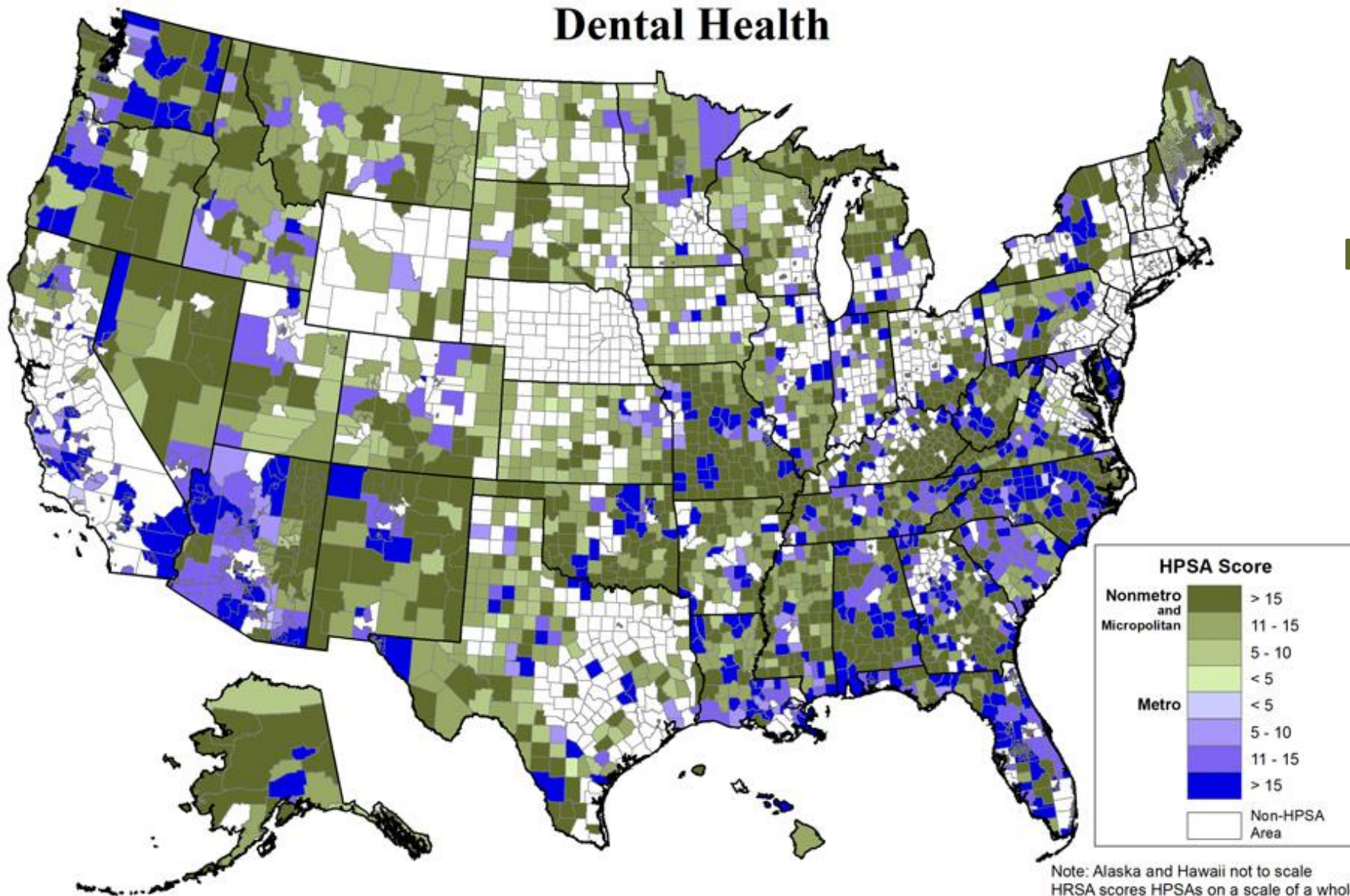
Source(s): data.HRSA.gov, U.S. Department of Health and Human Services, November 2022



Health Professional Shortage Areas Dental Health

Dental Health HPSAs

Rural vs. Metro Counties

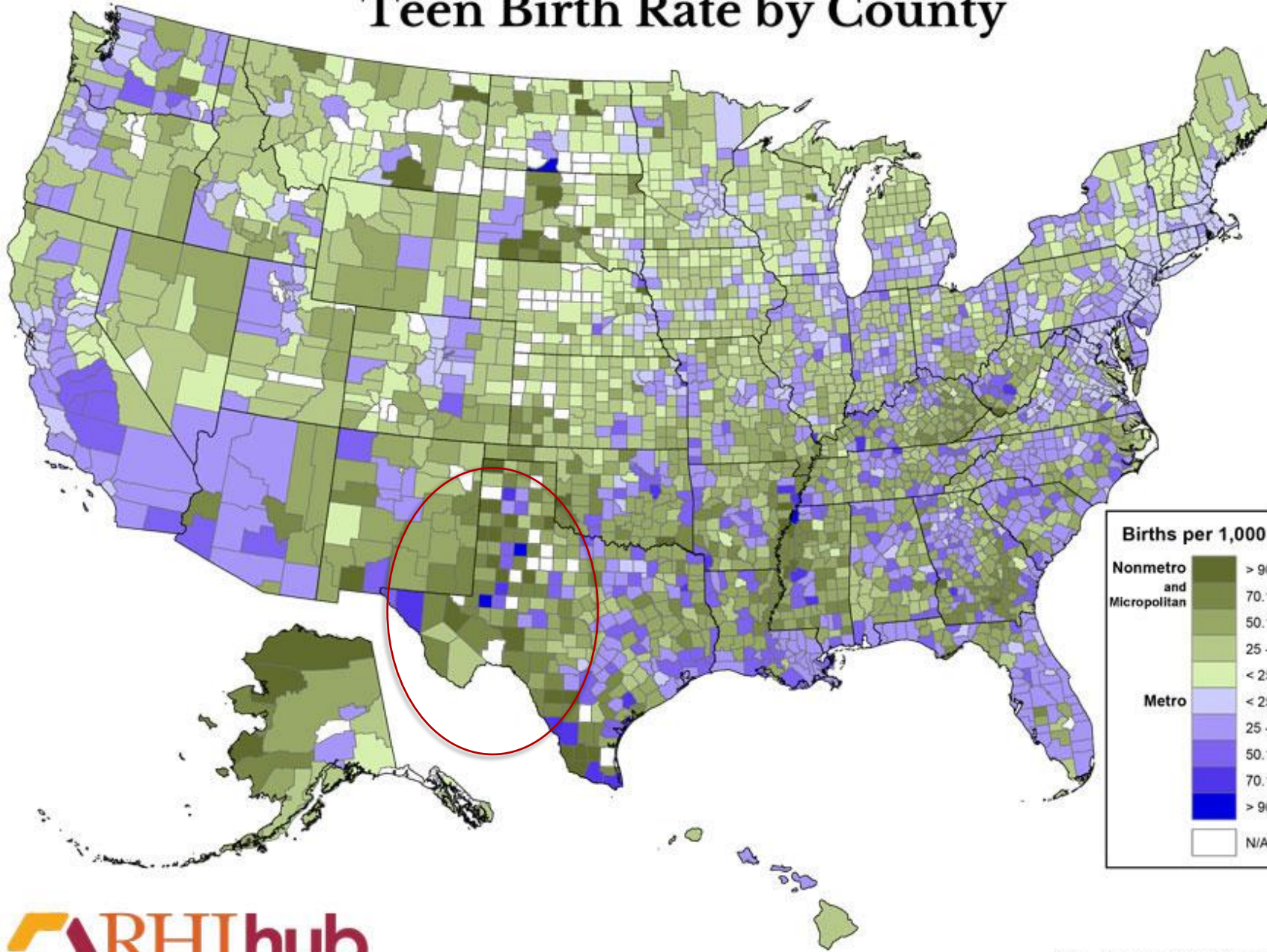


Note: Alaska and Hawaii not to scale
HPSA scores on a scale of a whole number (0-26 for dental health), with higher scores indicating greater need

Source(s): data.HRSA.gov, U.S. Department of Health and Human Services, November 2022



