# Health Equity, Poverty, and Rural Resilience





# Agenda

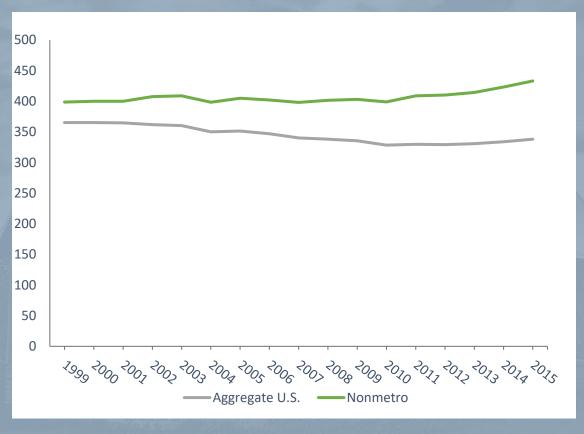
- Rural Health Inequities
  - United States
  - Michigan
- Measuring and Building Prosperity
- Rural Resilience
  - Strengths and Assets





#### Rural Health Disparities

Trends in Age-adjusted Mortality Rate by Sex and Rurality, 1999-2015

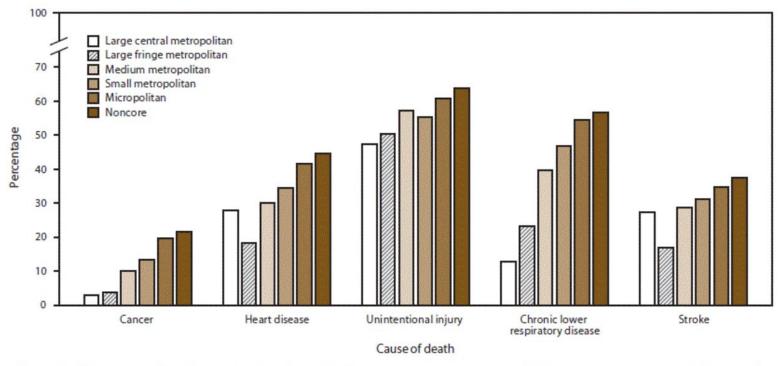






## Rural vs. Urban Differences – Leading Causes

FIGURE 6. Percentage of deaths that were potentially excess\* among persons aged <80 years from the five leading causes of death, by urban-rural county classification — National Vital Statistics System, United States, 2017



\* Potentially excess deaths are defined as deaths among persons aged <80 years in excess of the number that would be expected if the death rates for each cause in all states were equivalent to those in the benchmark states (i.e., the three states with the lowest rates).





# State Rural Health Inequity Dashboard

Select the **State**, **Gender**, and **Year** of interest below:

State/Region Michigan Gender
Female
Male

**Year** 2015 to 2017



**Table of Contents** 



Index for Mortality Rates for Top 10 Leading Causes of Death Related to the National Mortality Rate among Males Age 25 to 64, in Michigan, by Rural-Urban Status: United States, 2015 to 2017

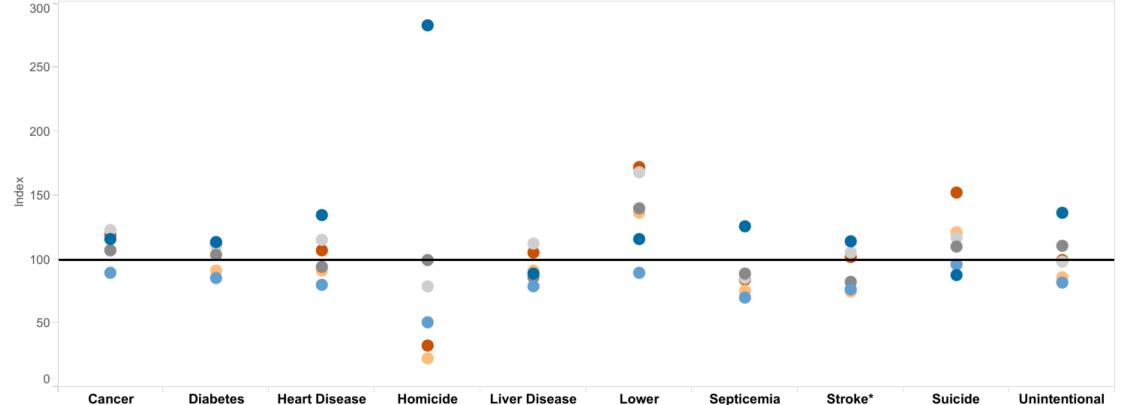
Large Fringe Metro Medium Metro

NonCore (Nonmetro)

Micropolitan (Nonmetro)

Small Metro

An index above the line (index=100) indicates that the mortality rate for that specific rural-urban designation is higher than the national average.







#### **State Rural Health Inequity Dashboard**

Select the **State**, **Gender**, and **Year** of interest below:

State/Region Michigan

Gender Female Male )

Year 2015 to 2017



**Table of Contents** 



Index for Mortality Rates for Top 10 Leading Causes of Death Related to the National Mortality Rate among Females Age 25 to 64, in Michigan, by Rural-Urban Status: United States, 2015 to 2017

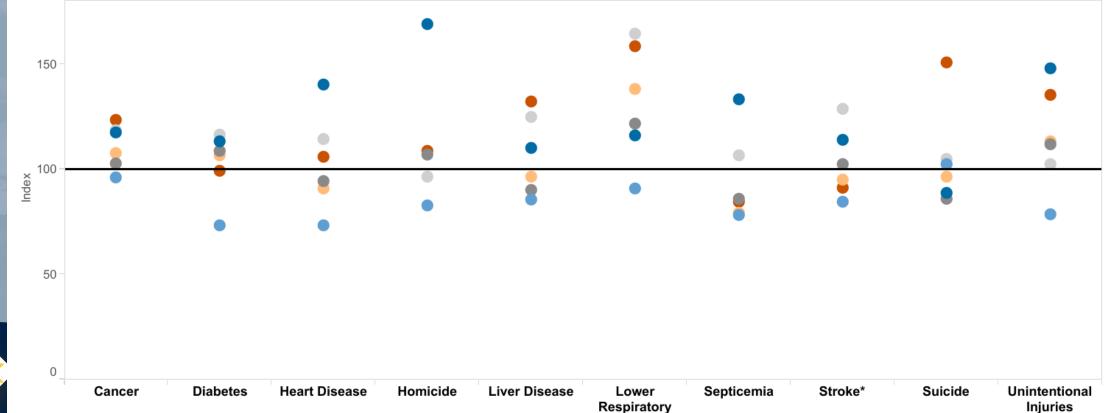
Large Fringe Metro Medium Metro

Micropolitan (Nonmetro)

NonCore (Nonmetro)

Small Metro

An index above the line (index=100) indicates that the mortality rate for that specific rural-urban designation is higher than the national average.







