

# Health as an Economic Development Strategy

Land Grant Universities' Roles in Human Health

Dr. Leslie Hossfeld  
College of Behavioral, Social and Health Sciences  
Clemson University



- 
- 1. Agriculture Policy and Nutrition Paradox**
  - 2. Social Determinants of Health**
  - 3. Educational Response to Address Health Issues**





# SIGNIFICANT CHANGES IN US FOOD PRODUCTION SINCE WORLD WAR II:

## Structural Changes

- Decline in small family farms
- Shift from local to national to global food sources
- Growth in food imports
- Increase in commodity production
- Increase in large-scale agriculture

## Household Changes

- Change in gender roles within household
- More women in the workforce
- Change in food production within household
  - More *convenience* foods – ELEMENT OF TIME
  - Less *scratch* cooking

# U.S. Farm Policy over the past 50 years...



Focus on lowering the price of farm commodities (corn and soybeans)



Price for fruits and vegetables (with little government support) has steadily increased...



Cost of fresh fruits and vegetables has risen 40% in last 20 years



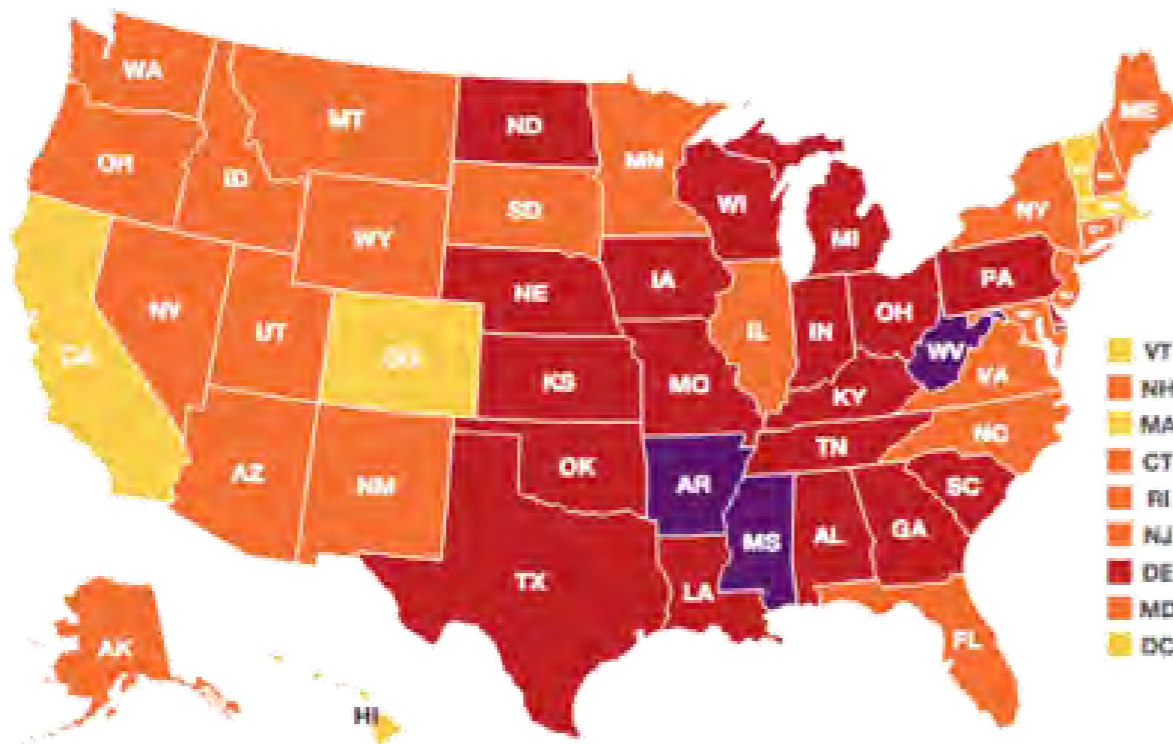
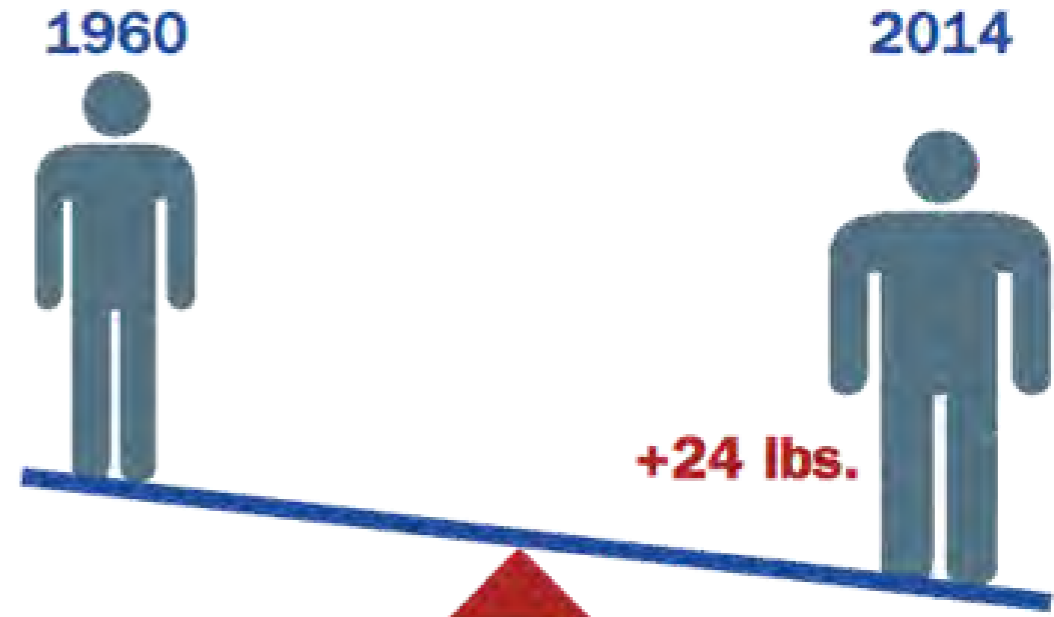
Costs of soda, sweets, fats, oils has declined.