Teen Birth Rate by County



Teen
Birth Rate

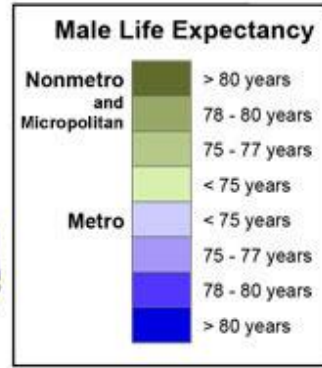
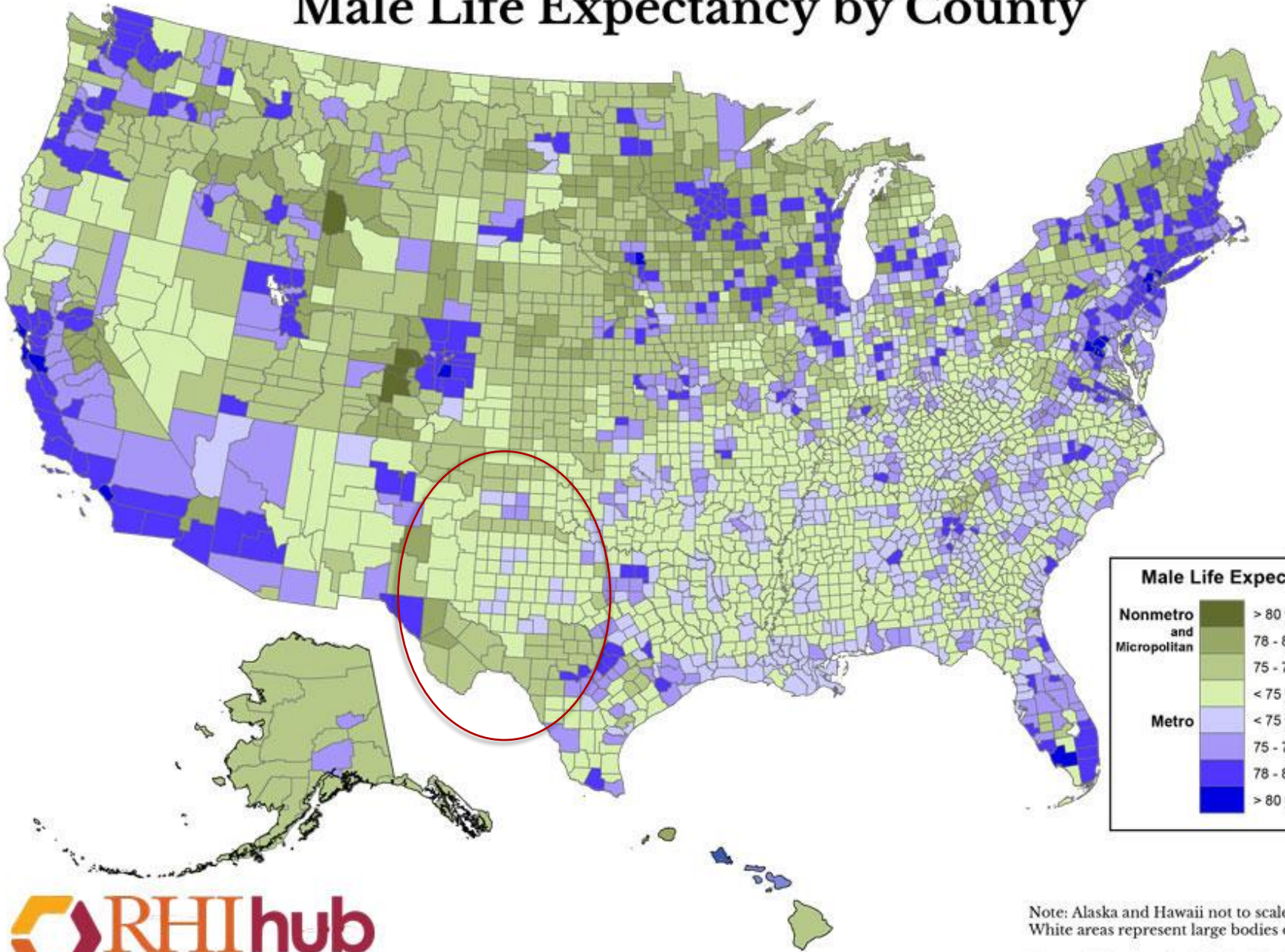
Rural vs. Metro Counties

Needs
& Gaps

Male Life Expectancy by County

Male Life Expectancy

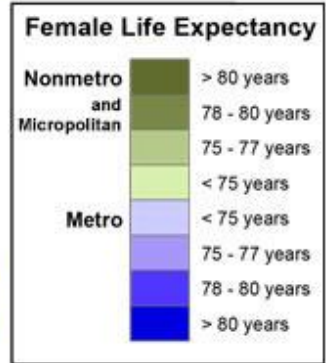
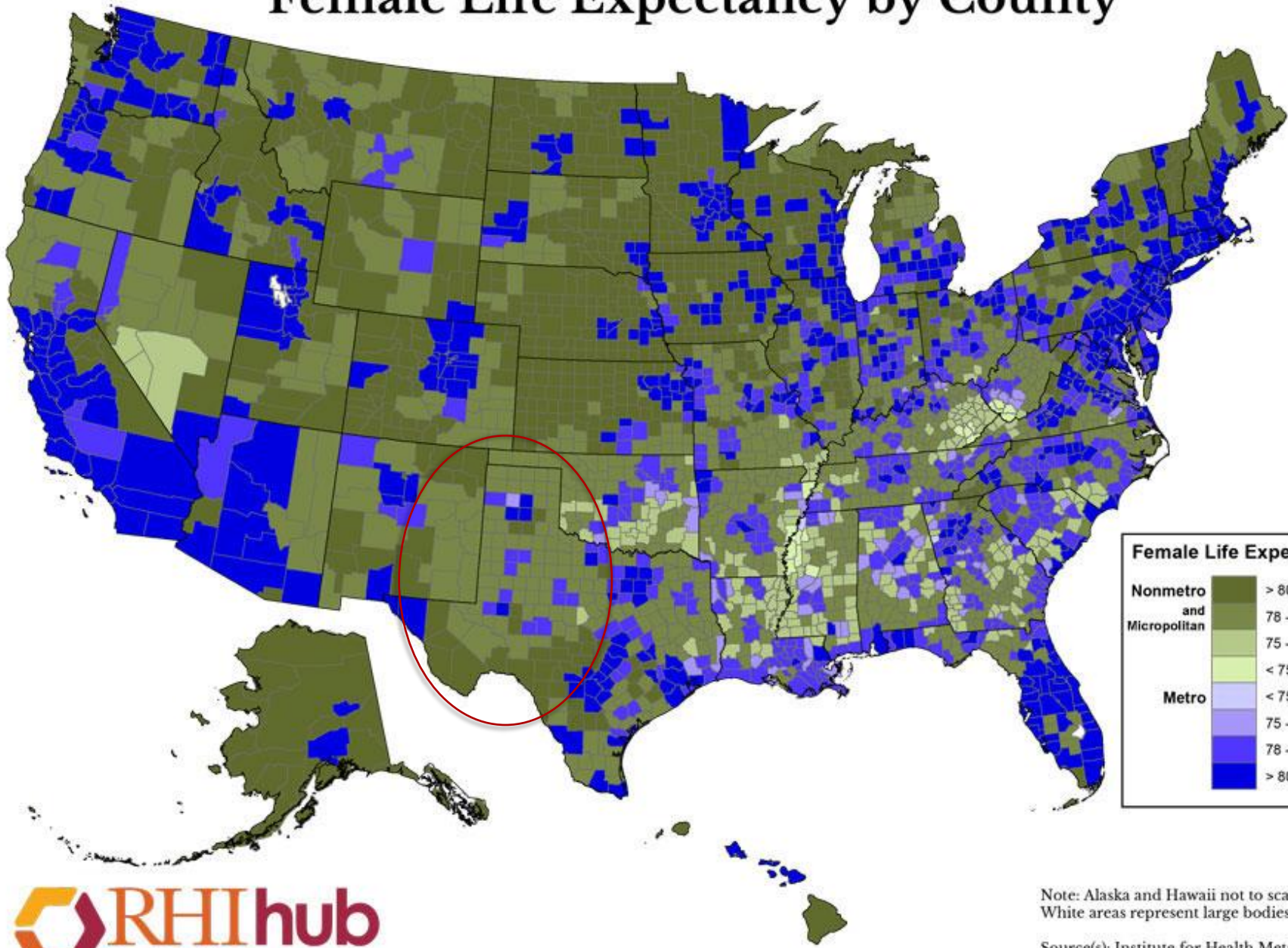
Rural vs. Metro Counties