Injuries

#### **State Rural Health Inequity Dashboard**

Select the State, Gender, and Year of interest below:

State/Region Tennessee Gender

Female

Male

Year 2015 to 2017

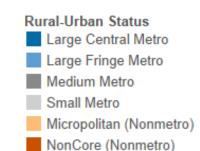


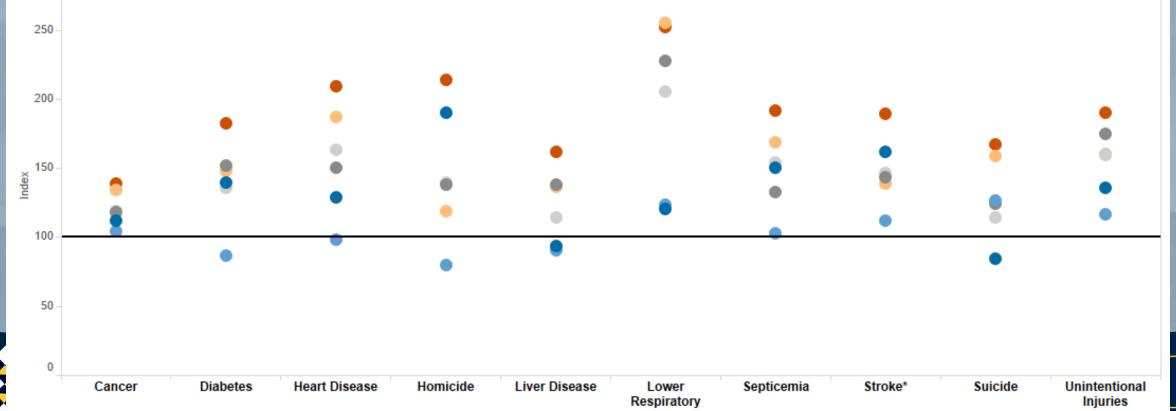


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Index for Mortality Rates for Top 10 Leading Causes of Death Related to the National Mortality Rate among Females Age 25 to 64, in Tennessee, by Rural-Urban Status: United States, 2015 to 2017

An index above the line (index=100) indicates that the mortality rate for that specific rural-urban designation is higher than the national average.





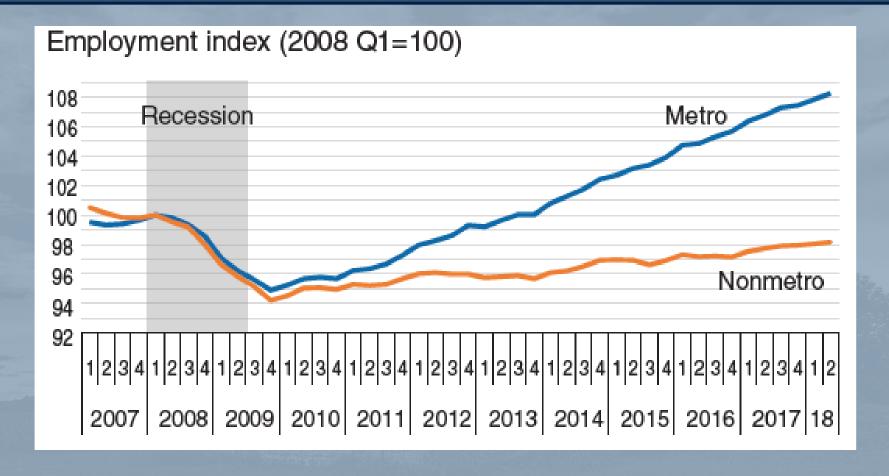
## Social Determinants (Drivers) of Health







#### Rural Versus Urban Job Growth Since Recession

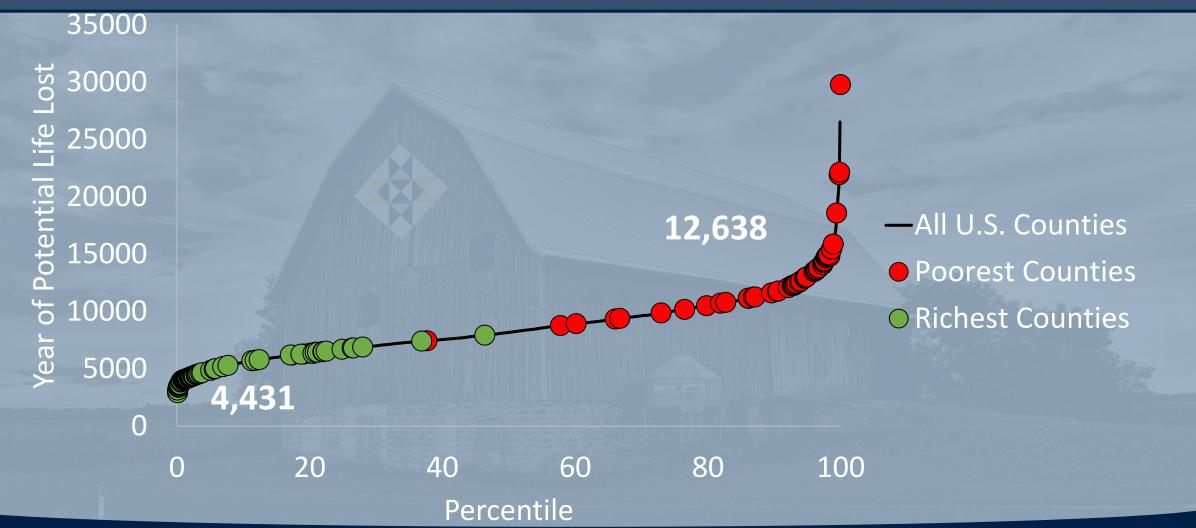


Source: USDA, Economic Research Service using data from the Bureau of Labor Statistics, Local Area Unemployment Statistics (LAUS), seasonally adjusted.





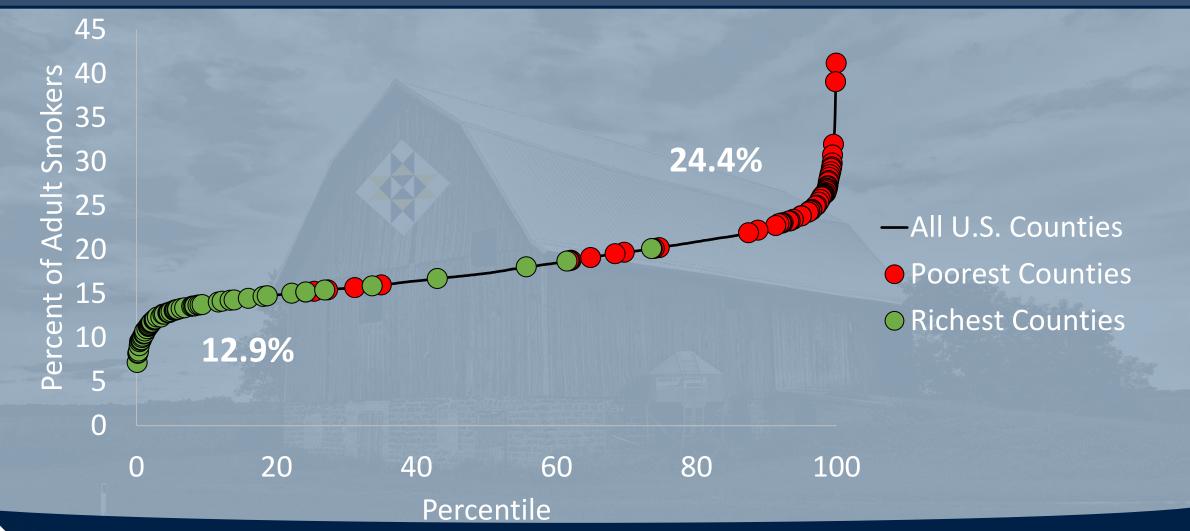
# Premature Death(YPLL): 2% Wealthiest Counties vs 2% Poorest Counties