- Corn/soybean produce high fructose corn syrup and hydrogenated vegetable oils (*these did not exist several generations ago*) at a very *low-cost* price.
- *Results:* cheapest food that generates the *most* profit has the *least* nutritional value...



## Adults

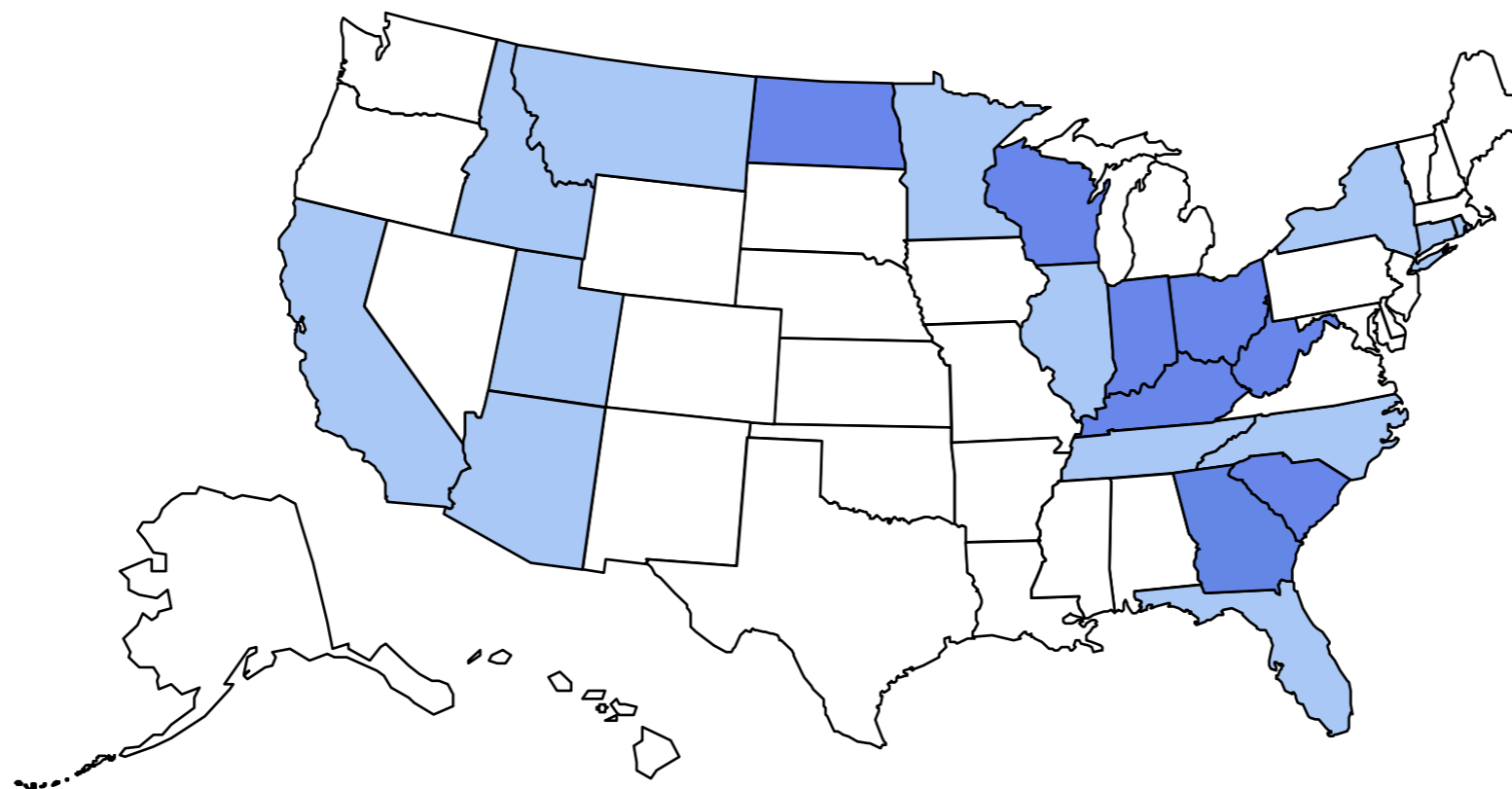
24 pounds heavier today than in 1960 – obesity rates doubled past 40 years.



# Obesity Trends\* Among U.S. Adults

**BRFSS, 1985**

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs. overweight for 5' 4" person)