Female Life Expectancy by County

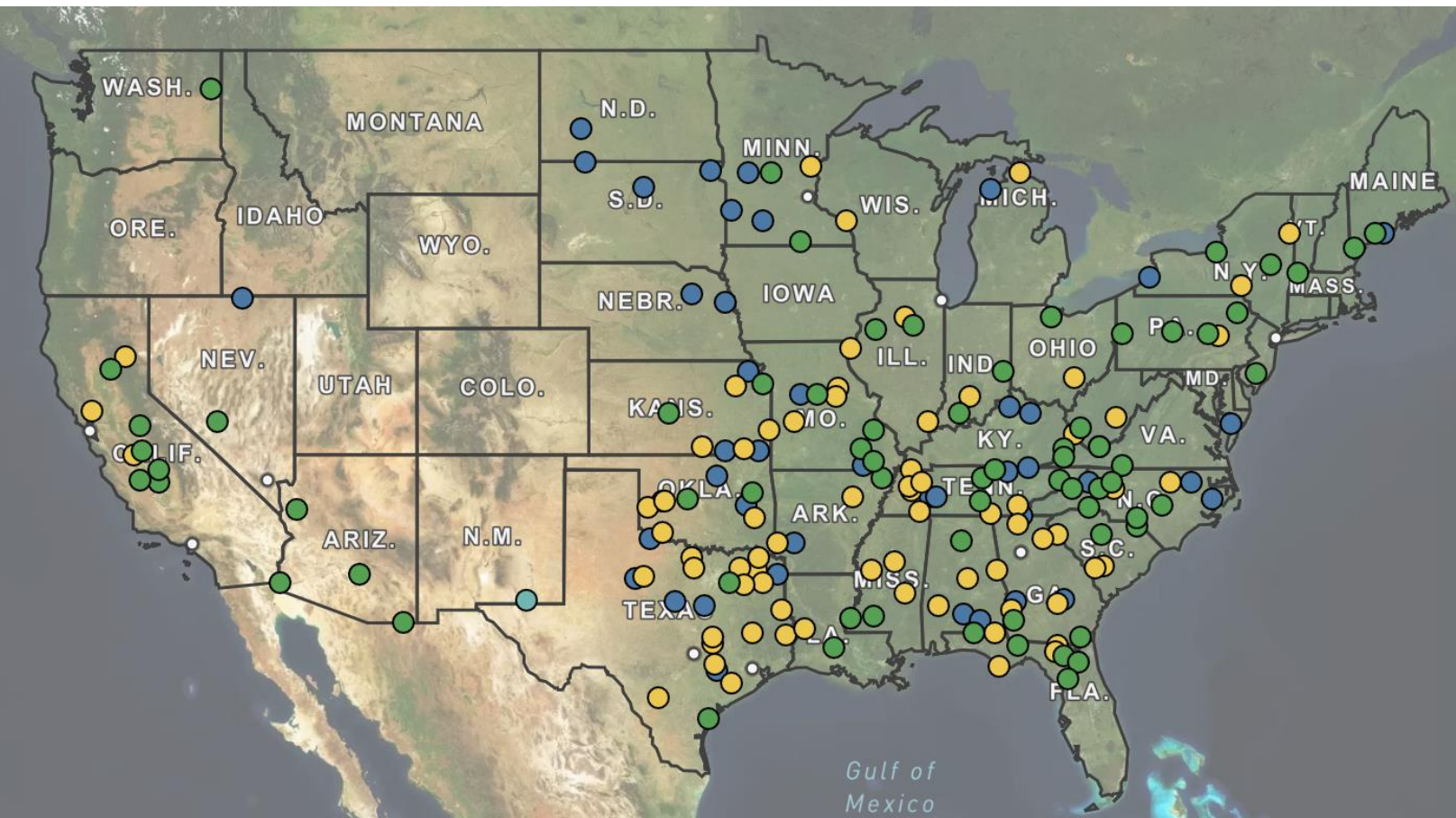
Female Life Expectancy

Rural vs. Metro Counties



Needs & Gaps

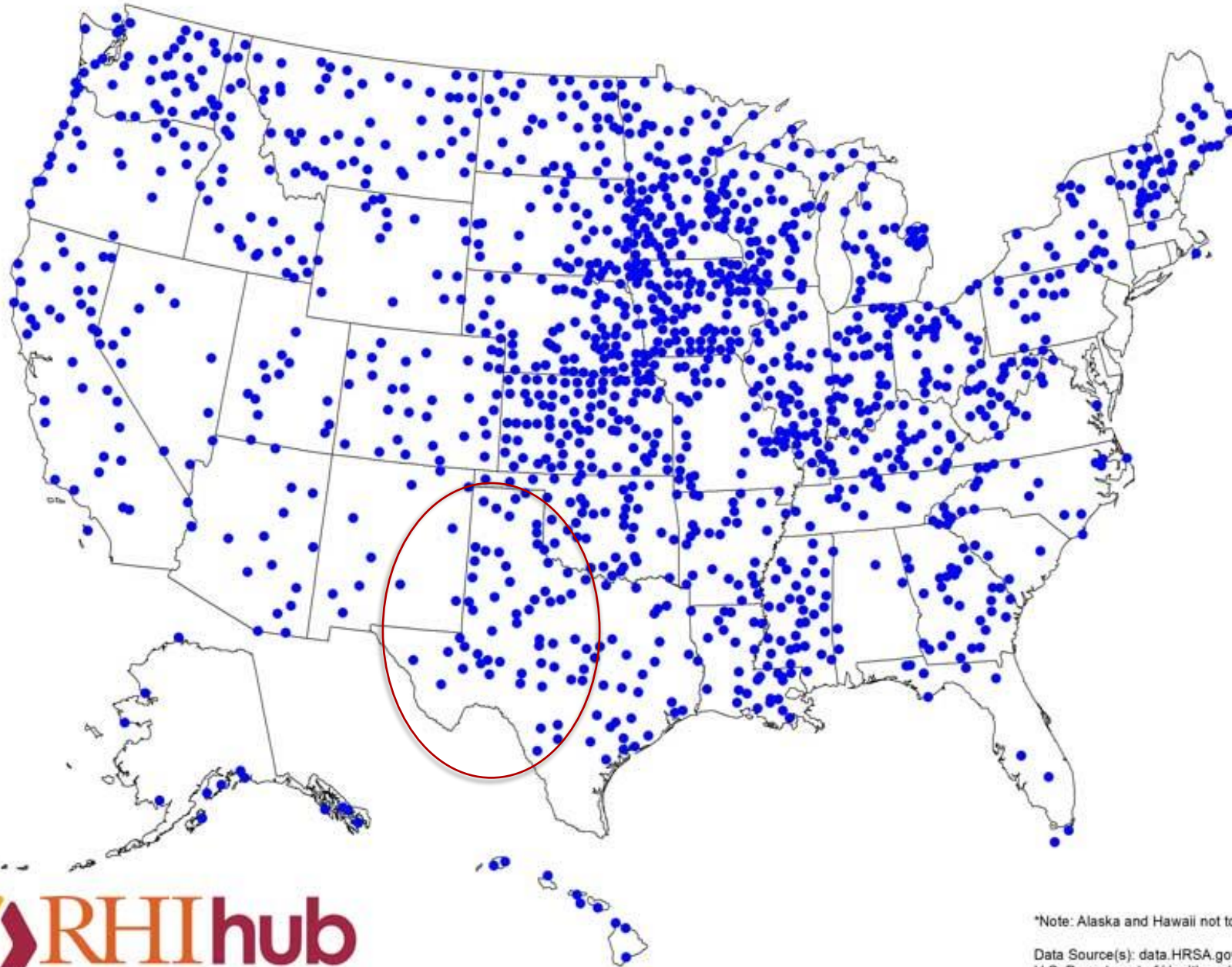
Rural Hospital Closures



- 186 Rural Hospital Closures in the US since January 2005
 - 102 complete closures + 84 converted closures
 - 4 closures in Arizona
 - 24 closures in Texas
- 143 hospital closures since 2010



Critical Access Hospitals



Critical Access

- Rural Emergency Hospitals (REHs) are a new provider type established as of 1-23-23 to address closures of rural hospitals.
- The REH designation provides an opportunity for Critical Access Hospitals and certain rural hospitals to “convert” & continue to provide essential services:
 - emergency services,
 - observation care
 - medical and health outpatient services that do not exceed an annual per patient average of 24 hours.