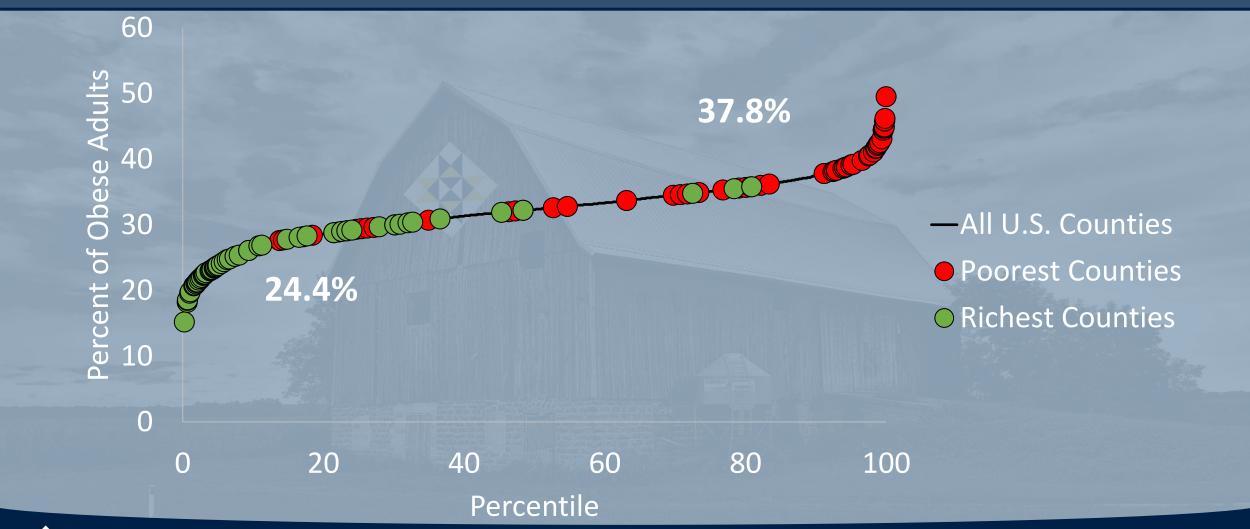
# Adult Smoking Percentage 2% Wealthiest Counties vs 2% Poorest Counties







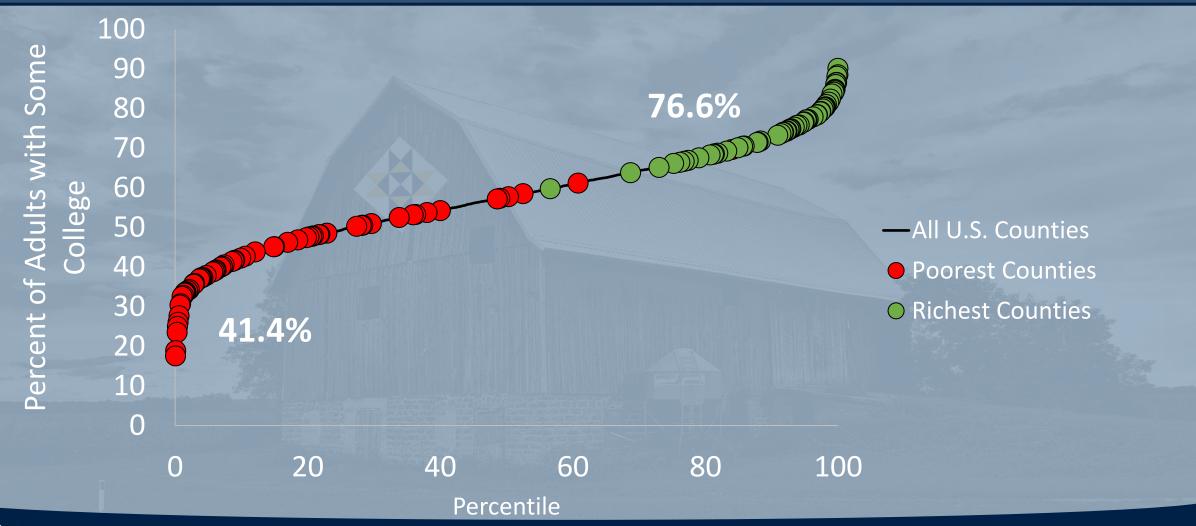
# Adult Obesity Percentage 2% Wealthiest Counties vs 2% Poorest Counties







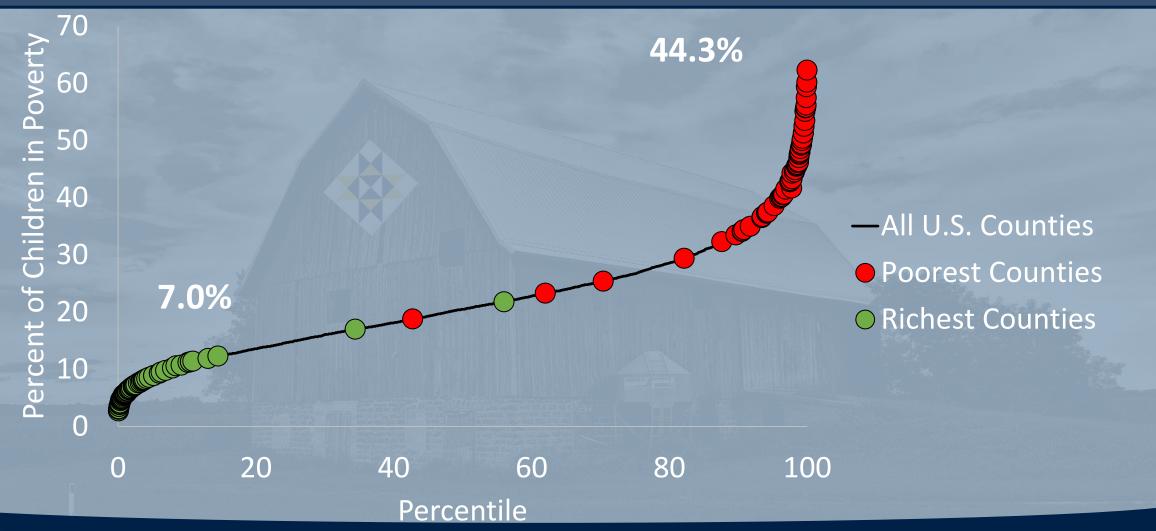
# Adults with Some College Percentage 2% Wealthiest Counties vs 2% Poorest Counties