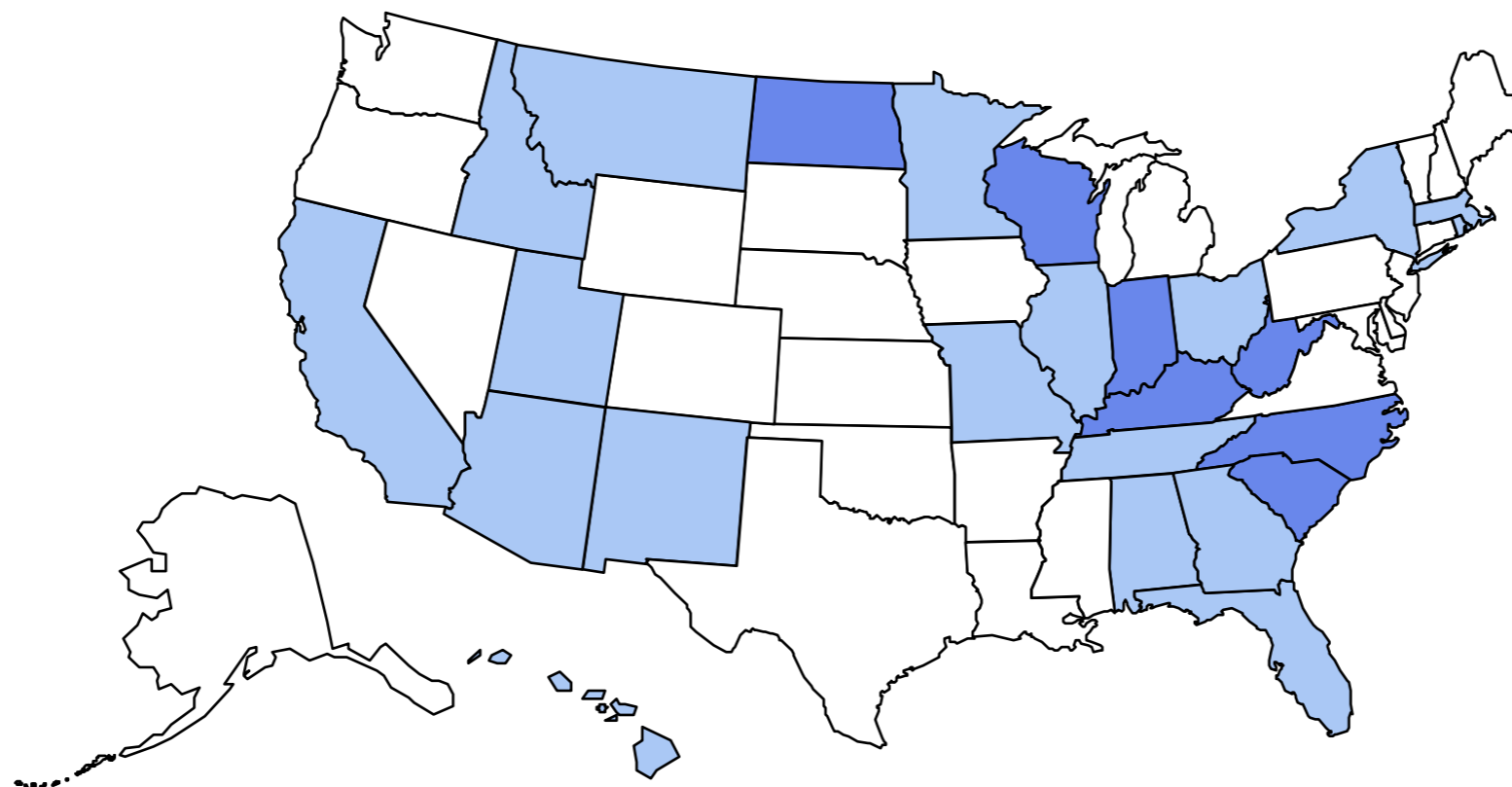




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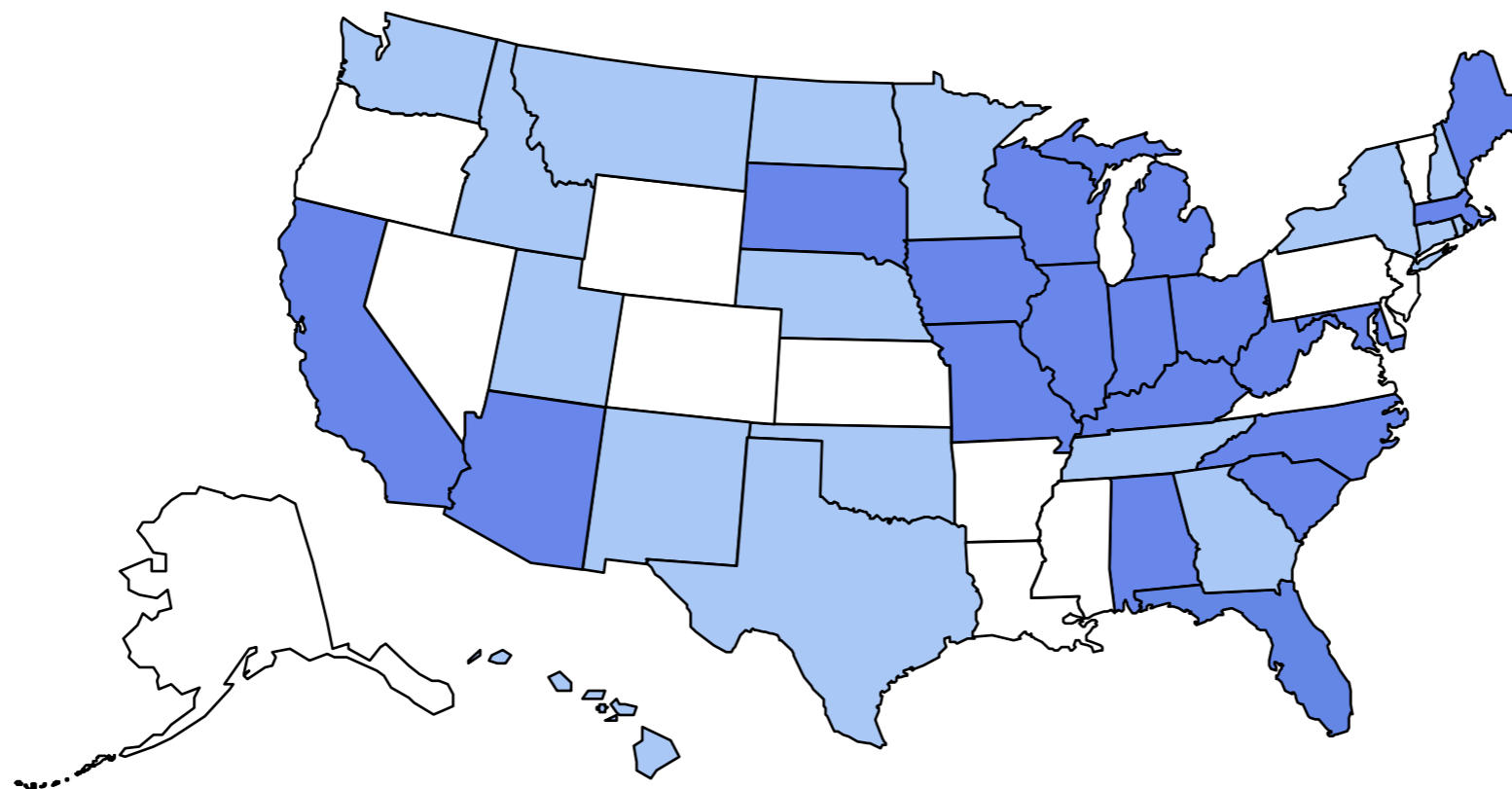
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# Obesity Trends\* Among U.S. Adults