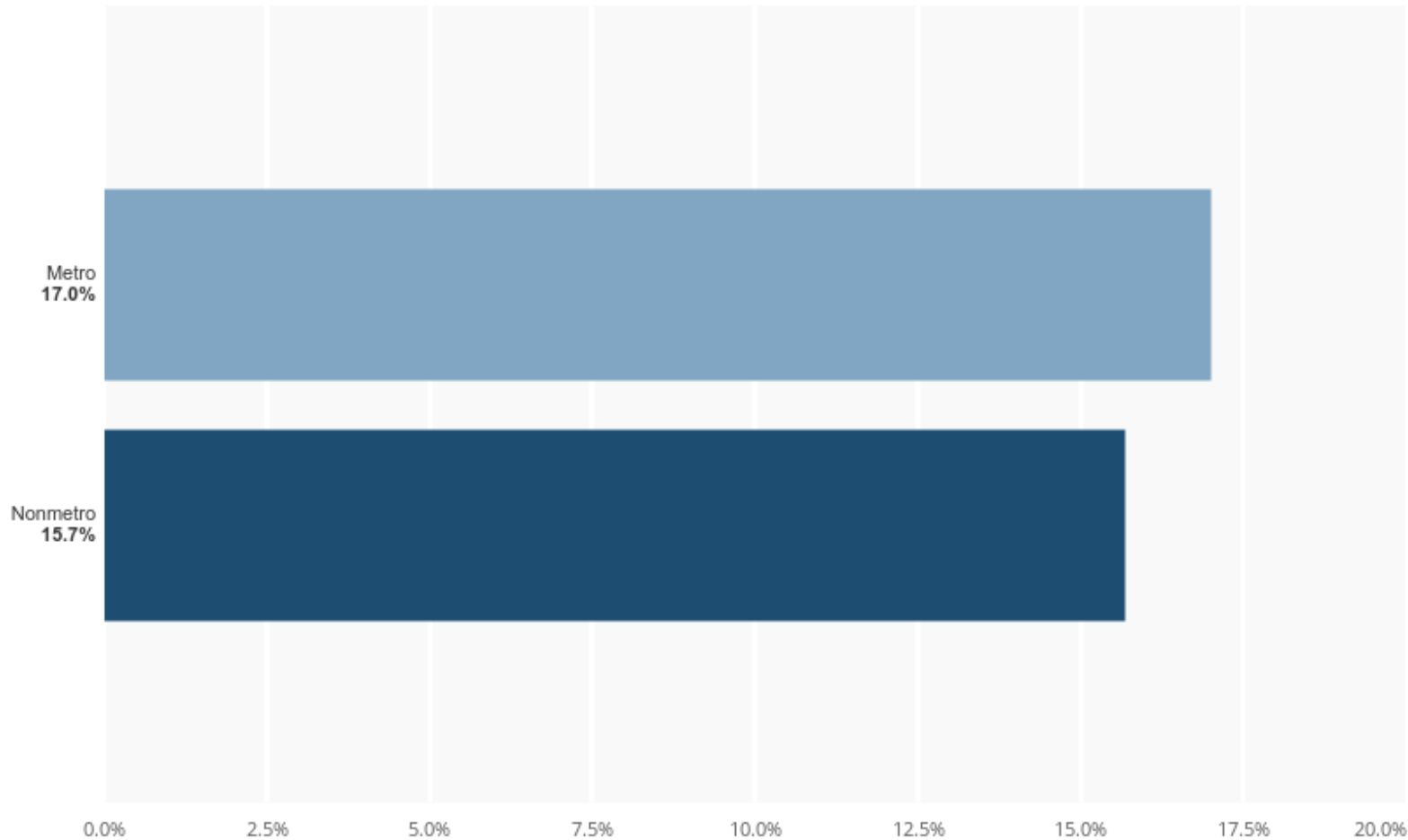
*Note: Alaska and Hawaii not to scale

Data Source(s): data.HRSA.gov,
U.S. Department of Health and Human
Services, July 2022.

Adults without Health Care

Rural vs. Metro Counties

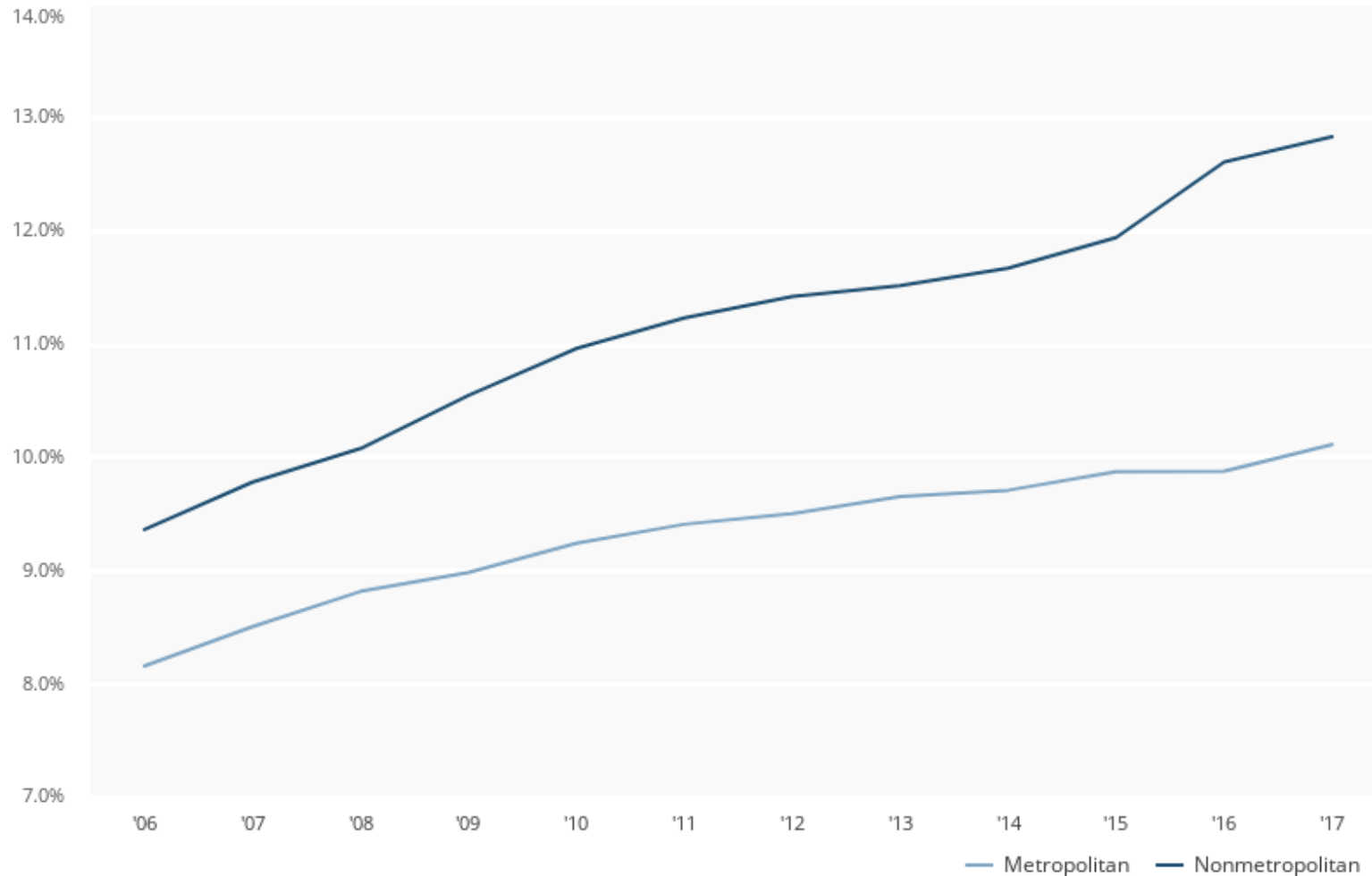
Adults Aged 18-64 with No Usual Source of Healthcare in Metro and Nonmetro Counties, 2015-2016



