MATERNAL AND CHILD HEALTH IN RURAL WISCONSIN

Jennifer Kleven, MD, MPH, FAAP
Dept Chair - Pediatrics
Gundersen Health System
March 10, 2020

DISCLOSURES

Jennifer E Kleven, MD, MPH has no financial interests to disclose.

OBJECTIVES

Describe the current state of maternal health in rural Wisconsin

Identify the factors that impact maternal and child health in rural communities

Discuss opportunities for improving the health of families in rural Wisconsin

Children don’t grow up in programs…

They grow up in **families** and in **communities.**

Dr. Urie Bronfenbrenner, Cornell University

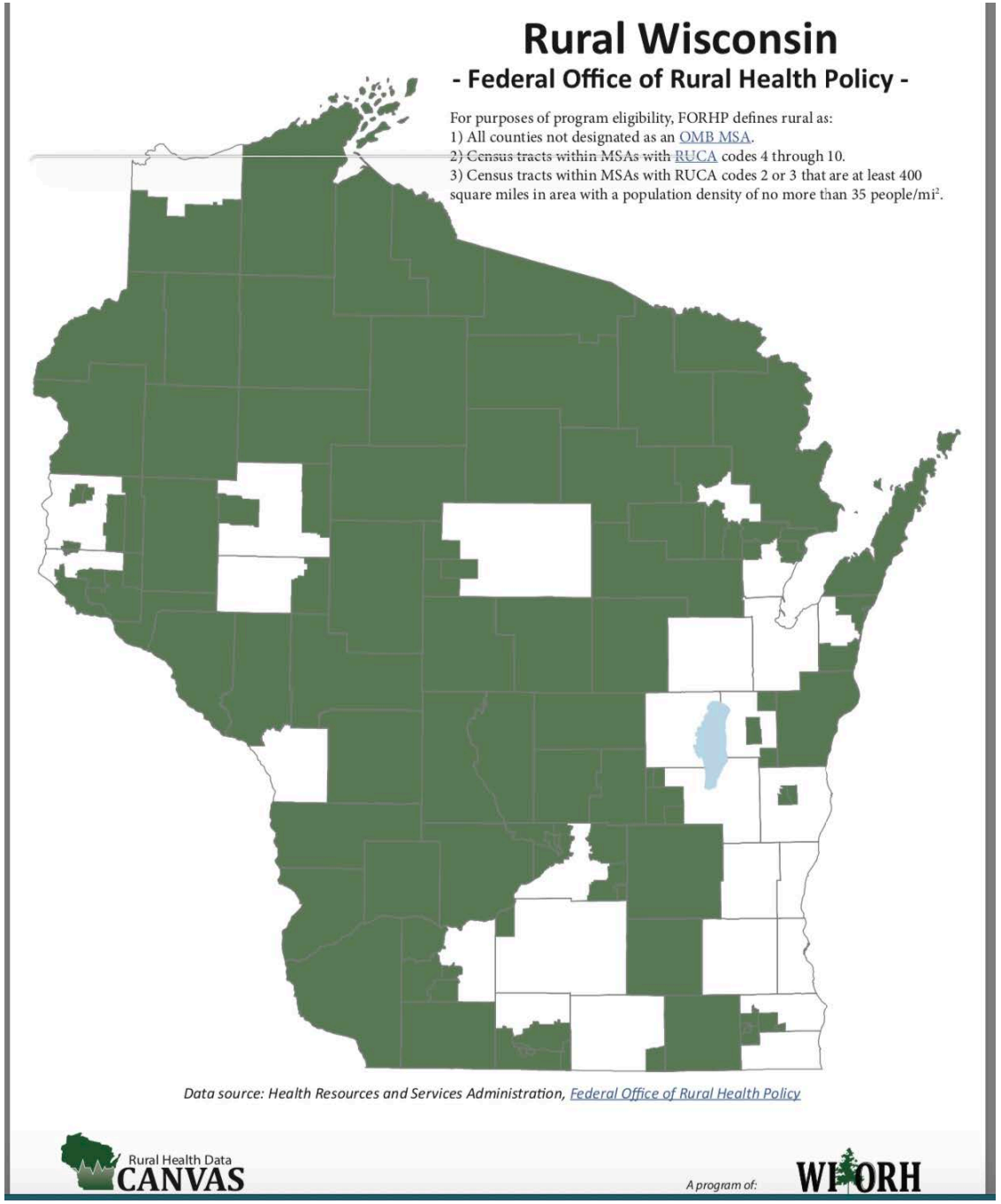
RURAL WISCONSIN

Definition: Office of Management and Budget: Rural counties are those with an urban core of ≥10 000 but <50 000 population (micropolitan) and those with no urban core.

Wisconsin

20% of the population lives in a rural area

- Lower income: Average WI Per capita income in 2018 was $51,592, - rural per capita income $45,571.
- More elderly populations
- Slow growing communities compared to urban areas
- Limited local health care access



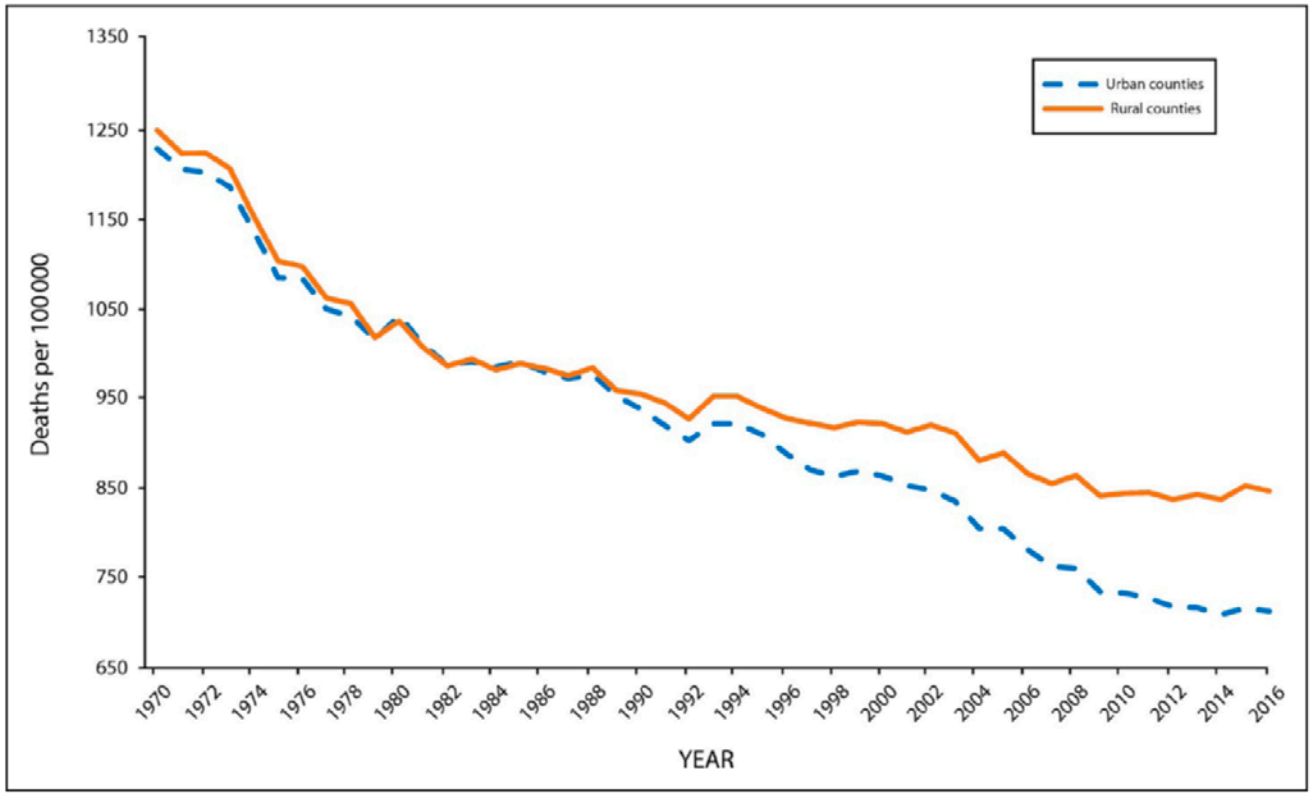


Figure 1. Trends in rural and urban age-adjusted (all-cause) mortality for the United States (1970–2016).
Reproduced from Cosby et al[7] with permission. Copyright © 2019, American Public Health Association.