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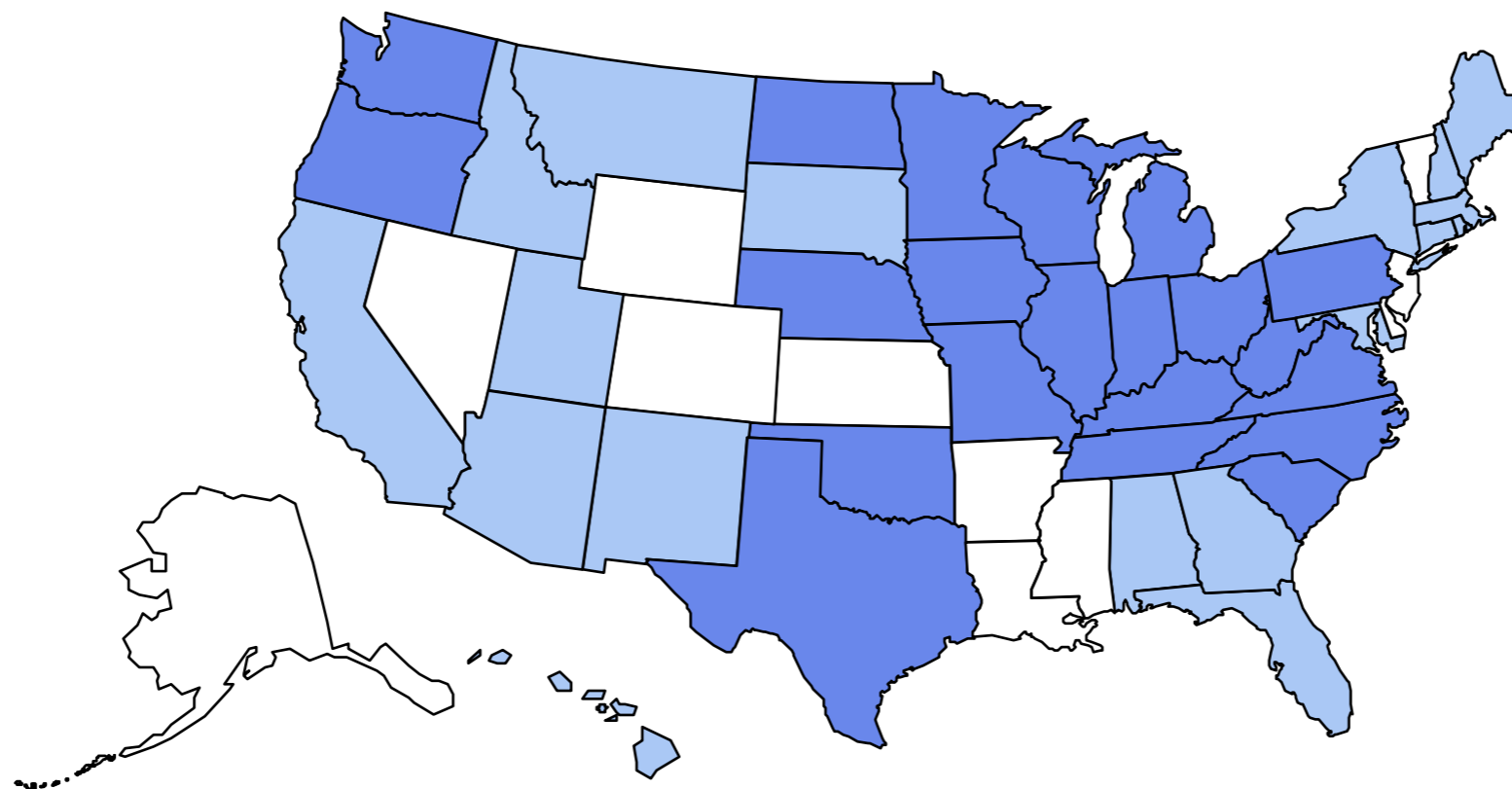