DM Prevalence

Rural vs. Metro Counties

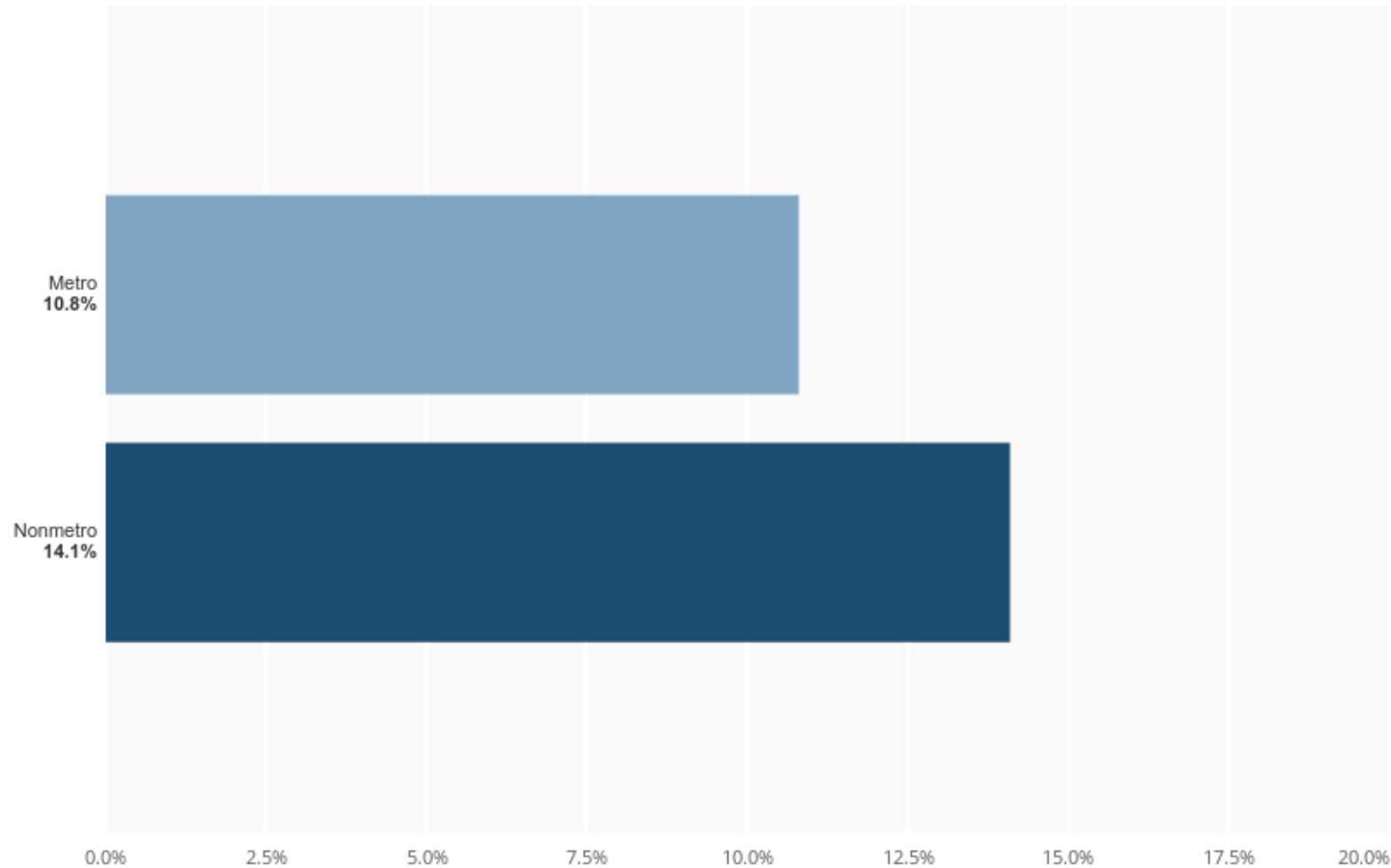
Diagnosed Diabetes Prevalence in Metro and Nonmetro Counties, 2006-2017



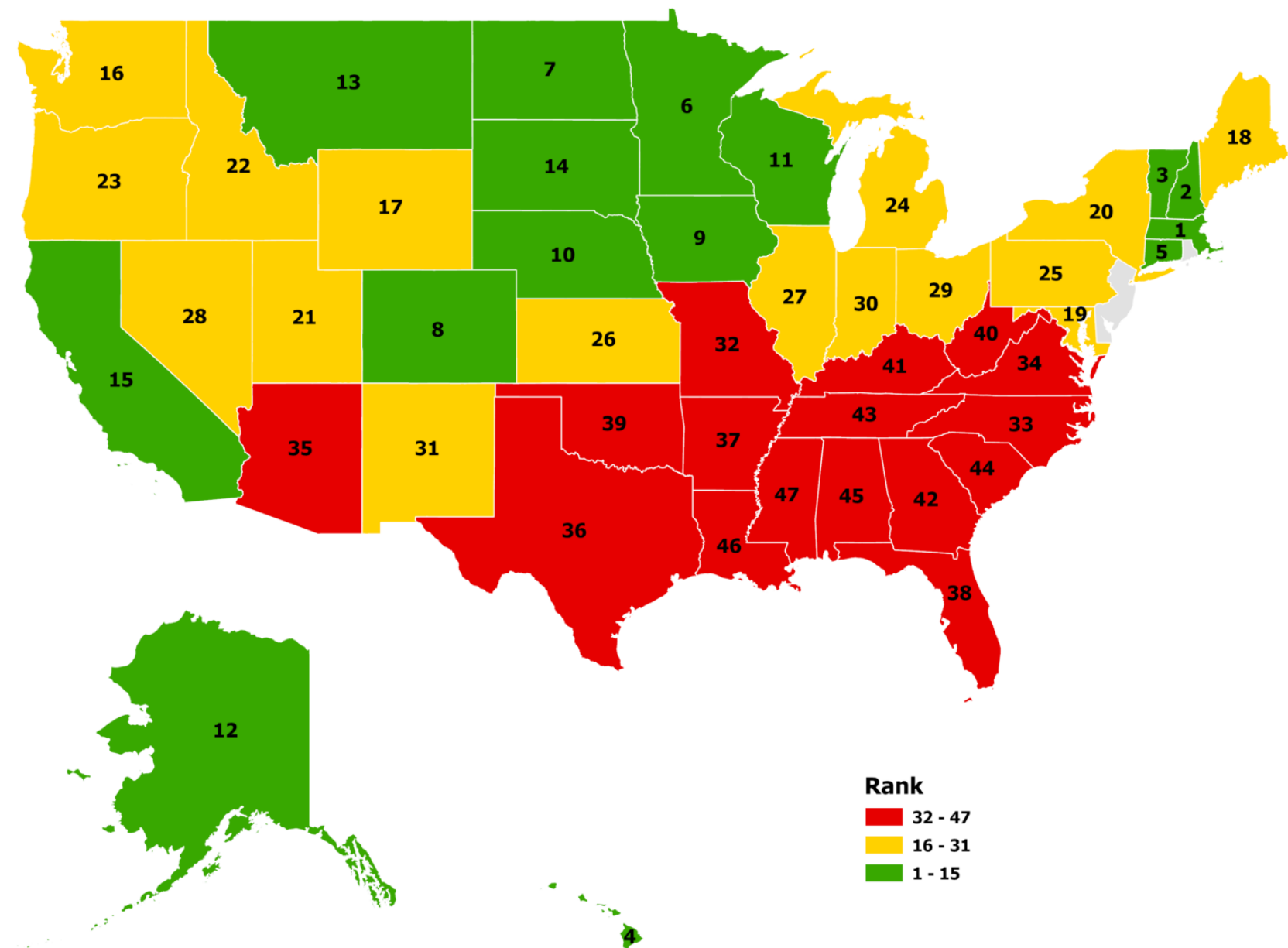
Poor or Fair Health

Rural vs. Metro Counties

Fair or Poor Health Status in Metro and Nonmetro Counties, 2019



Rural Health Report Card



Rank
■ 32 - 47
■ 16 - 31
■ 1 - 15



Rural Health Report Card

TABLE 1: FINAL RURAL HEALTH STATE RANKINGS AND GRADES

STATE	RANK	GRADE	STATE	RANK	GRADE	STATE	RANK	GRADE	STATE	RANK	GRADE
AL	45	F	IN	30	D+	MT	13	B+	SC	44	F
AK	12	B+	IA	9	A-	NE	10	A-	SD	14	B
AZ	35	D-	KS	26	C-	NV	28	C-	TN	43	F
AR	37	D-	KY	41	F	NH	2	A+	TX	36	D-
CA	15	B	LA	46	F	NM	31	D+	UT	21	C+
CO	8	A-	ME	18	B-	NY	20	C+	VT	3	A+
CT	5	A	MD	19	B-	NC	33	D	VA	34	D
FL	38	F	MA	1	A+	ND	7	A	WA	16	B
GA	42	F	MI	24	C	OH	29	D+	WV	40	F
HI	4	A	MN	6	A	OK	39	F	WI	11	B+
ID	22	C+	MS	47	F	OR	23	C	WY	17	B-
IL	27	C-	MO	32	D	PA	25	C			

*DE, NJ, and RI excluded.





ARIZONA

All-Cause Mortality	D+	Primary Care Access	D
General Health	F	Mental Health Access	F
Mental Health (30 Days)	D-	Dental Care Access	D
Physical Health (30 Days)	F	Broadband Access	F
Low Birth Weight	C-	Uninsured Rate	F



35/47

ARIZONA has a population of 7.2 million people, with 351,229 living in Arizona's seven rural counties.