# Children Living in Poverty Percentage 2% Wealthiest Counties vs 2% Poorest Counties



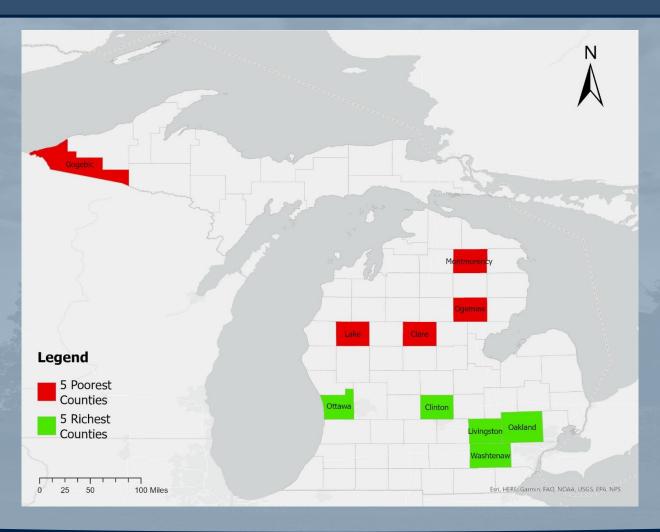




#### Richest & Poorest Counties: Michigan

5 Poorest Counties:

Lake
Gogebic
Clare
Montmorency
Ogemaw



5 Richest Counties:
Livingston
Oakland
Washtenaw
Ottawa
Clinton





#### Median Household Income: Michigan

Richest Fifth		2nd Richest		Middle		2nd Poorest		Poorest Fifth	
County	Median Household Income	County	Median Household Income	County	Median Household Income	County	Median Household Income	County	Median Household Income
Livingston	88,908	Charlevoix	63,508	Berrien	55,893	Mackinac	52,989	Mecosta	48,440
Oakland	86,275	Emmet	63,488	Tuscola	55,174	Wayne	52,830	Gladwin	48,279
Washtenaw	79,198	St. Clair	62,847	Mason	55,035	Saginaw	52,749	Roscommon	46,218
Ottawa	77,288	Kalamazoo	61,739	Montcalm	54,803	Bay	52,510	Alcona	46,187
Clinton	76,161	Van Buren	61,549	Dickinson	54,775	Sanilac	52,459	Baraga	45,792
Leelanau	72,709	Cass	60,725	Manistee	54,428	Menominee	52,457	Iron	45,792
Eaton	72,173	Lenawee	60,656	Crawford	54,240	Presque Isle	52,181	Oscoda	45,659
Allegan	70,269	Antrim	60,378	Newaygo	54,235	Huron	51,924	Alpena	44,864
Kent	69,786	Otsego	59,330	Schoolcraft	54,163	Delta	51,117	Ontonagon	44,605
Grand Traverse	69,393	Ingham	58,226	Wexford	54,114	Osceola	50,722	losco	44,334
Lapeer	69,194	Shiawassee	58,004	Hillsdale	54,110	Missaukee	50,695	Ogemaw	44,165
Benzie	68,875	Marquette	57,981	Genesee	54,052	Kalkaska	50,363	Montmorency	43,913
Barry	68,779	Jackson	57,746	Keweenaw	54,010	Luce	49,667	Clare	43,069
Monroe	68,006	St. Joseph	57,080	Cheboygan	53,482	Arenac	48,989	Gogebic	41,948
Macomb	67,828	Muskegon	57,047	Gratiot	53,347	Isabella	48,840	Lake	40,753
Midland	67,642	Oceana	56,454	Calhoun	53,286	Alger	48,822		
Ionia	64,436	Branch	56,077	Chippewa	53,079	Houghton	48,623		





#### Families Living in Poverty: Michigan





# Percent of Families Living Below the Poverty Line: Michigan



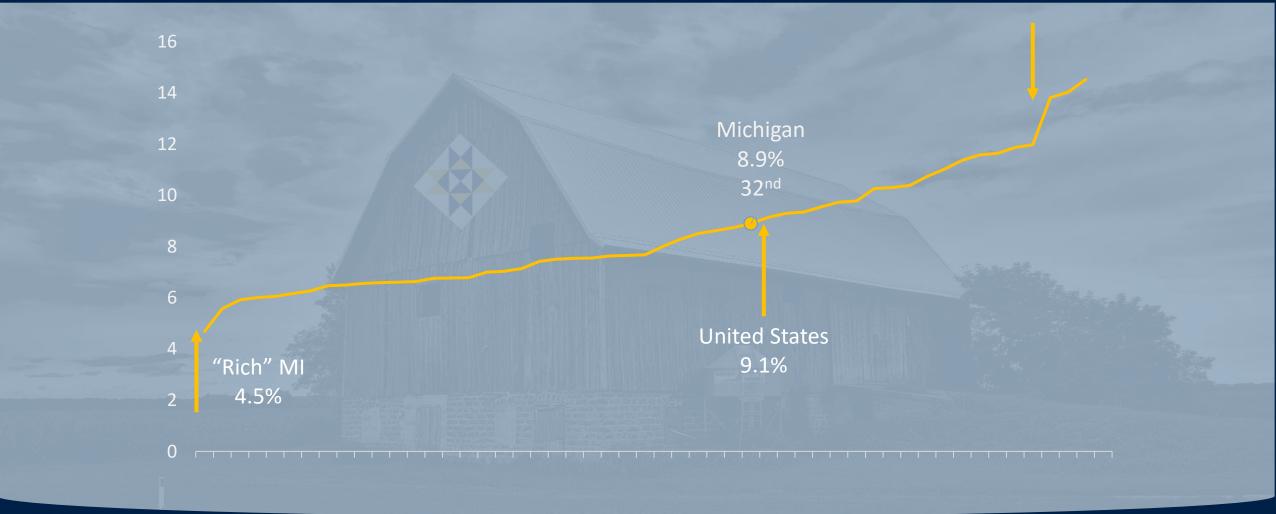
The percent of families
living below the poverty
line in Michigan's
poorest counties is 2.7
times that of the richest
counties





# Families Living in Poverty: Michigan

"Poor" MI 12.0%







# Families Living in Poverty: Michigan

STATE	RATE	STATE	RATE	STATE	RATE	STATE	RATE	STATE	RATE
"Rich" Michigan	4.5	Massachusetts	6.6	Oregon	7.5	Michigan	8.9	Texas	10.7
New Hampshire	4.7	Wisconsin	6.6	Idaho	7.5	Nevada	9.1	Oklahoma	11.0
Minnesota	5.6	Virginia	6.8	Kansas	7.6	Ohio	9.3	Alabama	11.4
Utah	5.9	Connecticut	6.8	Delaware	7.7	Florida	9.3	Arkansas	11.6
Vermont	6.0	Wyoming	6.8	South Dakota	7.7	Arizona	9.5	DC	11.6
Colorado	6.1	Iowa	7.0	Pennsylvania	8.0	North Carolina	9.7	Kentucky	11.9
Maryland	6.2	New Jersey	7.0	Illinois	8.3	New York	9.8	West Virginia	12.0
								"Poor"	
North Dakota	6.3	Alaska	7.1	Missouri	8.5	Tennessee	10.3	Michigan	12.0
Washington	6.5	Rhode Island	7.4	Indiana	8.6	Georgia	10.3	New Mexico	13.8
Hawaii	6.5	Montana	7.5	California	8.7	South Carolina	10.4	Louisiana	14.0
Nebraska	6.6							Mississippi	14.5
Maine	6.6								





# Premature Death, years of potential life lost (age-adjusted mortality rate): Michigan





#### Premature Death (YPLL): Michigan

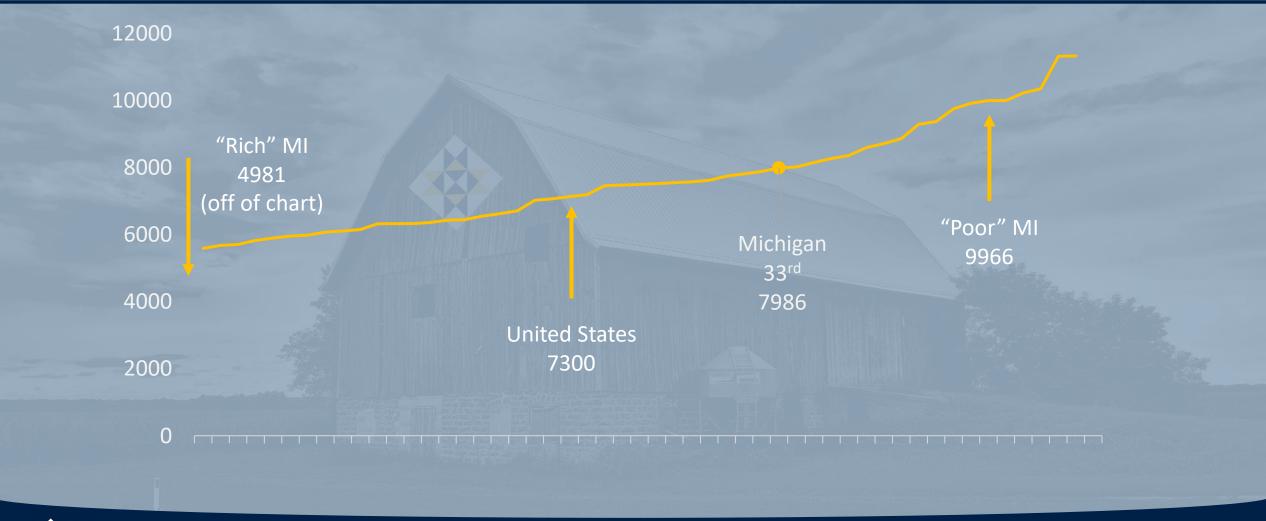


The YPLL from premature death before age 75 per 100,000 population among Michigan's poorest counties is 2 times to that of the richest counties