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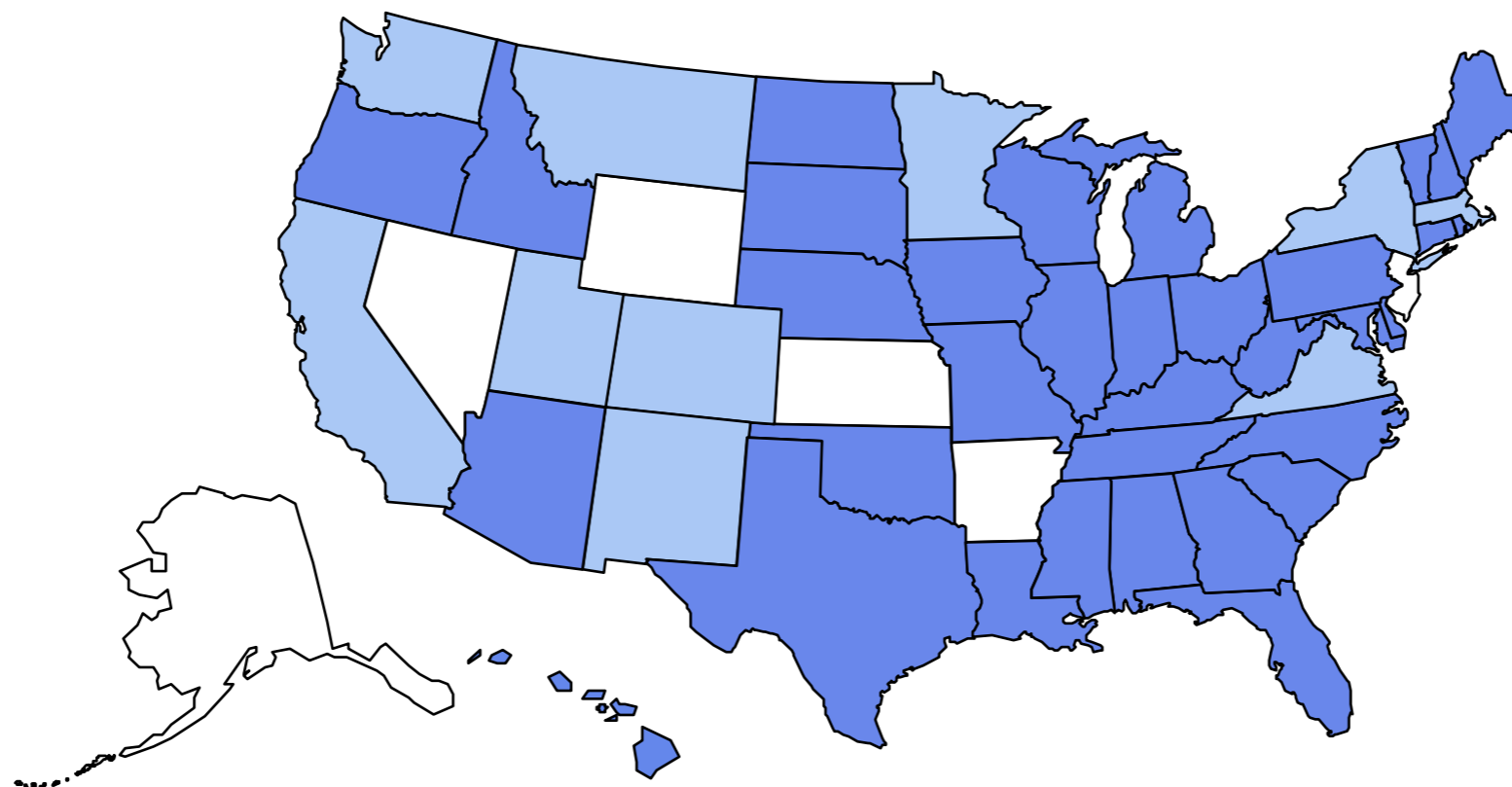
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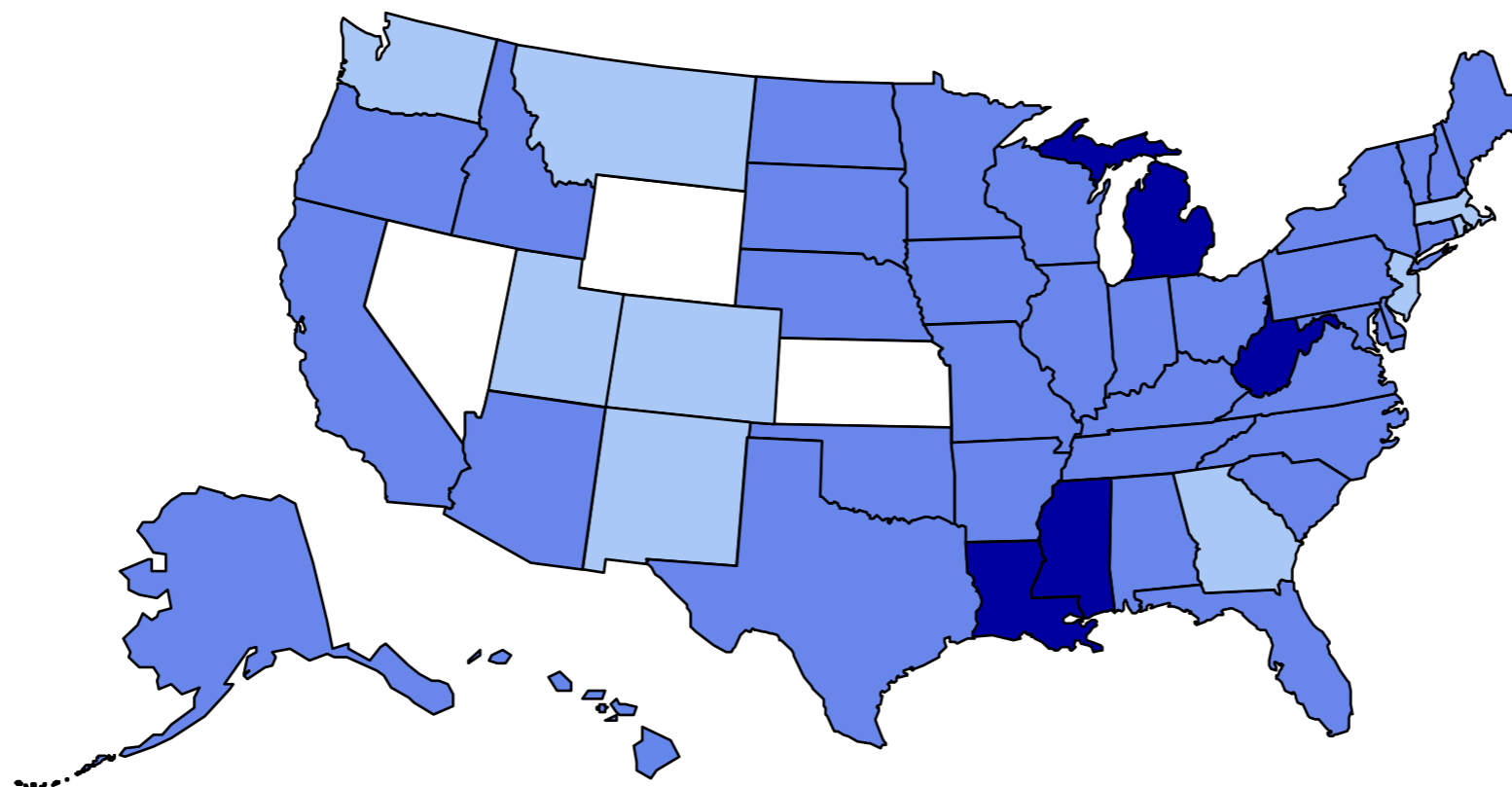