74.5% of rural Arizonans identify as Non-Hispanic and 25.5% identify as Hispanic. For the Non-Hispanic rural population, 38.4% identify as White, 0.9% identify as Black/African American, 0.5% identify as Asian, 32.8% identify as American Indian/Alaska Native, 0.1% identify as Native Hawaiian/Pacific Islander, 0.1% identify as some other race, and 1.7% identify as two or more races.



● RURAL COUNTIES
● URBAN COUNTIES

The poverty rate in rural Arizona is 21.9%, 9.5 percentage points higher than the urban rate of 12.4%.

WHAT'S GOOD

The Grand Canyon State jumped up three ranks overall, ranking 35th nationally in rural health.

Dental Care Access earned a D this year, an improvement from 2020's D-. The state now ranks 34th.

WHAT NEEDS WORK

Broadband Access and the Uninsured Rate both received Fs for 2021, with rural Arizona ranking last in access to high quality broadband.

Quality of Life and Access to Care also dropped, earning a D- and an F, respectively

URBAN-RURAL DIVIDE

The age-adjusted mortality rate in rural Arizona is higher than the urban rate. The percentage difference is 23.7%. ●

ARIZONA ranks 35th in the nation for rural health out of 47 states with rural counties.

Arizona is one of three states to receive a grade of "D-" for rural health access and outcomes in 2021.

2021 STATE RURAL HEALTH RANKINGS

Mortality:
No change in national ranking of 29th for 2021. **29**

Quality of Life:
Down one spot nationally to 37th (36th in 2020). **37**

Access to Care:
Down one spot nationally to 44th (43rd in 2020). **44**



TEXAS

All-Cause Mortality	D	Primary Care Access	F
General Health	F	Mental Health Access	D-
Mental Health (30 Days)	C+	Dental Care Access	F
Physical Health (30 Days)	D+	Broadband Access	D+
Low Birth Weight	C-	Uninsured Rate	F



36/47

TEXAS ranks 36th in the nation for rural health out of 47 states with rural counties.

Texas is one of three states to receive a grade of "D-" for rural health access and outcomes in 2021.

2021 STATE RURAL HEALTH RANKINGS

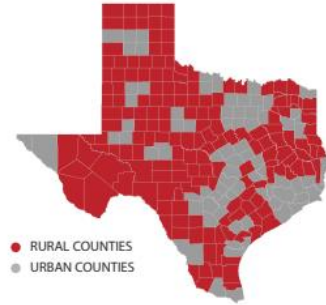
Mortality:
No change in national ranking of 33rd for 2021. **33**

Quality of Life:
No change in national ranking of 31st for 2021. **31**

Access to Care:
No change in national ranking of 47th for 2021. **47**

TEXAS has a population of 28.6 million people, 3.1 million live in Texas's 172 rural counties.

65.7% of rural Texans identify as Non-Hispanic and 34.3% identify as Hispanic. For the Non-Hispanic rural population, 55.4% identify as White, 7.5% identify as Black/African American, 0.7% identify as Asian, 0.4% identify as American Indian/Alaska Native, 0.1% identify as Native Hawaiian/Pacific Islander, 0.1% identify as some other race, and 1.5% identify as two or more races.



● RURAL COUNTIES
● URBAN COUNTIES

The poverty rate in rural Texas is 15.8%, 2.6 percentage points higher than the urban rate of 13.2%.

WHAT'S GOOD

The Lone Star State ranks 36th overall in rural health, an improvement from 2020's 45th.

Rural Mental Health (30 Days) keeps its C+ for another year, and ranks 21st overall.

WHAT NEEDS WORK

For the fifth year in a row, Texas gets an F for rural Access to Care, coming in last out of the 47 states with rural counties.

The rural Uninsured Rate earns another F, with 22% of rural Texans going uninsured.

URBAN-RURAL DIVIDE

The age-adjusted mortality rate in rural Texas is higher than the urban rate. The percentage difference is 18.8%. ●

POPULATIONS PATIENTS P



A+
1/47

MASSACHUSETTS

All-Cause Mortality	A+	Primary Care Access	B+
General Health	A+	Mental Health Access	A-
Mental Health (30 Days)	B	Dental Care Access	A+
Physical Health (30 Days)	A-	Broadband Access	C-
Low Birth Weight	A+	Uninsured Rate	A+

MASSACHUSETTS ranks 1st in the nation for rural health out of 47 states with rural counties.

Massachusetts is one of three states to receive a grade of "A+" for rural health access and outcomes in 2021.

2021 STATE RURAL HEALTH RANKINGS

2 **Mortality:**
No change in national ranking of 2nd for 2021.

3 **Quality of Life:**
Up four spots nationally to 3rd (7th in 2020).

4 **Access to Care:**
No change in national ranking of 4th for 2021.

MASSACHUSETTS has a population of 6.9 million people, 99,171 live in Massachusetts's three rural counties.

94.8% of rural Massachusetts residents identify as Non-Hispanic and 5.2% identify as Hispanic. For the Non-Hispanic rural population, 86.9% identify as White, 2.2% identify as Black/African American, 1.3% identify as Asian, 0.5% identify as American Indian/Alaska Native, 0.1% identify as Native Hawaiian/Pacific Islander, 0.5% identify as some other race, and 3.2% identify as two or more races.



The poverty rate in rural Massachusetts is 9.5%, 0.1 percentage points higher than the urban rate of 9.4%.

WHAT'S GOOD

The Bay State gets the top spot overall for rural health in 2021, moving up two spots from last year. Seven of Massachusetts' rural health measures earned As.

Quality of Life also rose, to land at third overall.

WHAT NEEDS WORK

Rural Broadband Access keeps its C- for 2021, with 86% of rural residents having access to high quality broadband.

Primary Care Access also keeps its B+, ranking 11th nationally.

URBAN-RURAL DIVIDE

The age-adjusted mortality rate in rural Massachusetts is lower than the urban rate. The percentage difference is 4.2%. ●



A+
2/47

NEW HAMPSHIRE

All-Cause Mortality	A-	Primary Care Access	A+
General Health	A	Mental Health Access	A+
Mental Health (30 Days)	C+	Dental Care Access	A+
Physical Health (30 Days)	A-	Broadband Access	A
Low Birth Weight	B+	Uninsured Rate	B

NEW HAMPSHIRE ranks 2nd in the nation for rural health out of 47 states with rural counties.

New Hampshire is one of three states to receive a grade of "A+" for rural health access and outcomes in 2021.

2021 STATE RURAL HEALTH RANKINGS

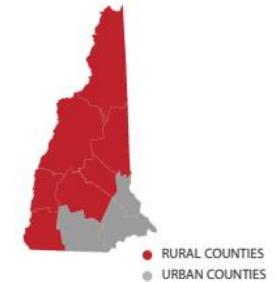
10 **Mortality:**
No change in national ranking of 10th for 2021.

9 **Quality of Life:**
Down one spot nationally to 9th (8th in 2020).

1 **Access to Care:**
No change in national ranking of 1st for 2021.

NEW HAMPSHIRE has a population of 1.4 million people, 501,567 live in New Hampshire's seven rural counties.

97.9% of rural New Hampshire residents identify as Non-Hispanic and 2.1% identify as Hispanic. For the Non-Hispanic rural population, 92.9% identify as White, 1.1% identify as Black/African American, 1.7% identify as Asian, 0.3% identify as American Indian/Alaska Native, 0% identify as Native Hawaiian/Pacific Islander, 0.1% identify as some other race, and 1.9% identify as two or more races.



The poverty rate in rural New Hampshire is 8.1%, 1.8 percentage points higher than the urban rate of 6.3%.

WHAT'S GOOD

The Granite State keeps three A+s for Primary Care, Mental Health, and Dental Care Access.

The rural Mortality rate stays in the top ten for 2021, with rural Access to Care maintaining its number one spot.

Rural General Health also improved to an A from 2020's B+, and now ranks fourth overall.

WHAT NEEDS WORK

Mental Health (30 Days) dropped to a C+ from last year's B, and rural Quality of Life decreased as well.

The rest of New Hampshire's rural health measures either improved or kept their letter grades for 2021.

URBAN-RURAL DIVIDE

The age-adjusted mortality rate in rural New Hampshire is higher than the urban rate. The percentage difference is 3.1%. ●

POPULATIONS PATIENTS P

Now, Some Good News:

- ➔ **Rural population declined during the 2010s but increased dramatically during 2020–21.**
- ➔ Metropolitan (metro) and nonmetropolitan (nonmetro/ rural) population trends shifted dramatically with the onset of the pandemic in 2020.
- ➔ During 2020–21, many people moved to nonmetro areas to reside in places with less population density as COVID-19 infection rates accelerated.