#### Premature Death (YPLL): Michigan







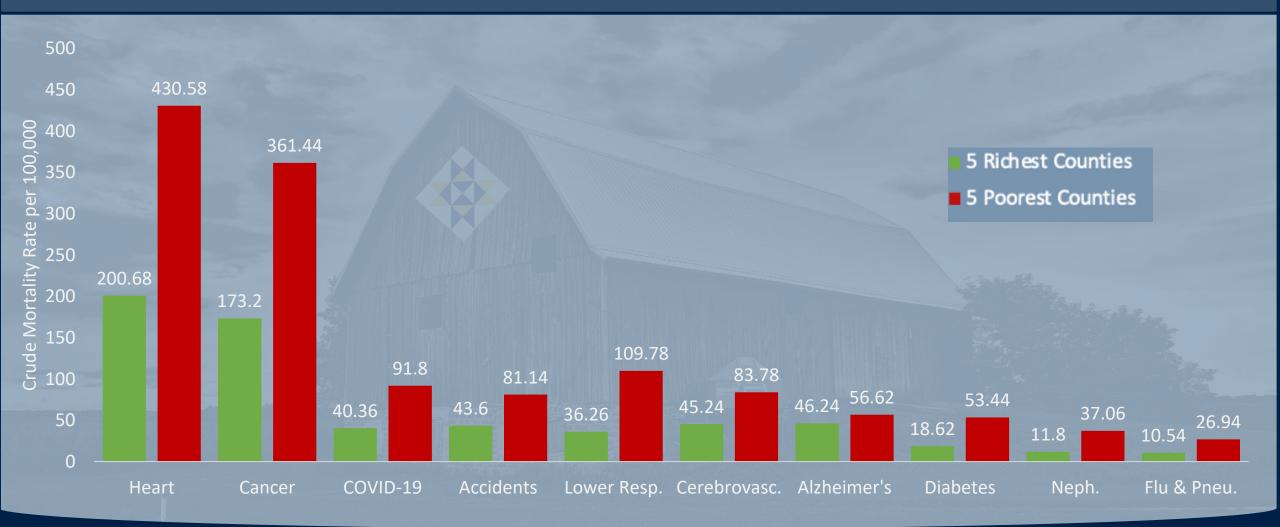
#### Premature Death (YPLL): Michigan

STATE	RATE	STATE	RATE	STATE	RATE	STATE	RATE	STATE	RATE
"Rich" Michigan	4981	New Jersey	6325	North Dakota	7133	Wyoming	7810	South Carolina	9287
Minnesota	5586	Idaho	6328	Maine	7189	Michigan	7883	Oklahoma	9371
California	5679	New Hampshire	6360	Kansas	7458	North Carolina	7986	Arkansas	9750
Massachusetts	5704	Vermont	6430	Florida	7478	Georgia	8017	Tennessee	9913
Washington	5824	Nebraska	6447	Nevada	7493	Delaware	8149	Kentucky	9993
								"Poor"	
Hawaii	5895	Iowa	6549	Montana	7519	Alaska	8269	Michigan	9966
New York	5952	Wisconsin	6620	Maryland	7547	DC	8357	New Mexico	9997
Utah	5985	Virginia	6707	Pennsylvania	7571	Indiana	8595	Louisiana	10222
Oregon	6072	Texas	7021	South Dakota	7621	Ohio	8713	Alabama	10350
Connecticut	6107	Illinois	7066	Arizona	7745	Missouri	8860	West Virginia	11318
Rhode Island	6151							Mississippi	11324
Colorado	6323								





#### Leading Causes of Death: Michigan









## Prosperity Index

#### **RISK**

#### **RESILIENCE**

**ECONOMIC** 

Poverty Rate

Number of Industry Dependencies

Net Migration per 100 people

Labor Force Participation Rate

Self-employment Rate
Business Establishments per 100 workers
Number of Hospital Beds per 10,000
population

Median Household Income

# Prosperity Index

**SOCIAL** 

Digital Distress

High School Drop Out Rate

Teen Birth Rate per 1,000 population

All-cause Mortality Rate per 1,000 population

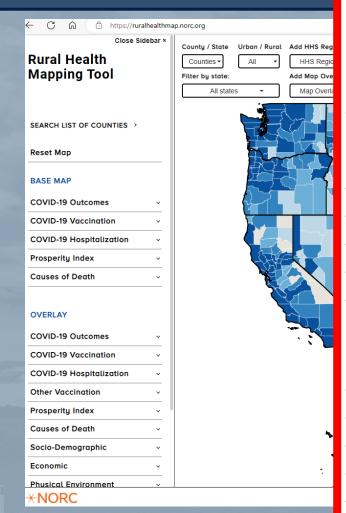
501 c3 and c4 per 10,000 population
Educational Attainment (Bachelor's Degree or more)
Primary Care Providers per 10,000 population
Voter Participation Rate







#### https://ru Rural Health





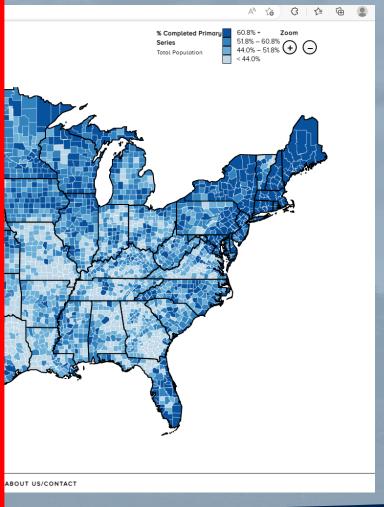
#### **Mapping Tool**

SEARCH LIST OF COUNTIES > Reset Map **BASE MAP COVID-19 Outcomes COVID-19 Vaccination COVID-19 Hospitalization** Prosperity Index Causes of Death **OVERLAY COVID-19 Outcomes COVID-19 Vaccination COVID-19 Hospitalization** Other Vaccination Prosperity Index Causes of Death Socio-Demographic

Economic

Phusical Environment

#### o.norc.org





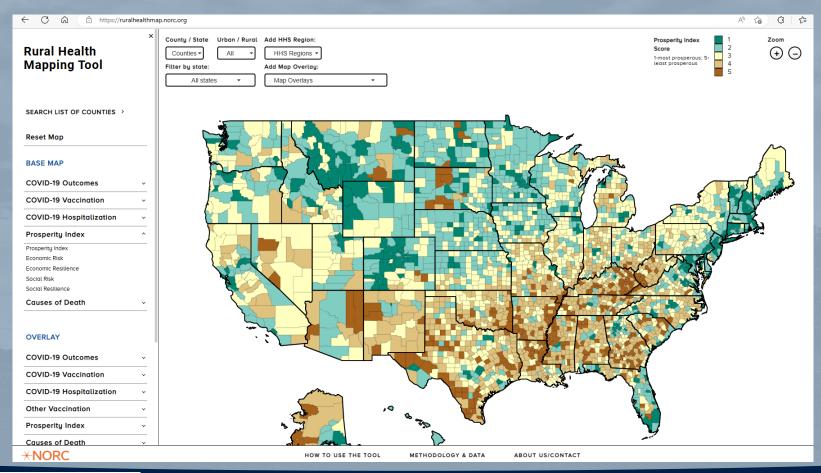
The Walsh Center for Rural Health Analysis

NORC AT THE UNIVERSITY OF CHICAGO



## Map of Prosperity Index Scores

Rural Health Mapping Tool - <a href="https://ruralhealthmap.norc.org">https://ruralhealthmap.norc.org</a>

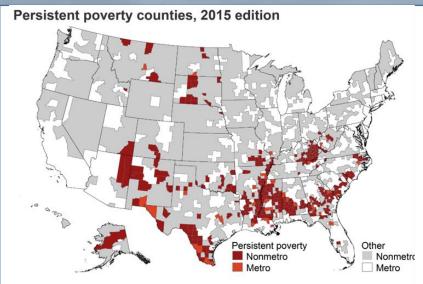






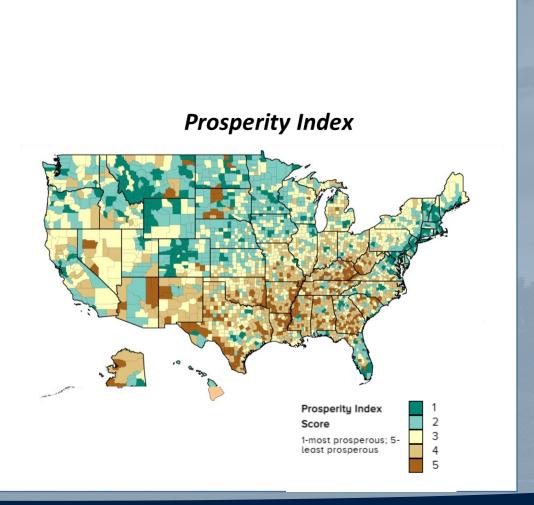


## Prosperity Index vs. Persistent Poverty



Persistent poverty counties are those where 20 percent or more of county residents were poor, measured by the 1980, 1990, 2000 censuses, and the 2007-11 American Community Survey.