IN GENERAL…

Higher rates of:

Obesity

Diabetes mellitus

Hypertension

Tobacco use

Alcohol and drug use

Mental health issues

Limited physical activity

AHA Call to Action

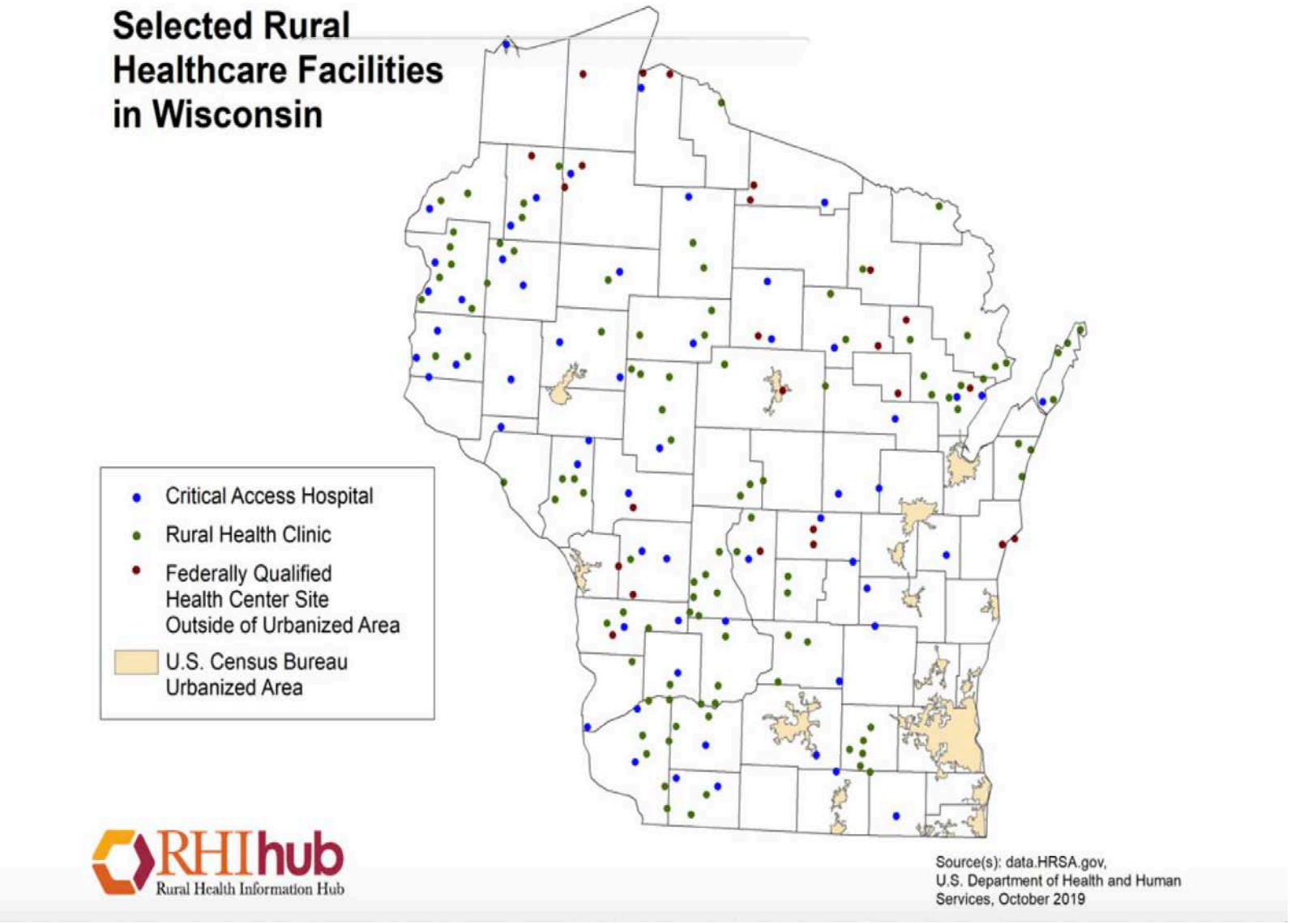
HOW FAR WOULD YOU TRAVEL?

Shortage of mental health care providers

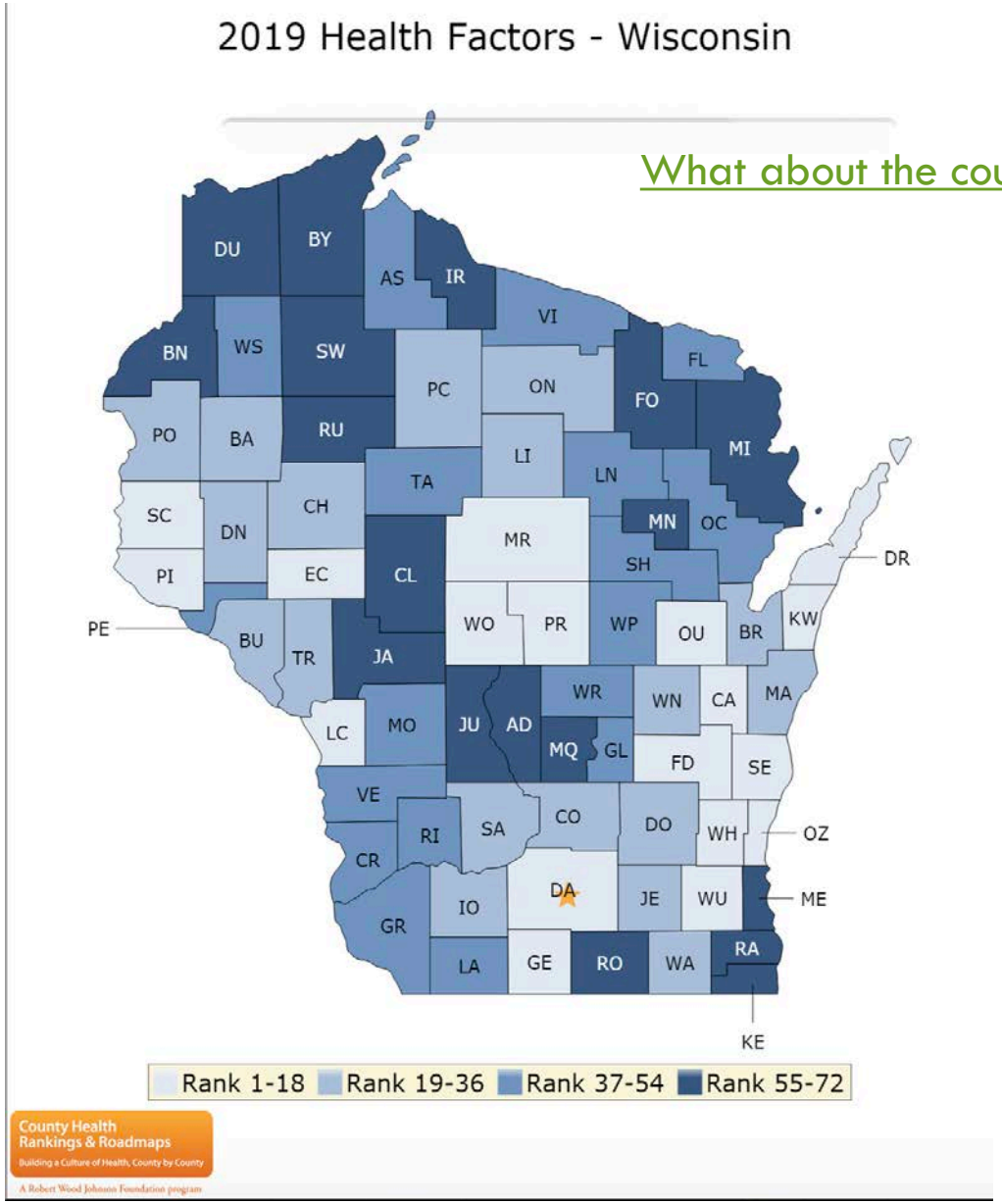
Long distances to definitive care (>100 miles)