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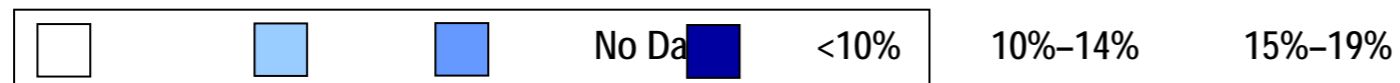
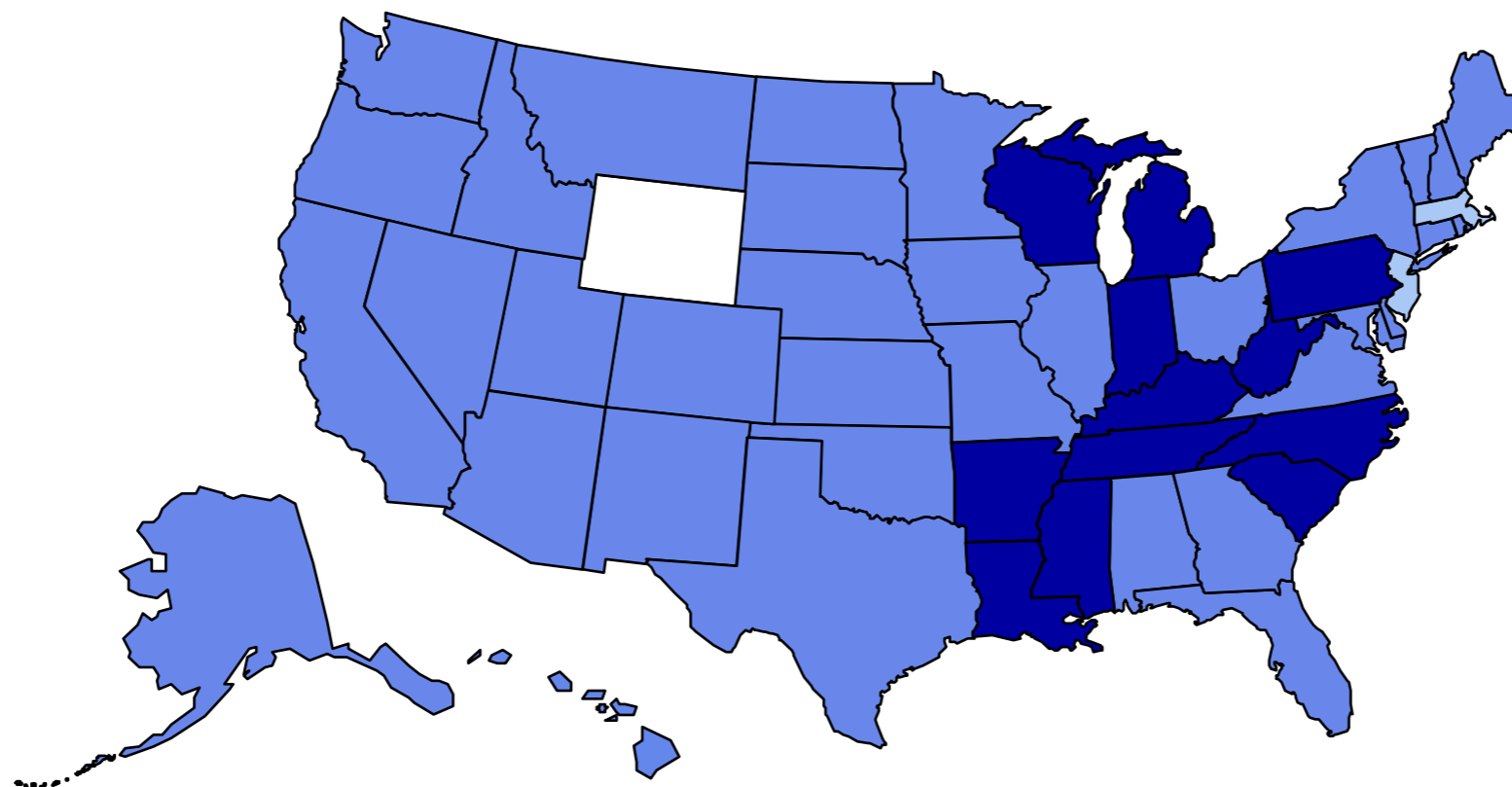