Economic Research Service
U.S. DEPARTMENT OF AGRICULTURE

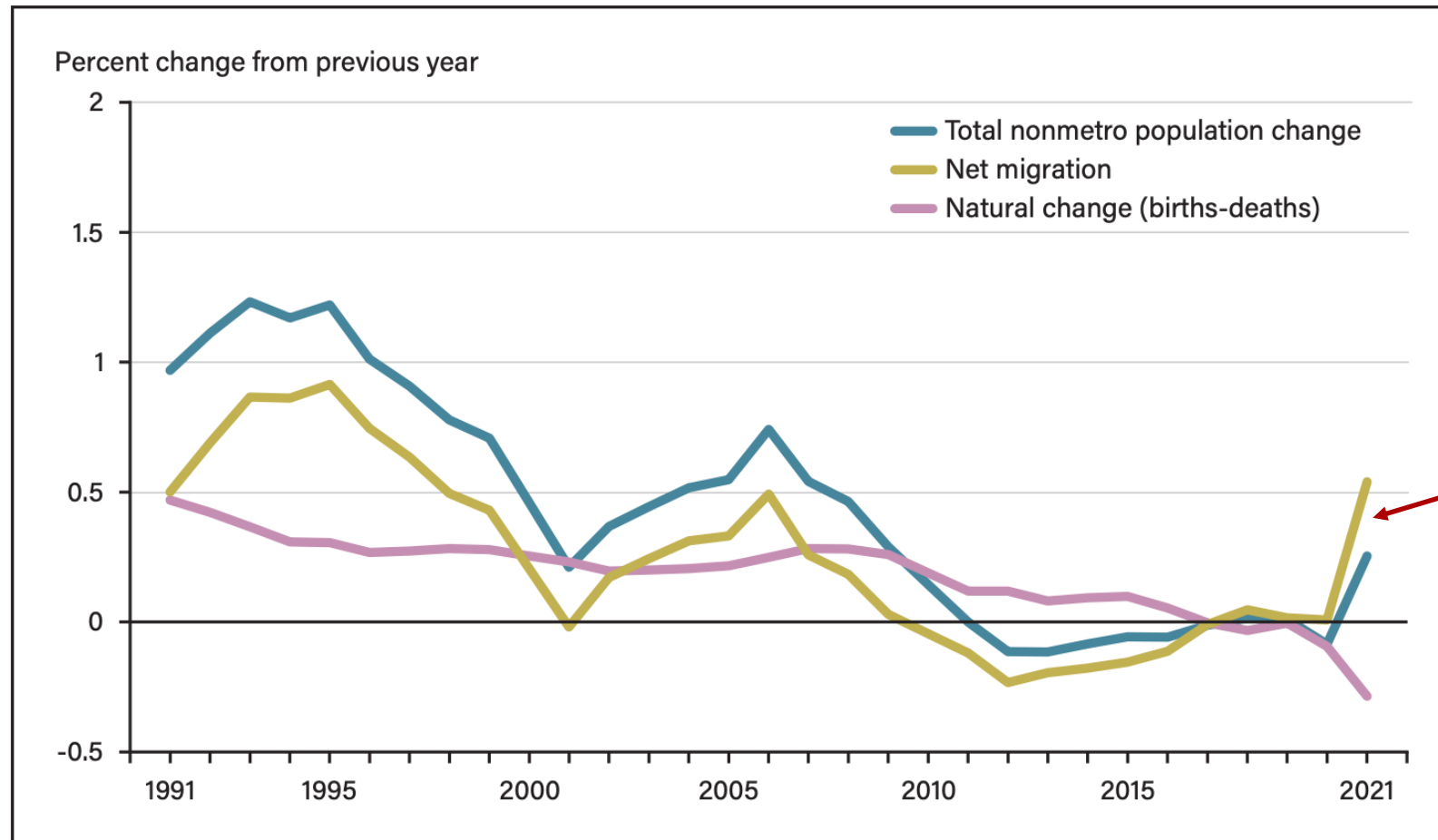


By James C. Davis, Anil Rupasingha, John Cromartie, and Austin Sanders

Population Change, 1990-2021

Overall population growth in nonmetropolitan counties increased rapidly during 2020-21 due to an increase in net migration

Rural Counties



Note: The metropolitan status changes for some counties in 2000 and 2010.

Source: USDA, Economic Research Service using U.S. Department of Commerce, Bureau of the Census data.



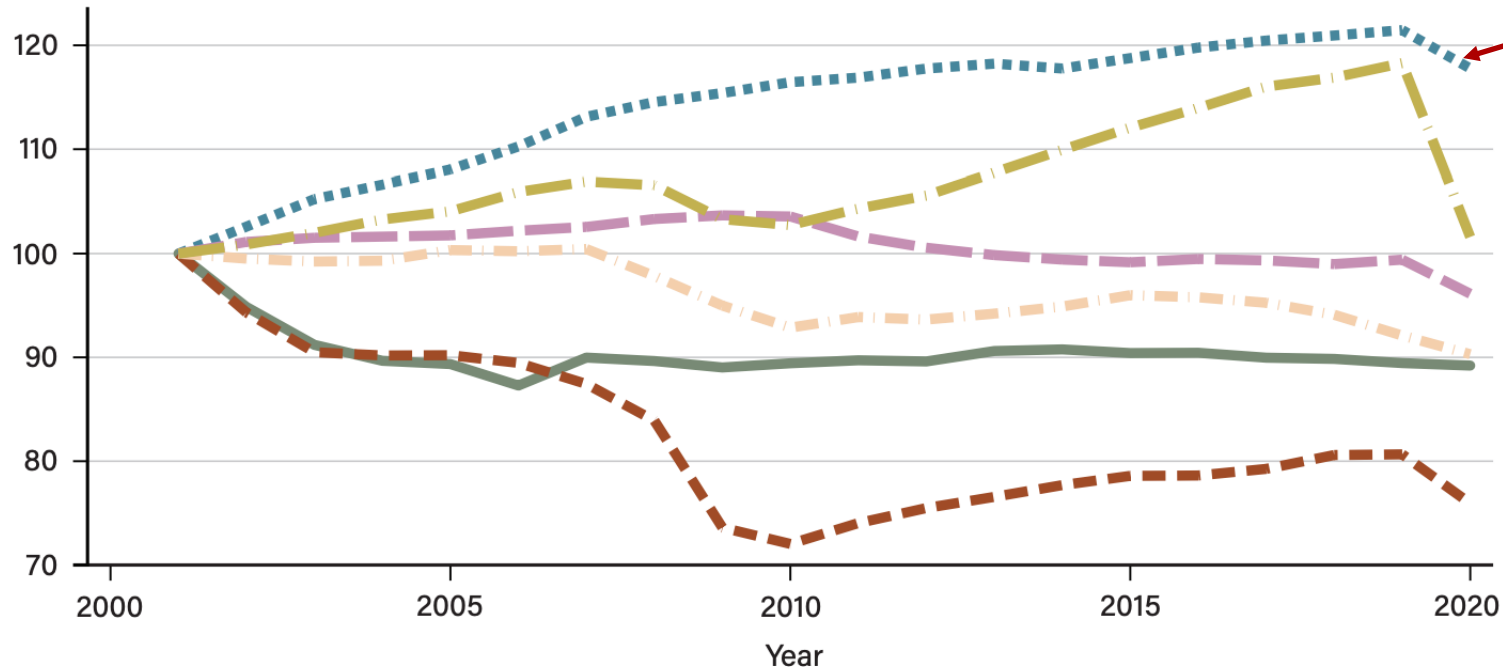
Economic Research Service
U.S. DEPARTMENT OF AGRICULTURE

Growth in Rural Employment Sectors

The six rural largest employment industries are agriculture, manufacturing, retail, health, hospitality, and government

Rural Counties

Percent of nonmetropolitan employment relative to 2001



Health care and social assistance experienced the strongest growth. This includes home health and long-term care employment in addition to positions in hospitals and outpatient clinics.