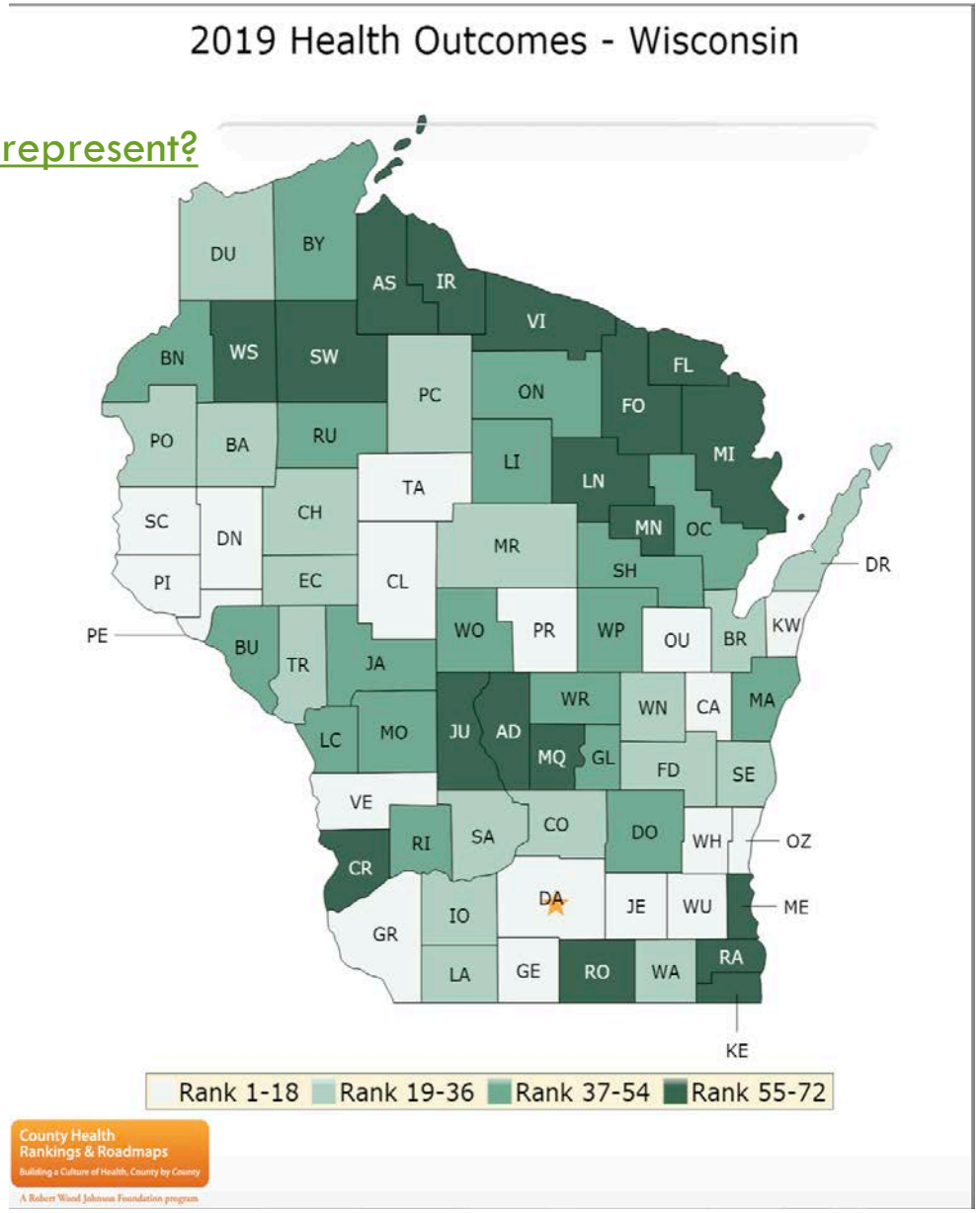
Fewer and fewer OB providers

Hospitals are closing



What about the county you represent?





MATERNAL HEALTH IN OUR RURAL COMMUNITIES

Women are:

Unable to access local healthcare

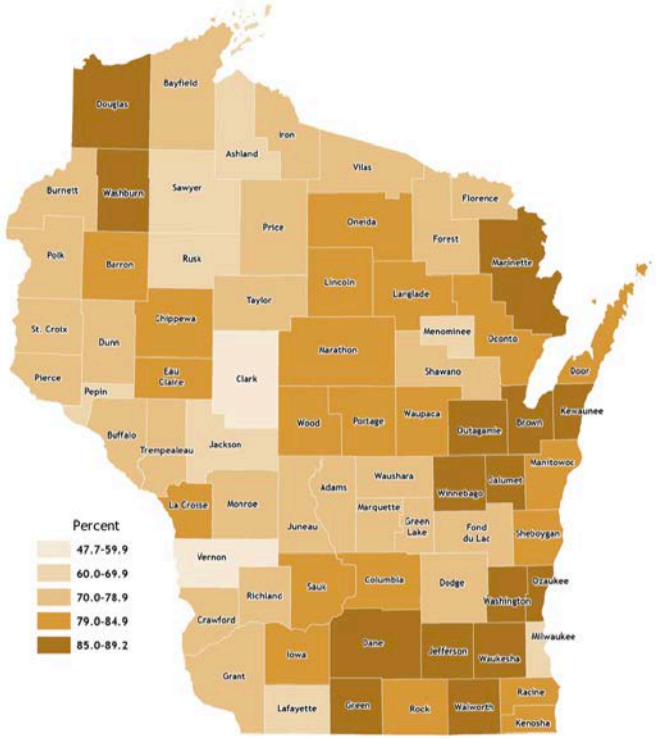
Less likely to receive preventative care

More likely to smoke

More likely to be obese

More likely to have c-sections

Map 1. Percentage of adequate prenatal care by county, Wisconsin, 2017



Source: Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.

Map 2. Percent low birthweight by county, Wisconsin, 2017

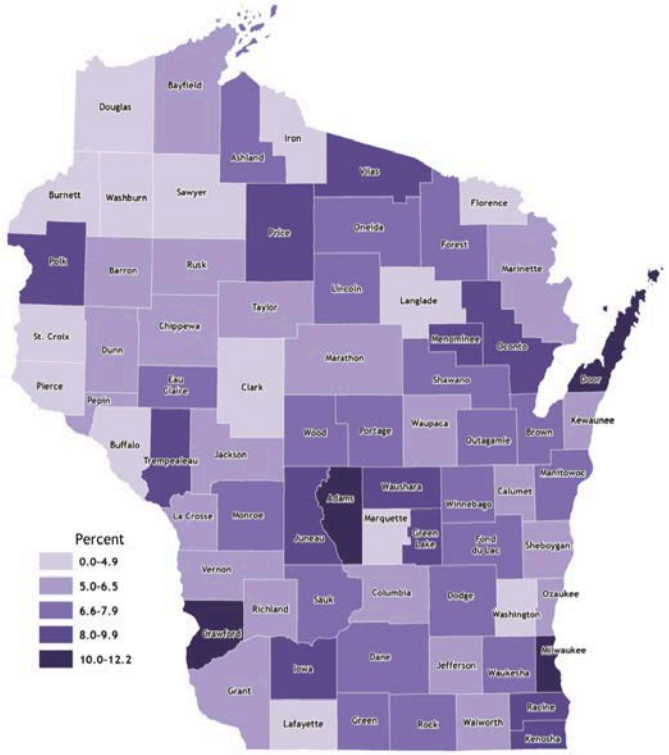
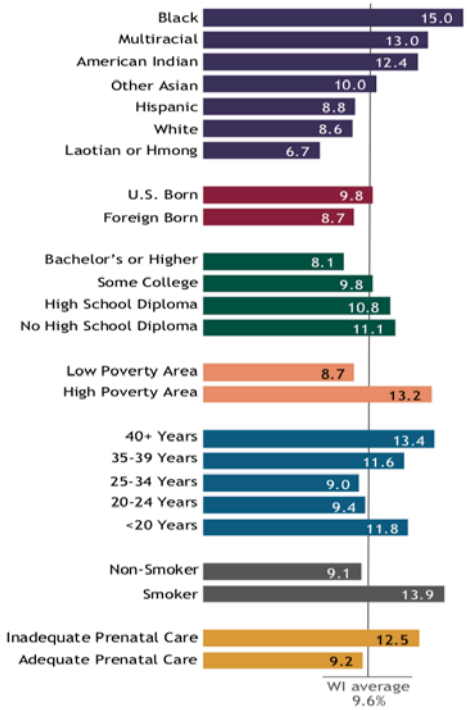


Figure 7. Percentage of births that are premature by population, Wisconsin, 2017



Notes: Smoker refers to mothers who reported smoking a cigarette at any time during pregnancy.
Source: Office of Health Informatics, Division of Public Health, Wisconsin Department of Health Services.