# Obesity Trends\* Among U.S. Adults

**BRFSS, 1993**

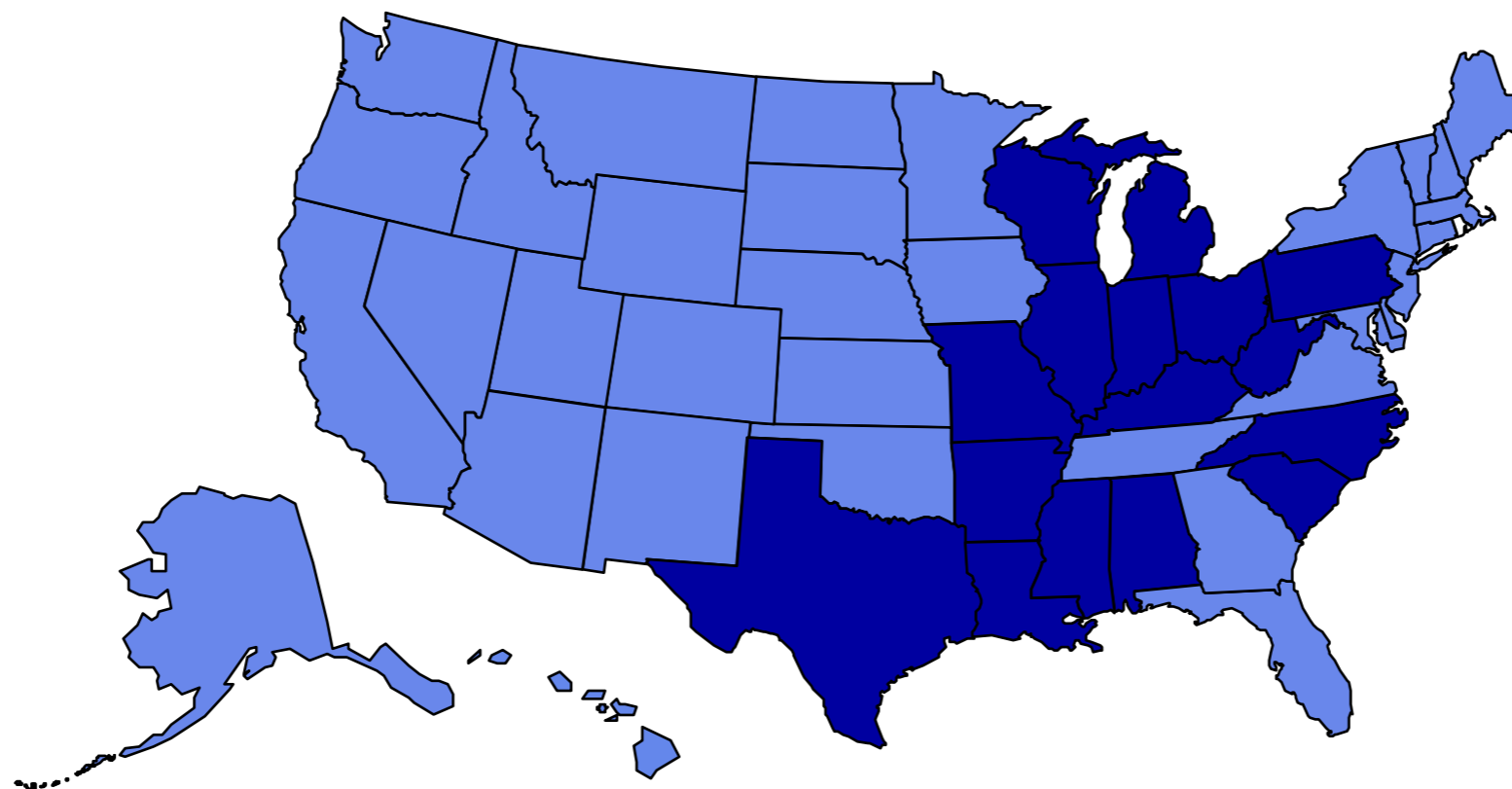
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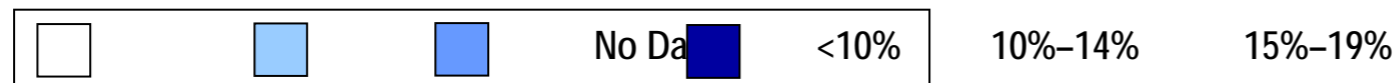
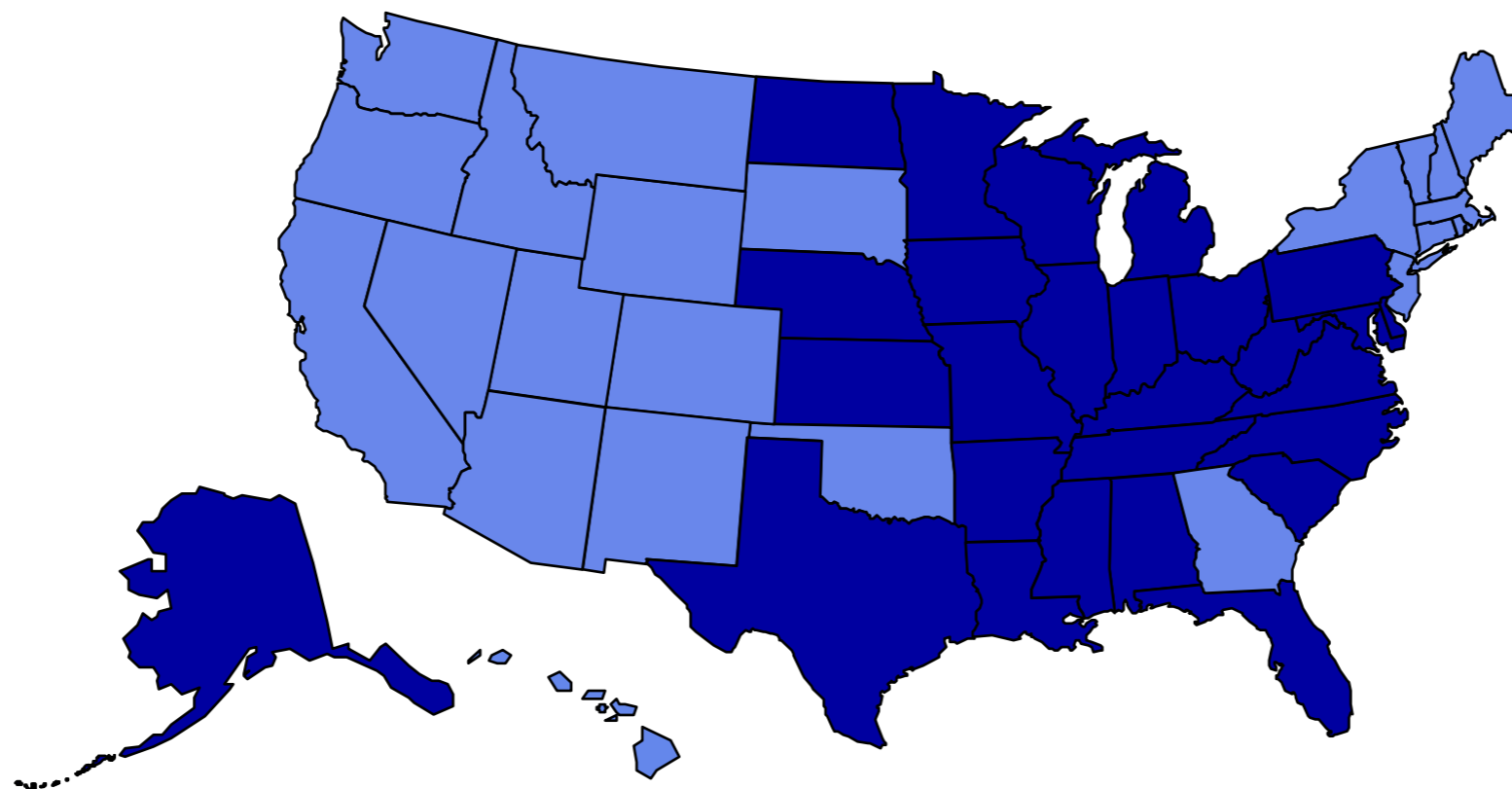