Note that county boundaries are drawn for the persistent poverty counties only. Source: USDA, Economic Research Service using data from U.S. Census Bureau.

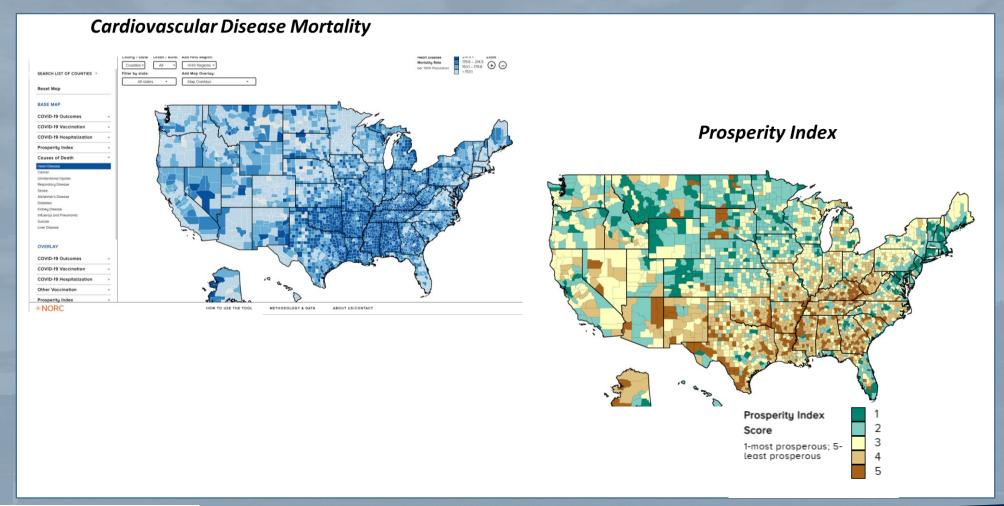








#### Prosperity Index vs. Cardiovascular Disease

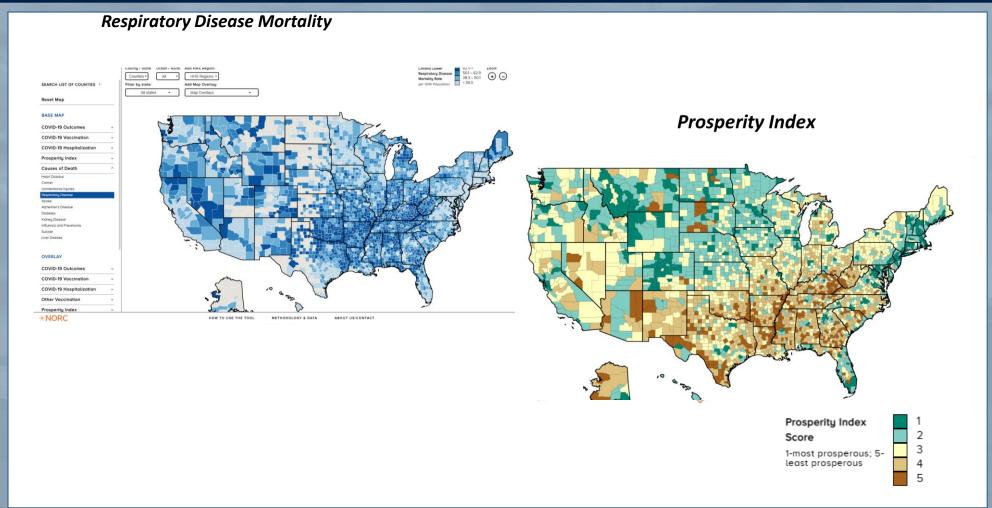








## Prosperity Index vs. Respiratory Disease

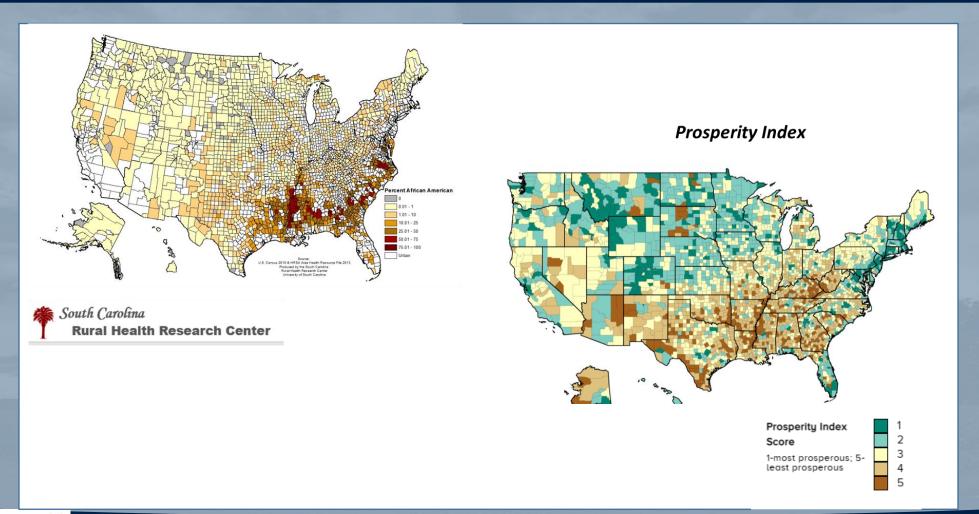








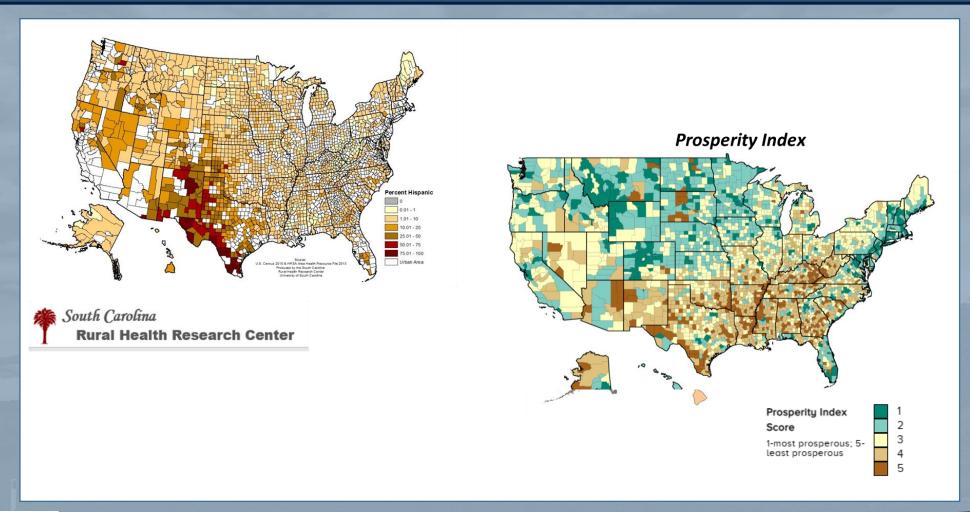
# Minority presence in rural America: African Americans in rural counties