PRENATAL CARE AND INFANT OUTCOMES

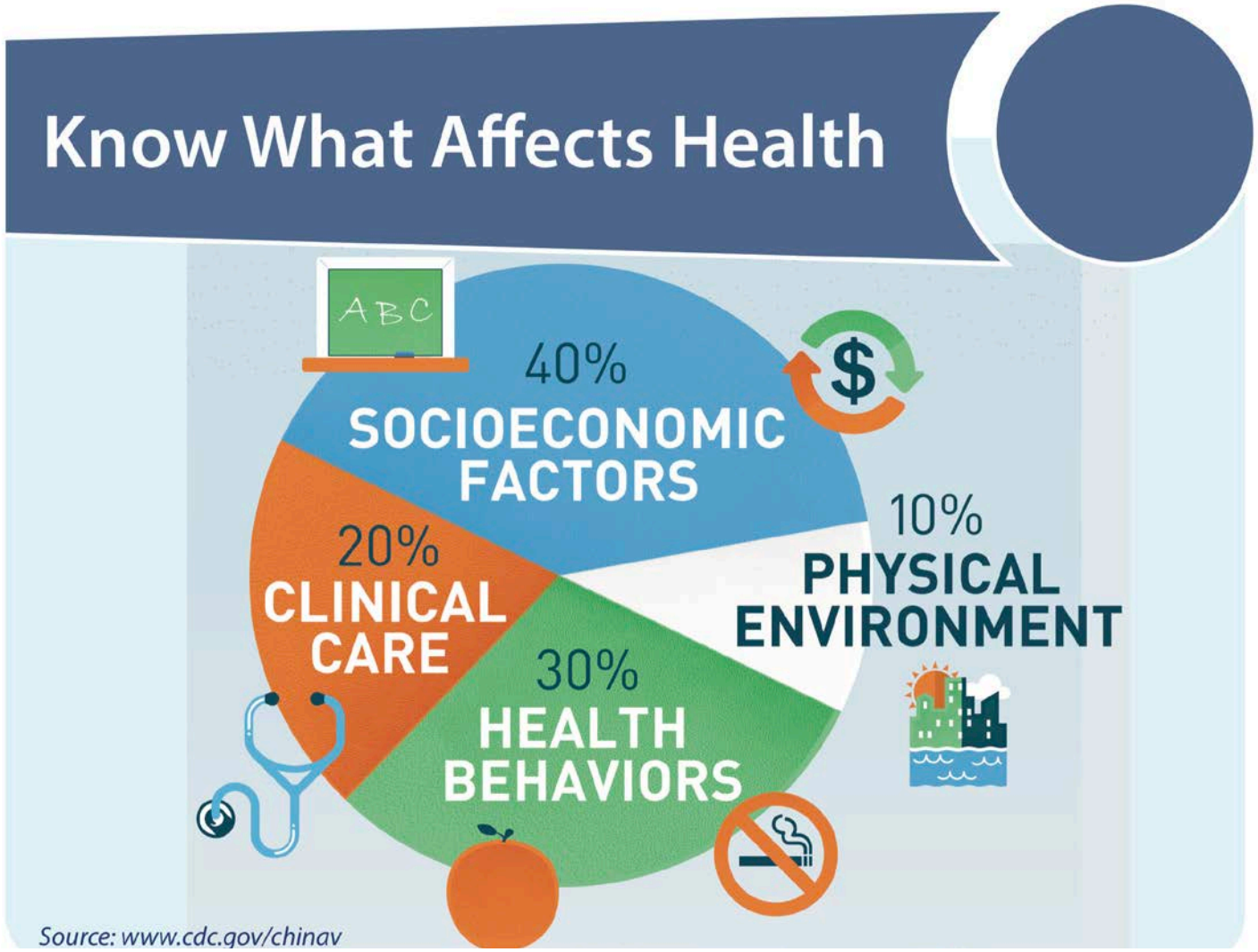
Low birthweights & prematurity tied to poverty, less education, smoking, inability to access care

BEYOND THE CLINIC WALLS

Clinical care plays a small role

Where we live, learn, work and play has the most impact on our health and well being

WHAT IMPACTS HEALTH?



ADVERSE CHILDHOOD EXPERIENCES (ACES)

EARLY LIFE EVENTS HAVE LONG TERM OUTCOMES

Risk factors:

Poverty

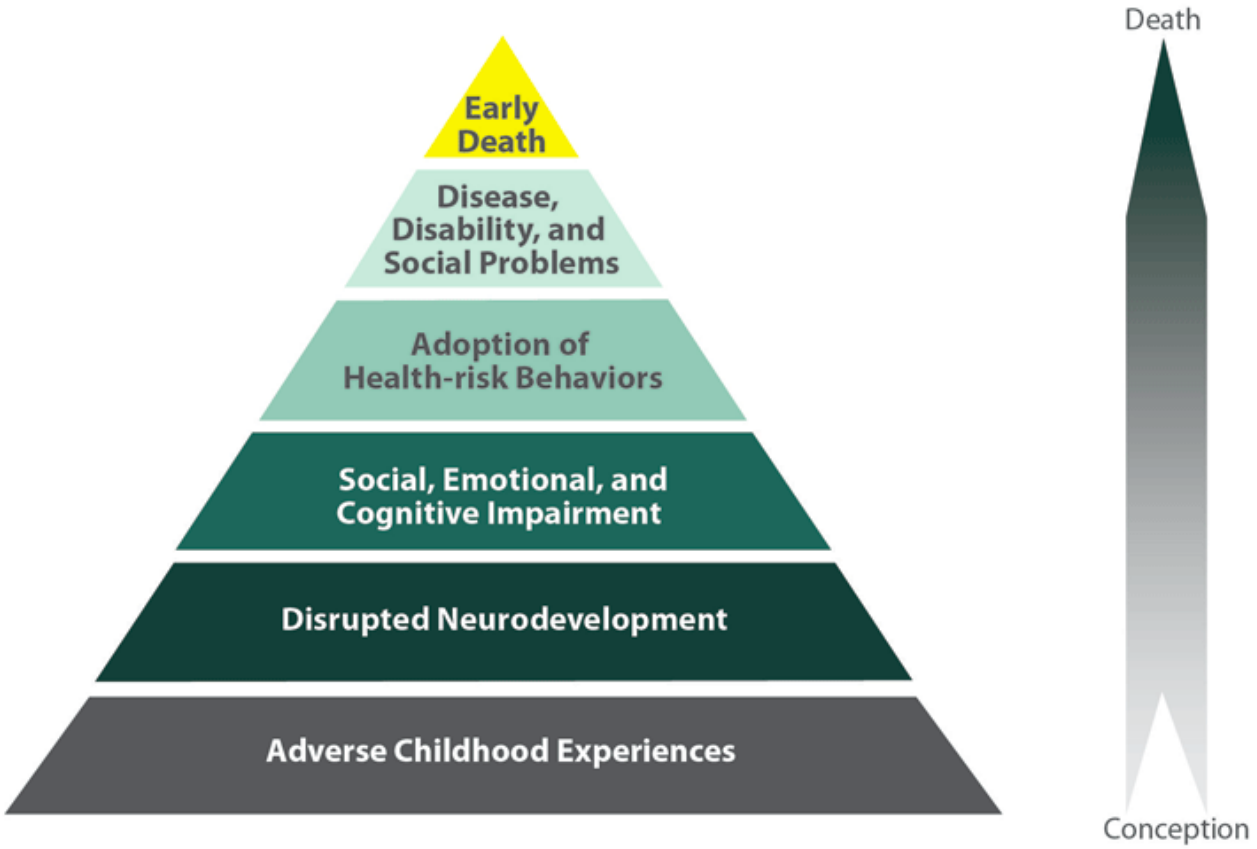
Food insecurity

Parental depression

Harsh punishment in childhood

Parental substance abuse

https://www.cdc.gov/violenceprevention/acestudy/about.html

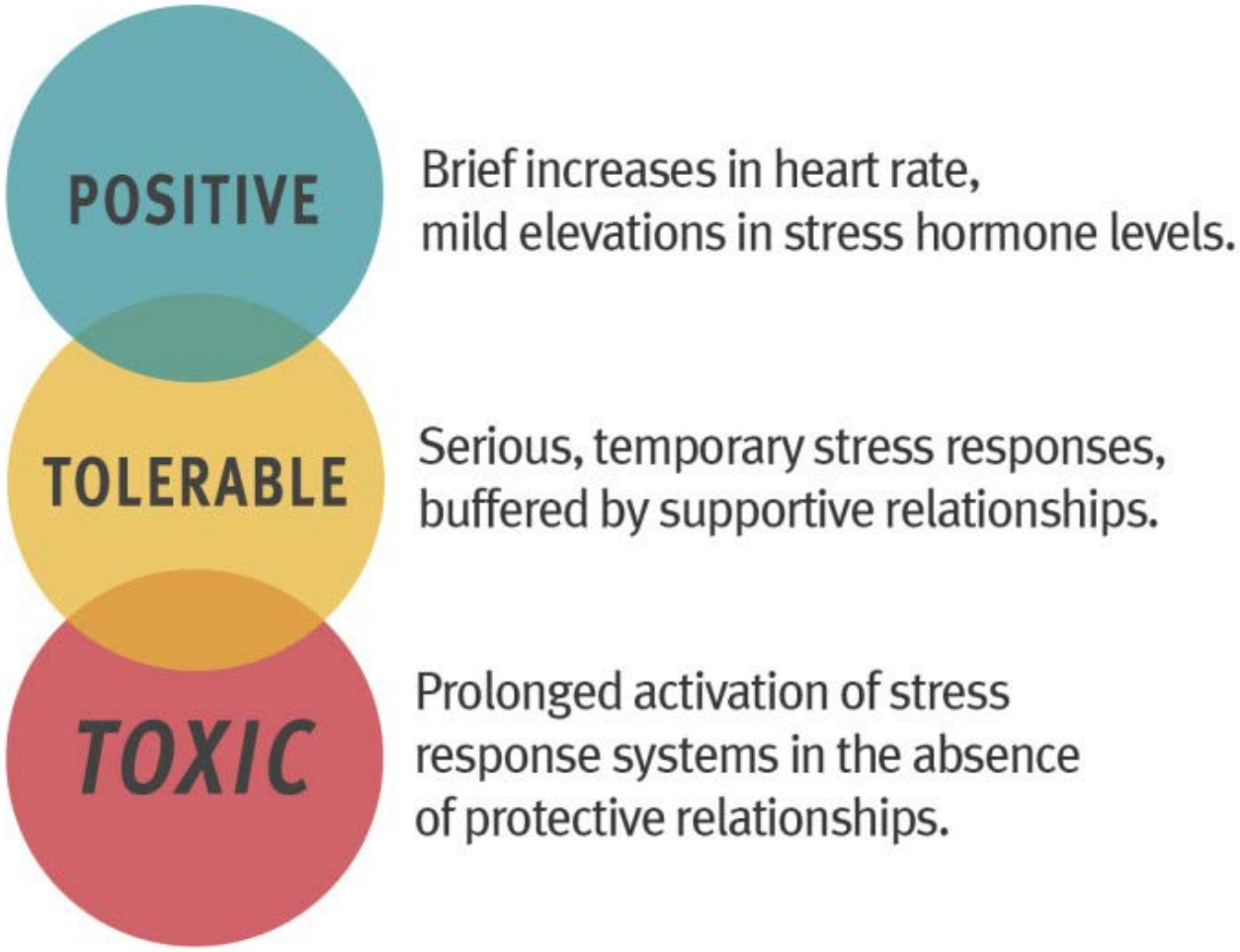


Mechanism by Which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan

TOXIC STRESS

"Stress in early life at critical developmental times that is not balanced by adult support can lead to later "impairments in learning and behavior as well as the roots of chronic, stress-related physical and mental illness."

http://developingchild.harvard.edu/science/key-concepts/toxic-stress/



What challenges do they face?

OUR RURAL COMMUNITIES

ACES IN ADULTS CURRENT STATE - WI

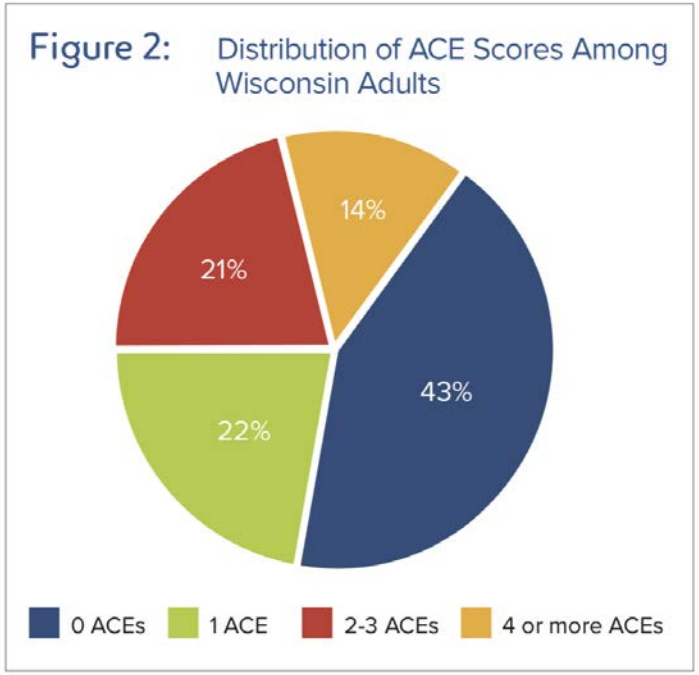
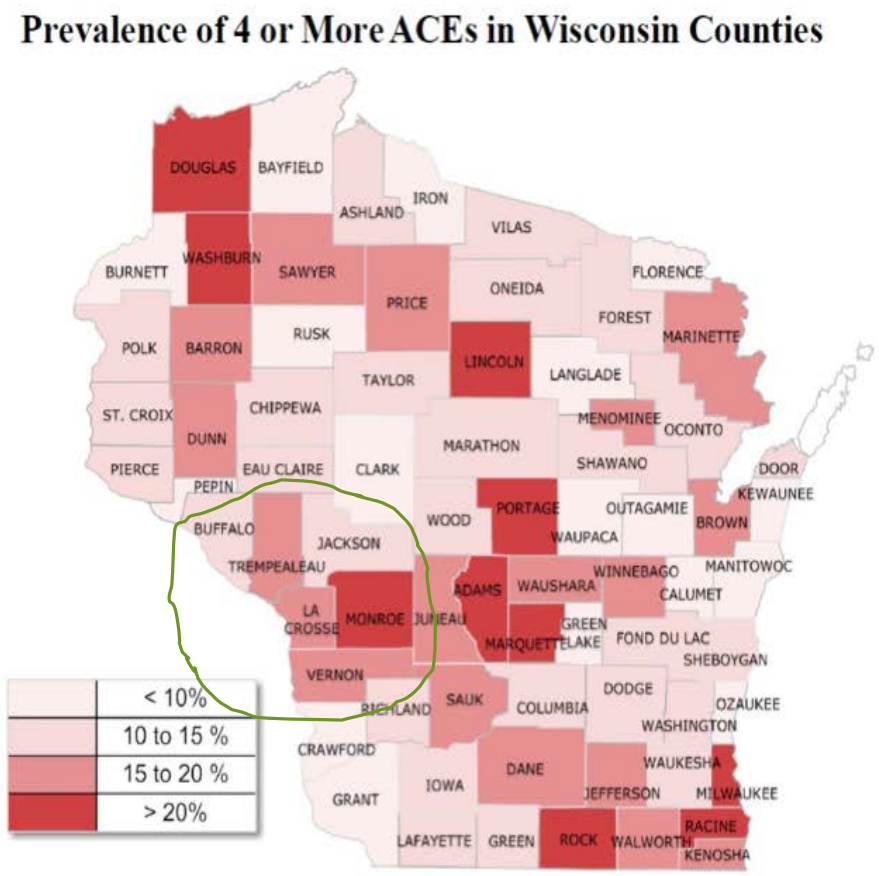