- Health, social assistance (NAICS 62)
- Accommodation, food services (NAICS 72)
- Government (NAICS 92)
- Retail (NAICS 44-45)
- Agriculture (NAICS 11)
- Manufacturing (NAICS 31-33)

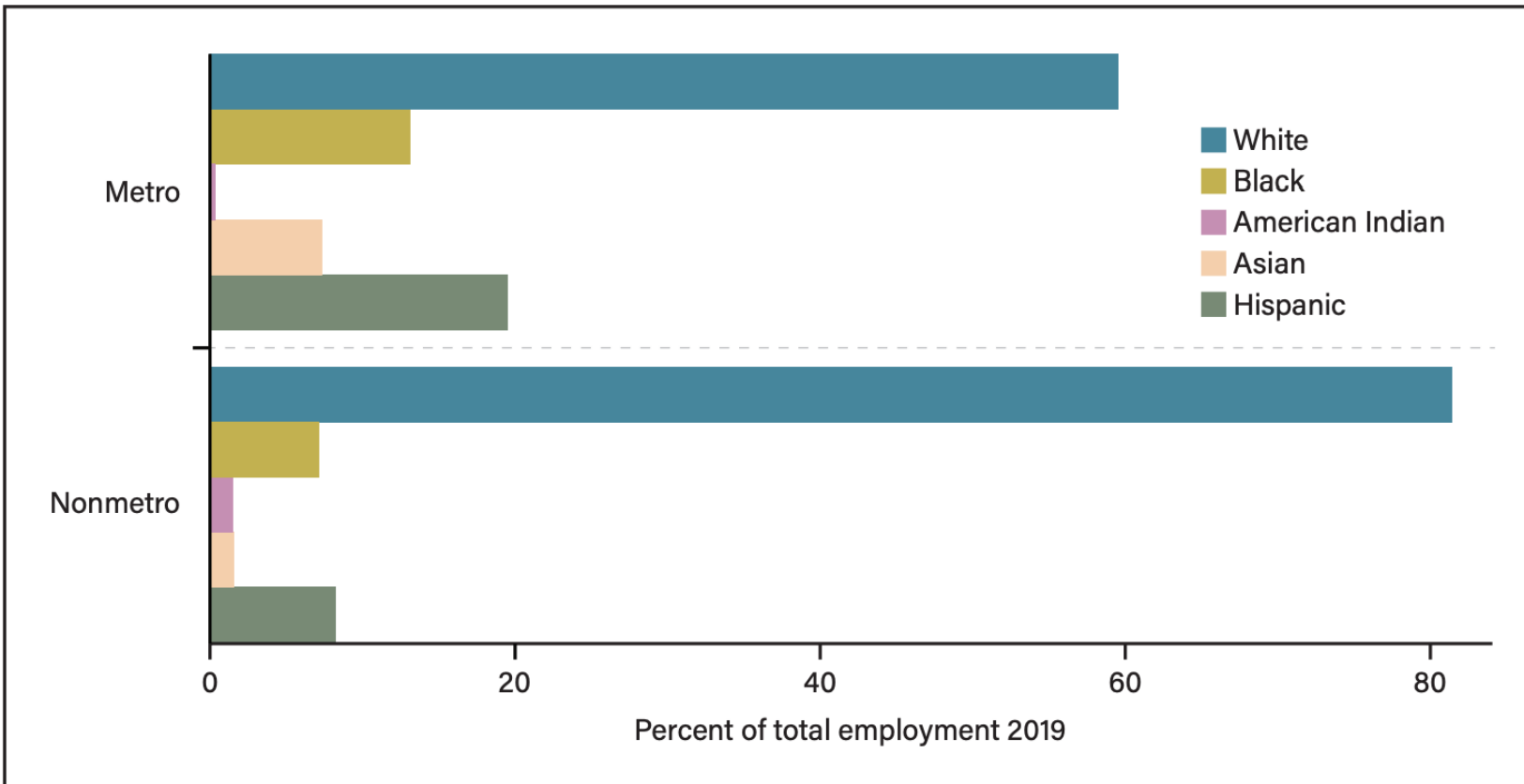


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Back to Bad News: Workforce Diversity

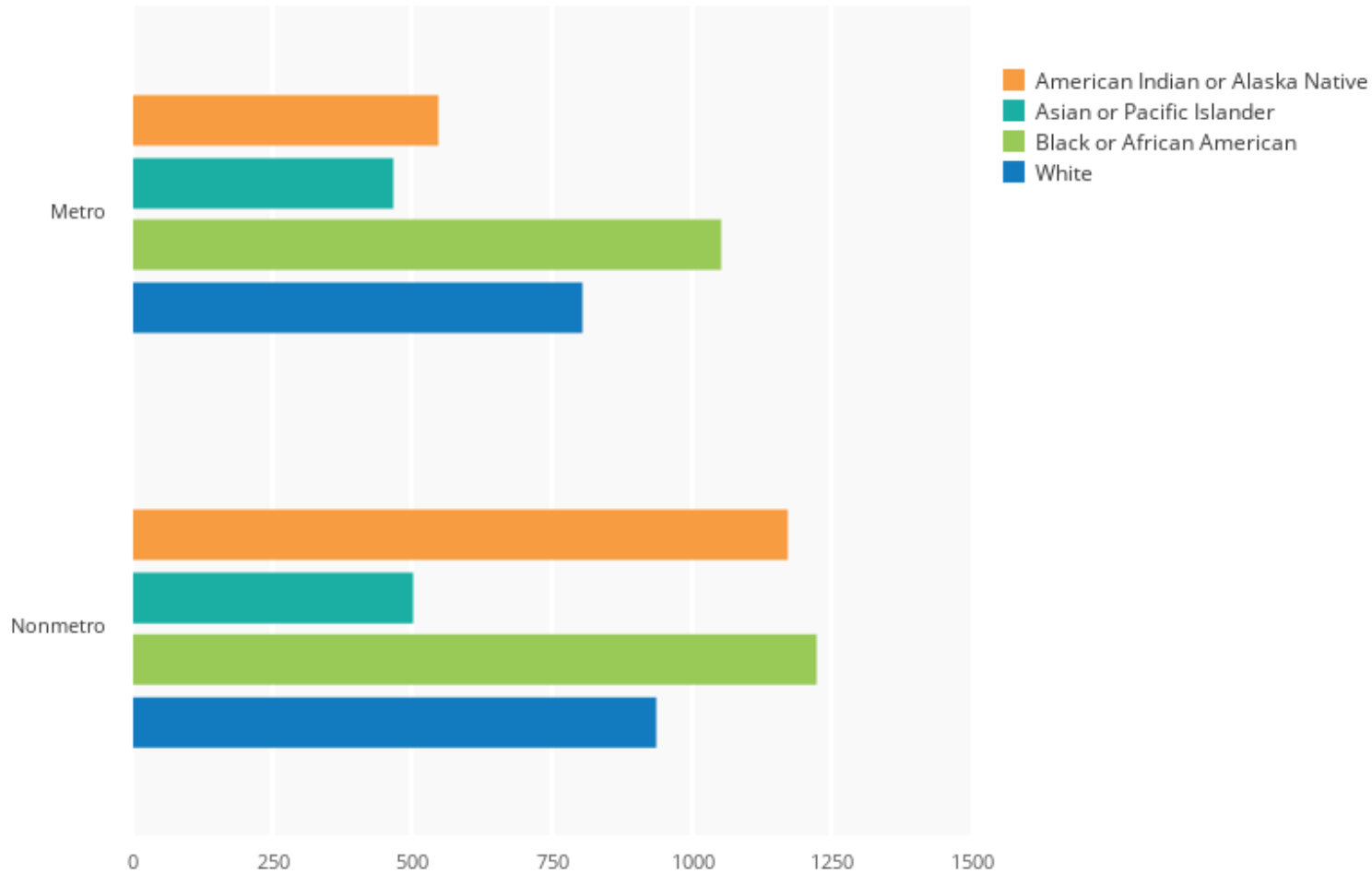
Rural Counties

The rural workforce is less diverse than urban workers



Mortality Rate x Race

Metro and Nonmetro Mortality by Race, 2020



Rural vs. Metro Counties



TTUHSC School of Medicine Strategies To Support the Rural Physician Workforce

- Extensive curriculum focused on Social Determinants of Health
- Small group discussion on rural hospital closures in Texas
- Rural Health Elective
- Care of the Underserved Program of Distinction
- Hispanic Center of Excellence
- Family Medicine Accelerated Track
- Family Medicine Rural Health Residency Tracks
- F. Marie Hall Institute for Rural and Community Health



SDoH Group Presentations



Rural Health Elective Students



Rural Hospital Closure Session Prep



Your Patient: *Rachel*

Your Approach:

- ✓ Pro-active Preventive Care
- ✓ Effective Care Access
- ✓ Innovative Resources
- ✓ Culturally Sensitive Interactions
- ✓ Humility & Patience
- ✓ Advocacy for community
- ✓ Advocacy for education
- ✓ Advocacy for built environment
- ✓ Advocacy the rural health care system



Useful Resources

- Rural Health Information Hub
<https://www.ruralhealthinfo.org/>
- Rural Health Quarterly
<https://ruralhealthquarterly.com/>
- US Dept. of Agriculture Economic Research Service
<https://www.ers.usda.gov/>
- University of North Carolina Sheps Center for Health Services Research
<https://www.shepscenter.unc.edu/>
- Kaiser Family Foundation
<https://www.kff.org/>