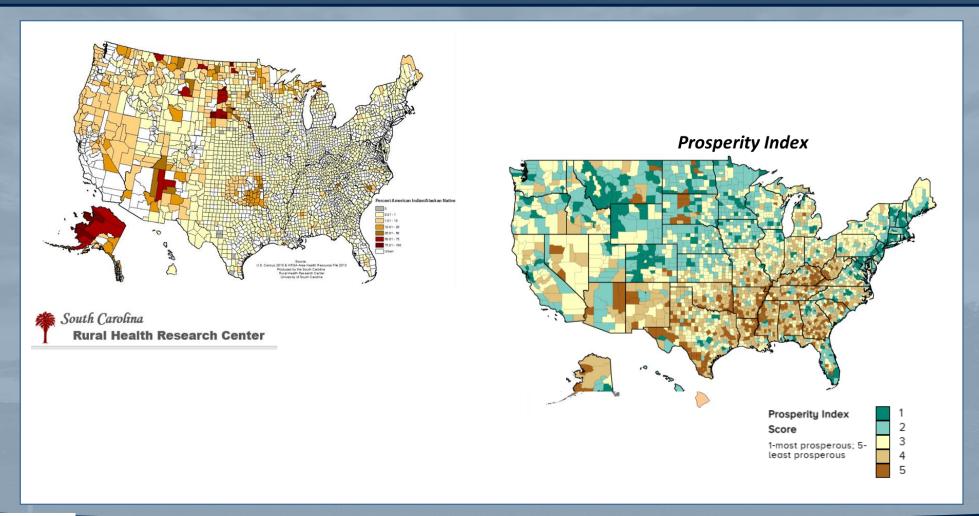
#### Minority presence in rural America: Hispanics in rural counties







# Minority presence in rural America: American Indian/Alaska native







### https://ruralhealthmap.norc.org

CLOSE

### Lake County, MI

% Completed Primary Series Total Population

65.6%

Population (Rural, Noncore)

11,852

Click on a variable in the leftmost column of the data table to see it's definition.

Select data table:		Prosperity Index			Print Data Tables
Prosperity Index Data Table					
Component	Score	Sub-Component	Lake County	Michigan	United States
		Poverty Rate	21.0%	14.4%	13.4%
Economic -	4	Number of Industry Dependencies	1.0	0.6	0.5
Risk	4	Net Migration per 100 people	6.0	-0.9	2.5
		Labor Force Participation Rate	66.5%	81.7%	82.1%
		Self-employment Rate	3.6%	3.4%	3.6%
Economic - Resilience		Business Establishments per 100 workers	4.2	5.4	5.3
		Number of Hospitals Beds per 10,000 population	0.0	23.4	28.7
		Median Household Income	\$37,320	\$57,144	\$62,843
Social - Risk	4	Digital Distress (1= Low Distress, 2 = Medium Distress, 3 = High Distress)	3.0	1.6	1.8
		High School Drop Out Rate	12.0%	4.1%	3.8%
Social - Kisk		Teen Birth Rate per 1,000 population	33.6	18.6	24.1
		All-cause Mortality Rate per 100,000 population	695.8	781.9	816.5
		501 c3 and c4s per 10,000 population	39.7	41.7	43.7
Social - Resilience	4	Educational Attainment - Bachelor's Degree or more	11.9%	29.1%	32.1%
		Primary Care Providers per 10,000 population	14.3	22.8	21.8







### https://ruralhealthmap.norc.org

CLOSE

Print Data Tables

### **Livingston County, MI**

% Completed Primary Series 61.4%

Population (Urban, Large fringe metro)

189,754

Click on a variable in the leftmost column of the data table to see it's definition.

Select data table:	Prosperity Index	~

Prosperitu	Indav	Data	Table
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Component	Score	Sub-Component	Livingston County	Michigan	<b>United States</b>
Economic - Risk	1	Poverty Rate	5.2%	14.4%	13.4%
		Number of Industry Dependencies	0.0	0.6	0.5
		Net Migration per 100 people	9.0	-0.9	2.5
		Labor Force Participation Rate	86.1%	81.7%	82.1%
Economic - Resilience	2	Self-employment Rate	4.3%	3.4%	3.6%
		Business Establishments per 100 workers	4.5	5.4	5.3
		Number of Hospitals Beds per 10,000 population	7.2	23.4	28.7
		Median Household Income	\$84,221	\$57,144	\$62,843
	1	Digital Distress (1= Low Distress, 2 = Medium Distress, 3 = High Distress)	1.0	1.6	1.8
Cooled Diels		High School Drop Out Rate	2.4%	4.1%	3.8%
Social - Risk		Teen Birth Rate per 1,000 population	4.4	18.6	24.1
		All-cause Mortality Rate per 100,000 population	633.8	781.9	816.5
Social - Resilience	2	501 c3 and c4s per 10,000 population	22.4	41.7	43.7
		Educational Attainment - Bachelor's Degree or more	35.4%	29.1%	32.1%
		Primary Care Providers per 10,000 population	12.4	22.8	21.8









To Your Health

# An addiction crisis along 'the backbone of America'

By Joel Achenbach December 30, 2016

Health & Science

No longer 'Mayberry': A small Ohio city fights an epidemic of self-destruction

By Joel Achenbach December 29, 2016

### Orphaned by America's opioid epidemic

After losing their parents to overdoses, three children in West Virginia confront what it means to grow up in the midst of one of the country's biggest public health crises.



Danielle Rindler, Eli Saslow and Bonnie Jo Mount | National | Dec 17, 2016

lealth & Science

U.S. life expectancy declines for the first time since 1993

By Lenny Bernstein December 8, 2016

#### National

Life lessons from a small-town undertaker as white women die younger in America

By Terrence McCoy August 20, 2016 

✓





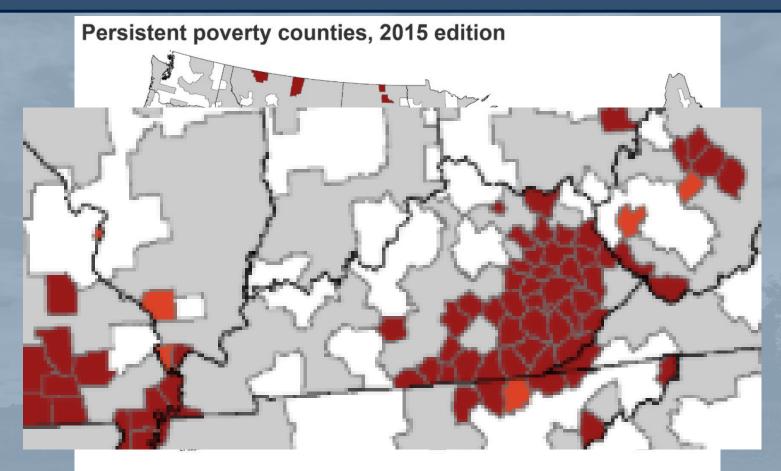
## Rural Cultural Assets

- Core values, including:
  - Close-knit sense of community
  - Support systems and neighborly social ties
  - Religious affiliation and faith
  - Pride in self, family, and place
  - Self-reliance and independence
  - Justice, loyalty, and patriotism
  - Strong work ethic
- Social cohesion
  - "Culture of collaboration"
  - Collective efficacy
  - "Community spirit"
- Shared history
- Innovation and creativity







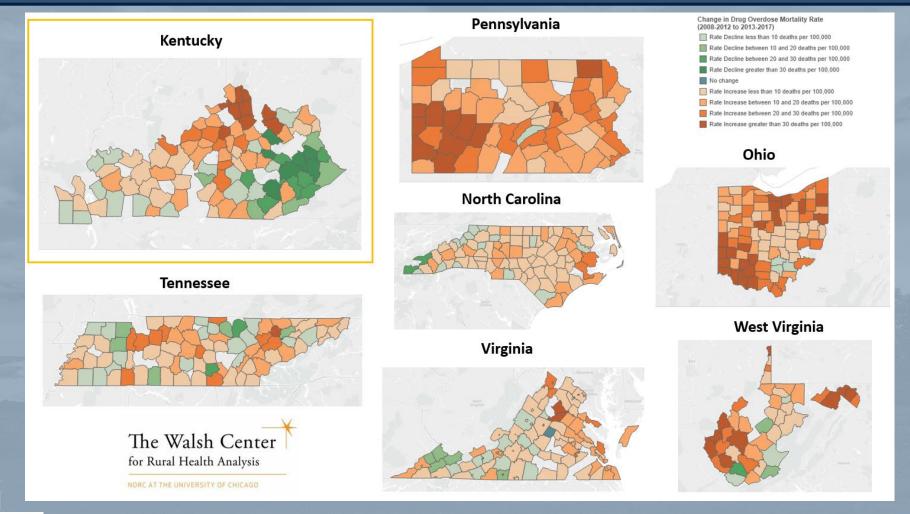


Persistent poverty counties are those where 20 percent or more of county residents were poor, measured by the 1980, 1990, 2000 censuses, and the 2007-11 American Community Survey.