Table 1: Characteristics of Adults who Answered ACE Questions

Sample Size	25,518 Wisconsin adults answered the ACE module	
Average Age	48.2 years	
Education	57% some college 33% high school degree or equivalent 10% didn't complete high school	
Marital Status	55.4% married	
Income	53.8% less than $50,000	46.2% greater than $50,000
Race/Ethnicity	87.3% White 4.8% Black 3.7% Hispanic	2.6% Asian 1.0% American Indian .05% Other

Adverse Childhood Experiences in Wisconsin: 2011 – 2015 Behavioral Risk Factor Survey Findings. (2018). Madison, WI: Child Abuse and Neglect Prevention Board.

PREVALENCE OF ACES AMONG WI ADULTS



Hunt, Lee, Shook Slack.Adverse Childhood Experiences in Wisconsin: Findings from the 2011-2013 Behavioral Risk Factor Survey

CHILDREN IN RURAL COMMUNITY

What are they experiencing?

POVERTY

30%-40%

Live in poverty and/or Below the ALICE (Asset limited, Income Constrained, Employed) threshold

Household #	100%	130%	185%
	$12,490	$16,237	$23,107
	$21,330	$27,729	$39,461
	$25,750	$33,475	$47,638

These rates do not vary from state to state (except in AK and HI), despite significant differences in cost-of-living.

SOURCE: Federal Register, Vol. 84, No. 22, February 1, 2019, pp. 1167-1168 with SOURCE: U.S. Department of Health and Human Services

HEALTH FACTORS
CHILDREN IN POVERTY

Wisconsin Summary Information

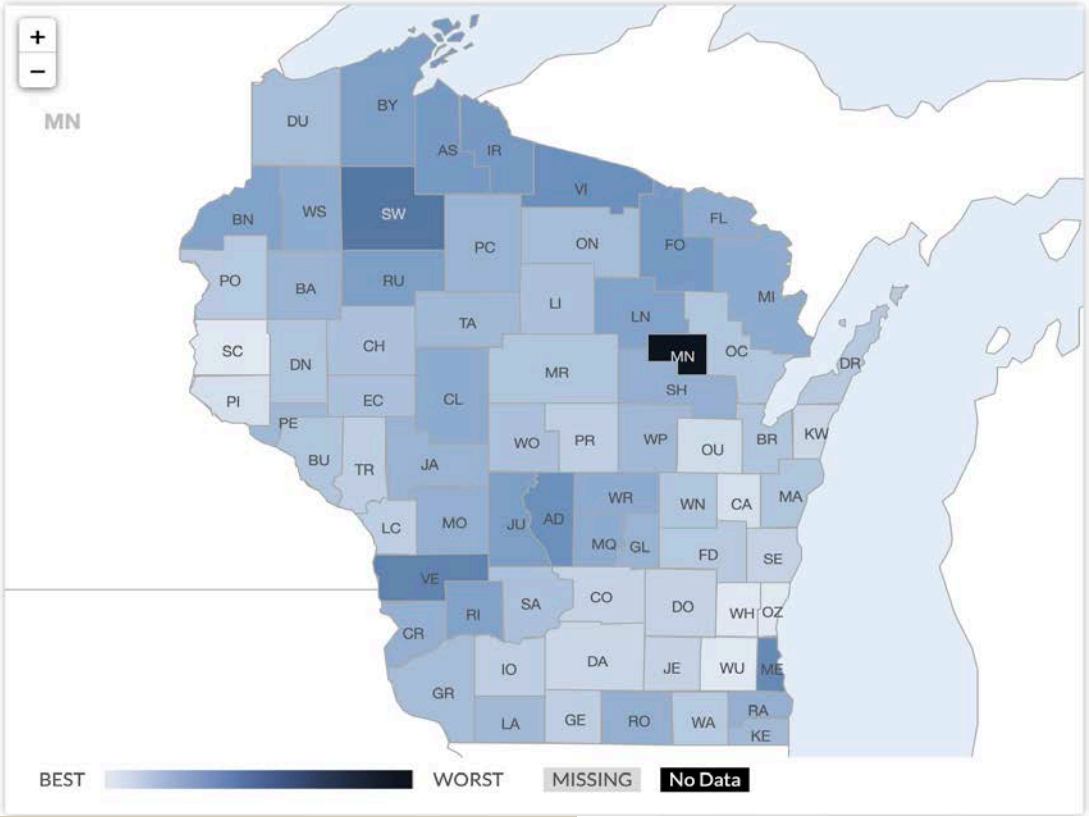
Top U.S. Performers:	11% (10th percentile)
Range in Wisconsin (Min-Max):	5-44%
Overall in Wisconsin:	15%
Years of Data Used:	2017

Children in poverty

Percentage of people under age 18 in poverty.

The 2019 County Health Rankings used data from 2017 for this measure.

Map | Data | Description | Data Source | Strategies



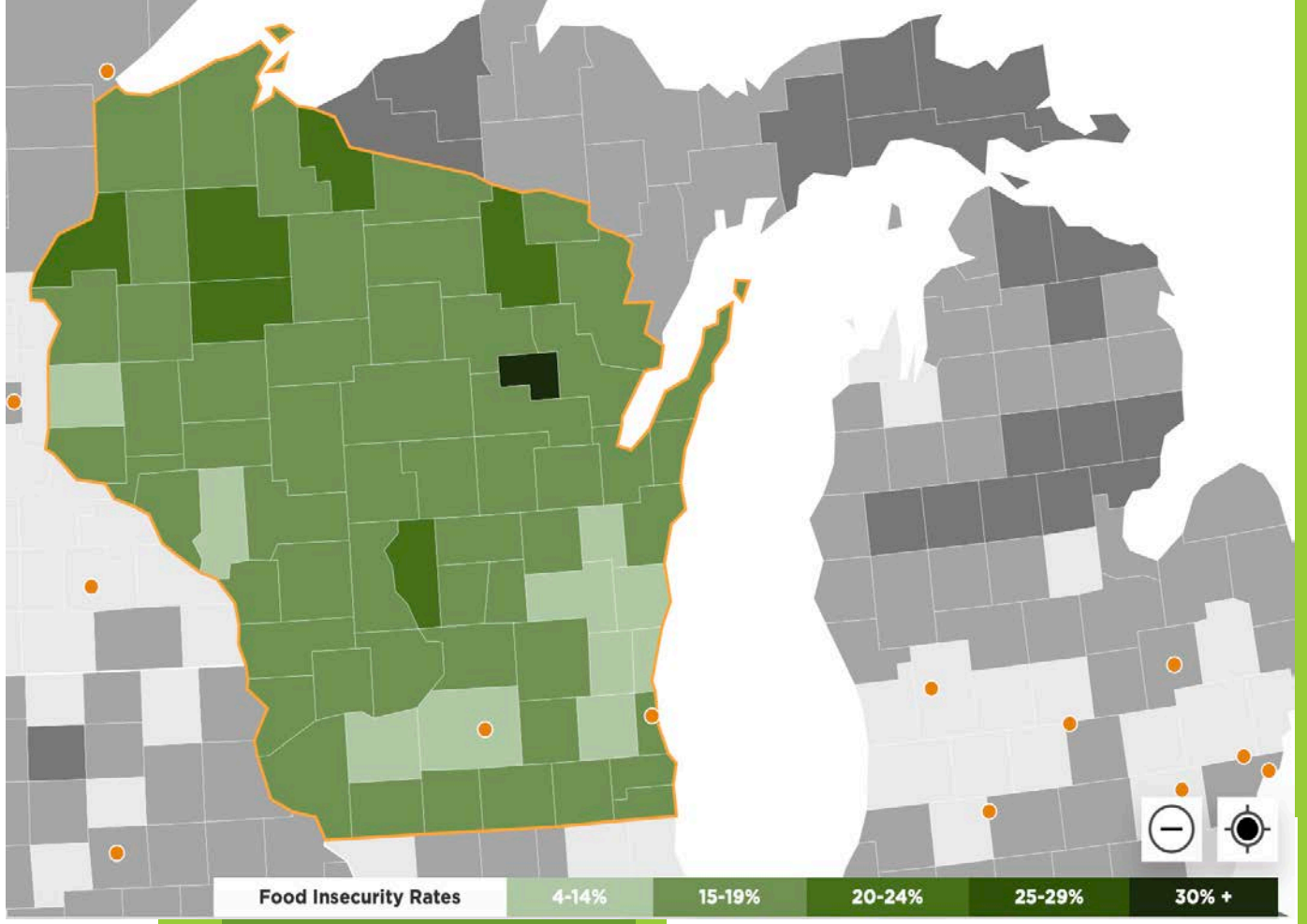
COMPASS New Random Household Survey, 2018