Note that county boundaries are drawn for the persistent poverty counties only. Source: USDA, Economic Research Service using data from U.S. Census Bureau.











County	Drug Overdose Mortality Rate (2013-2017)^	Decline in Drug Overdose Mortality Rate between 2013- 2017 and 2008-2012
Clay County	29.5 deaths per 100,000	-52.2 deaths per 100,000
Johnson County	38.8 deaths per 100,000	-49.7 deaths per 100,000
Floyd County	73.8 deaths per 100,000	-34 deaths per 100,000
Magoffin County	35.6 deaths per 100,000*	-32.8 deaths per 100,000
Breathitt County	46.4 deaths per 100,000	-32 deaths per 100,000
Bath County	44.2 deaths per 100,000*	-30.7 deaths per 100,000
Powell County	70.1 deaths per 100,000	-30.4 deaths per 100,000
Letcher County	46.3 deaths per 100,000	-28.8 deaths per 100,000

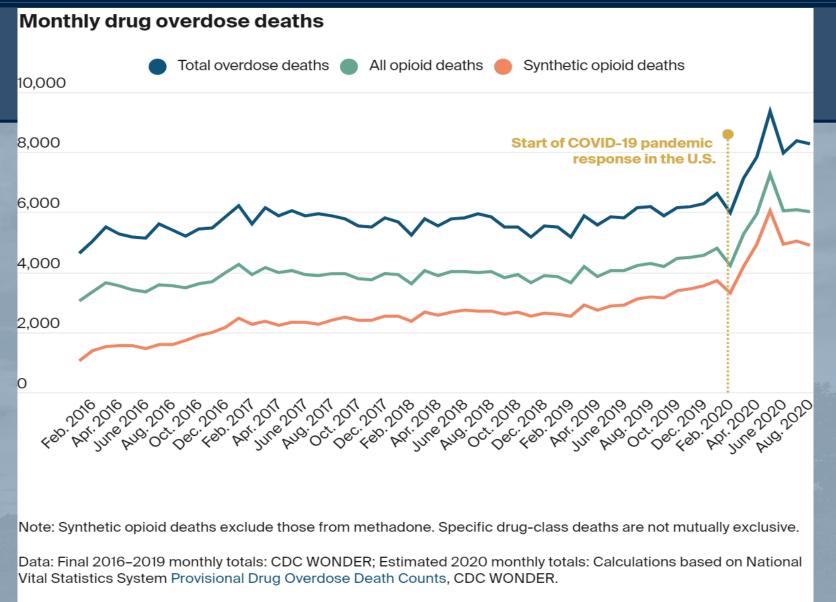




- Themes for why drug overdose mortality was declining in Eastern Kentucky
  - Increased access to treatment
    - Medicaid expansion and Kentucky's enhanced substance use treatment benefits
  - Recovery community and initiatives (i.e., recovery housing, second chance employment)
  - Changing approach of the criminal justice system
  - Harm reduction
  - Reduced stigma
  - Partnerships, community coalitions, and longstanding commitment to addressing substance use
  - Primary prevention and education







Source: Jesse C. Baumgartner and David C. Radley, "The Spike in Drug Overdose Deaths During the COVID-19 Pandemic and Policy Options to Move Forward," *To the Point* (blog), Mar. 25, 2021. https://doi.org/10.26099/gyf5-3z49







#### Research Highlights

www.norc.org | info@norc.org

pril 2021

#### Understanding Declining Rates of Drug Overdose Mortality in Eastern Kentucky

Michael Meit, Megan Heffernan, Maggie Cherney, Katherine Gelfand, Tamar Klaiman, Frances Feltner, Melissa Slone

#### **Project Description**

With funding from the Centers for Disease Control and Prevention (CDC) and the National Association of County and City Health Officials (NACCHO), the NORC Walsh Center for Rural Health Analysis and the University of Kentucky Center of Excellence in Rural Health (UK CERH) conducted this study to understand possible factors associated with declining rates of drug overdose mortality in Eastern Kentucky. Several counties in Eastern Kentucky have seen declines in drug overdose mortality rates over the past decade, even as overdose rates have risen in the state of Kentucky have seen declines in drug overdose mortality rates over the past decade, even as overdose rates have risen in the state of Kentucky have seen declines in drug averdose mortality rates over the past decade, even as overdose rates have risen in the state of Kentucky and whole, as well as in the Appalachian regions of neighboring states such as Pennsylvania, Ohio, and West Virginia. Through an intensive qualitative study, NORC and UK CERH identified policies and strategies that may contribute to the declines, including approaches that could be implemented in other communities.

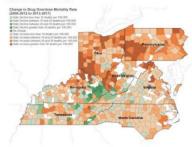
#### Background

#### DECLINES IN DRUG OVERDOSE MORTALITY

In October 2018, NORC released an opioid mapping tool (<a href="http://indoidmisusetool.norc.org">http://indoidmisusetool.norc.org</a>), which provided county-level drug overdose mortality data for two 5-year time periods. Drug overdose mortality data for two 5-year time periods. Drug overdose mortality data were obtained from the CDC National Center for Health Statistics (NCHS) National Valat Statistics System (NVSS): 10 rug overdose mortality was determined using the standard International Classification of Diseases 10th Revision (ICD-10) underlying cause-of death codos used by CDC (X40-X44, X60-X64, X85, and Y10-Y14).

Between 2008-2012 and 2013-2017. 8 counties in Eastern Kentucky were among the 10 counties nationally with the greatest decline in drug overdose mortality, among the population aged 15 to 64 years old. Of the top 20 counties nationally, 14 were in Eastern Kentucky. Even as rates declined in Eastern Kentucky, drug overdose mortality rates in neighboring states increased dramatically, prompting the research team to explore policies and programs that possibly contributed to these observed trends.

Figure 1. Changes in Drug Overdose Mortality from 2008-2012 to 2013-2017



Data Source: Mortality rates provided by Centers for Disease Control and Prevention, National Center for Health Statistics. Accessed at <a href="http://wonder.cdc.gov/mcd-icd10.html">http://wonder.cdc.gov/mcd-icd10.html</a>. ICD-10 codes: X40-X44, X60-X64, X85, Y10-Y14.

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Research Highlights | April 202

#### **FINAL REPORT**

Understanding Declining Rates of Drug Overdose Mortality in Eastern Kentucky

**APRIL 2021** 





NORC AT THE UNIVERSITY OF CHICAGO





### Connect with Us

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Deputy Director, ETSU/NORC Rural Health Equity Research Center
Senior Fellow, NORC at the University of Chicago
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240-273-2751

Center Web Site - <a href="https://www.etsu.edu/cph/rural-health-research/">https://www.etsu.edu/cph/rural-health-research/</a>

Twitter - @etsucrhr