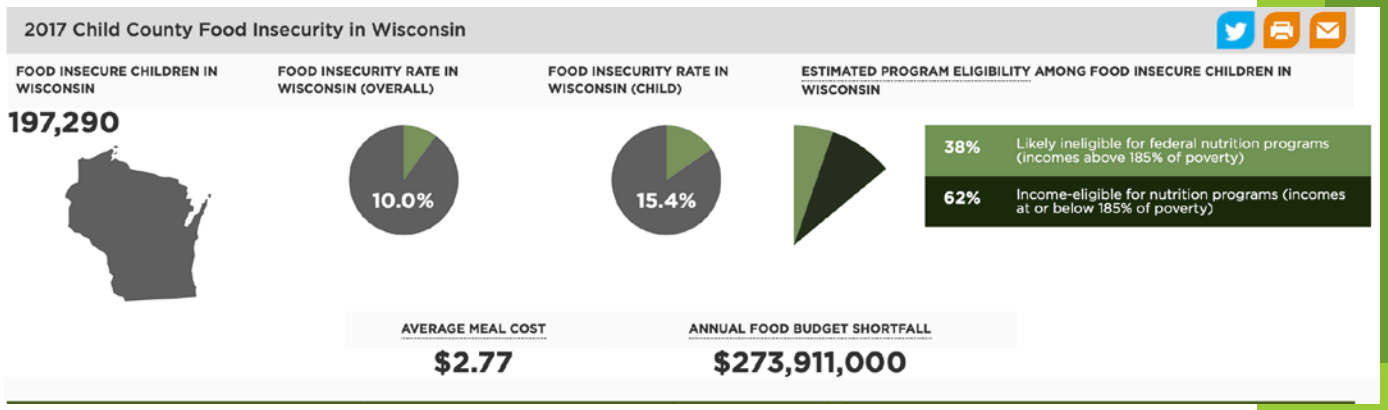
County Health Rankings 2019

FOOD INSECURITY

Food insecurity in Wisconsin

2017 – 15.4 % of children in WI live in households with food insecurity





MENTAL HEALTH NEEDS

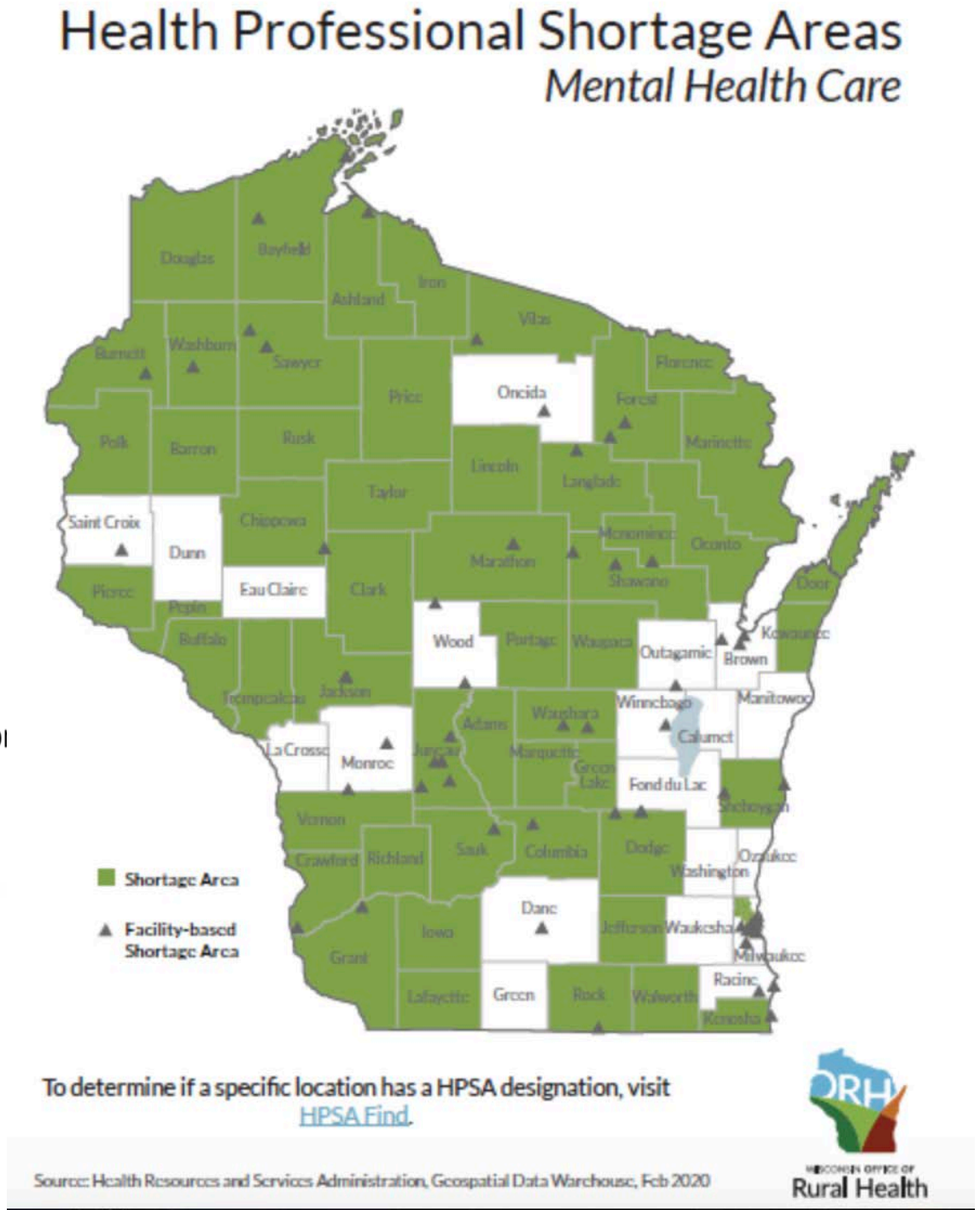
Table 2: Mental Health Prevalence Indicators for Wisconsin - 2015

WISCONSIN	12-17 years	18-25 years	26+ years	18+ years – All Adults
Major Depressive Episode	***13.64***[a]	***10.61***[b]	5.89	6.56
Serious Mental Illness	--	5.28	3.77	3.99
Any Mental Illness	--	***22.42***[b]	18.15	18.75

Source: National Survey on Drug Use and Health, Substance Abuse and Mental Health Services Administratio

a - Top 20 percent rate across all states

b - Top 20-40 percent rate across all states



Wisconsin office of Rural Health

SUBSTANCE USE

Select a Measure:

HEALTH FACTORS
EXCESSIVE DRINKING

Wisconsin Summary Information

Top U.S. Performers:	13% (10th percentile)
Range in Wisconsin (Min-Max):	20-29%
Overall in Wisconsin:	26%
Years of Data Used:	2016

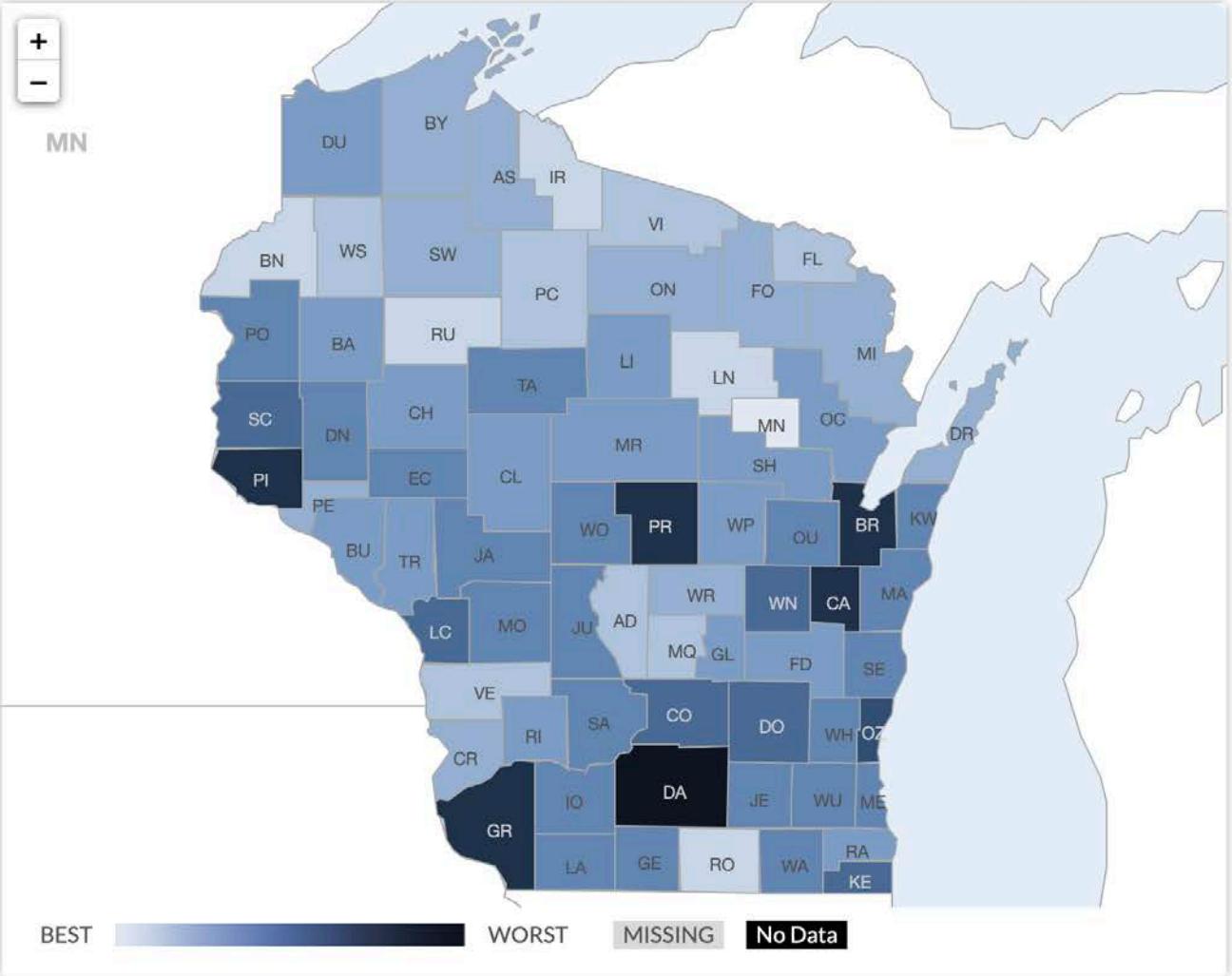
An Alcohol and Drug Use measure

Excessive drinking

Percentage of adults reporting binge or heavy drinking.

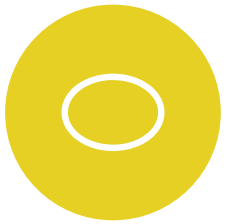
The 2019 County Health Rankings used data from 2016 for this measure.

Map | Data | Description | Data Source | Strategies



CHALLENGES

AVAILABILITY OF CARE



DISTANCE TO CARE

QUALITY OF CARE

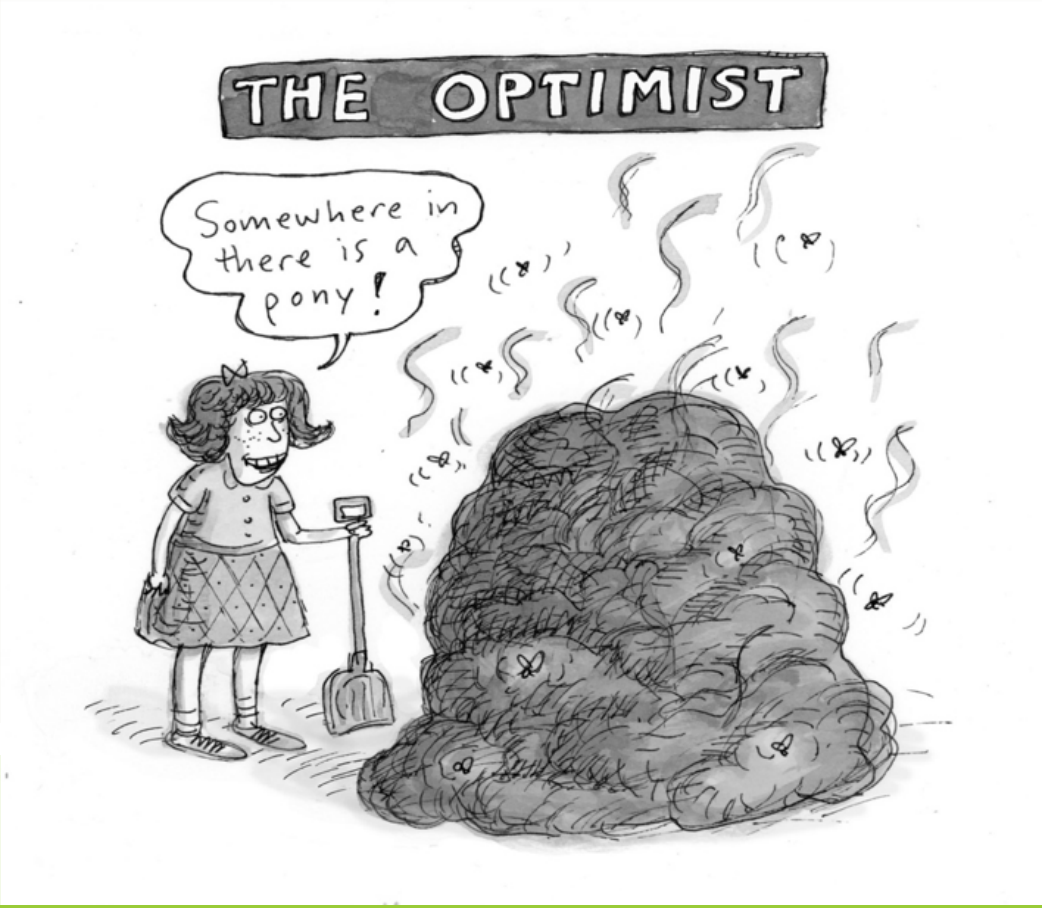
PROVIDER RECRUITING AND RETENTION

INSURANCE COVERAGE

SOCIAL DETERMINANTS

WHAT IS THE OUTCOME? THE SITUATION PERSISTS

- Learning difficulties
- Behavior issues
- Depression/Anxiety
- High risk behaviors
- Eventually…
- Maternal complications
- Low Birthweights
- Preterm births



WHAT NEXT?

IDEAS FOR THE FUTURE

Insurance coverage – Medicaid

Creative models of care

Telemedicine expansion

Policies that put families first

- Prioritize and fund education, child care
- Offer Affordable Housing
- Support/Grow Small businesses
- Create paid leave options