# Obesity Trends\* Among U.S. Adults

## BRFSS, 1995

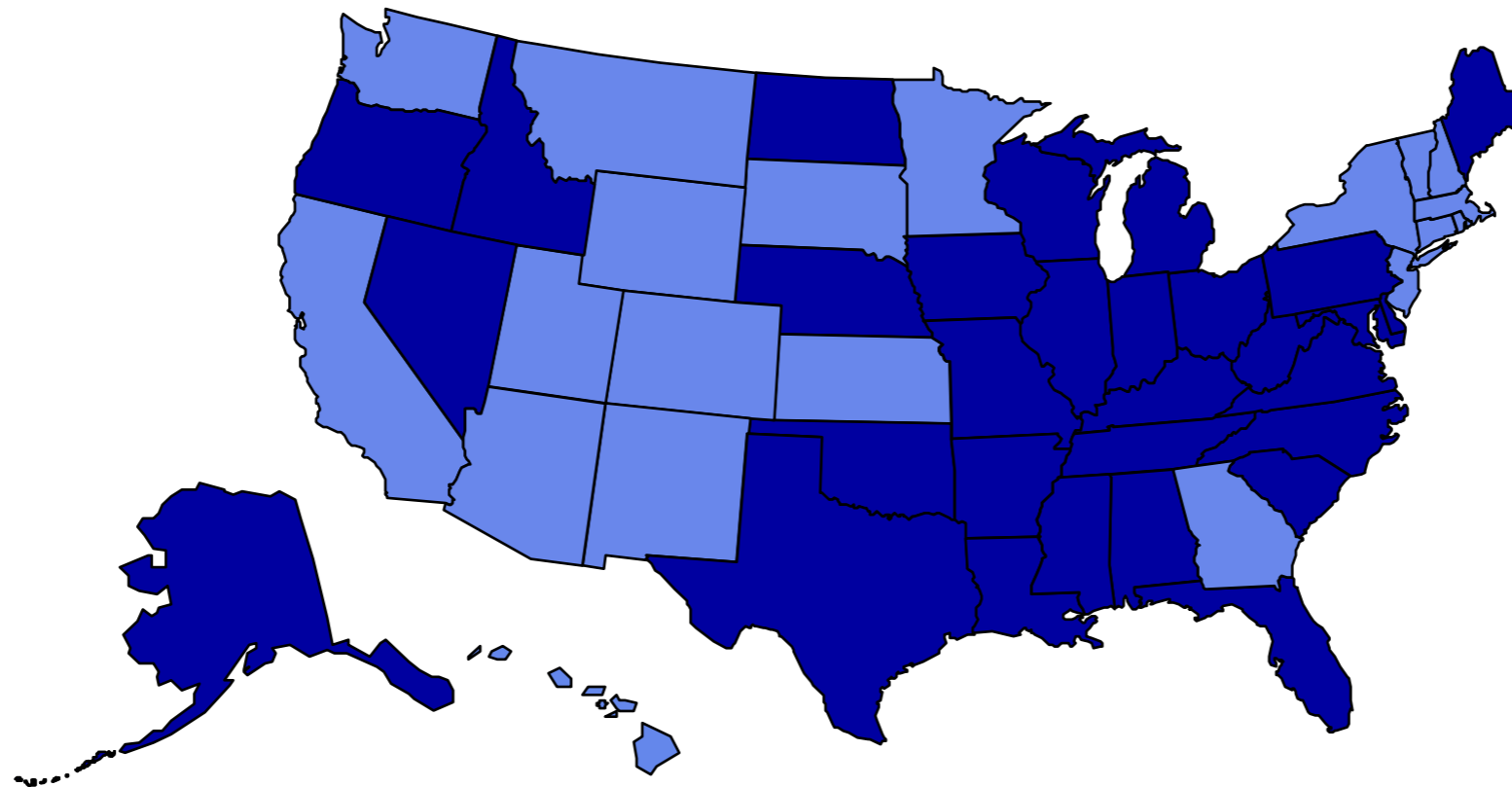
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## BRFSS, 1996

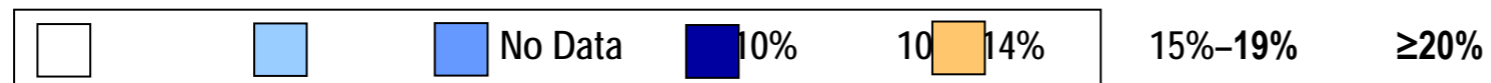
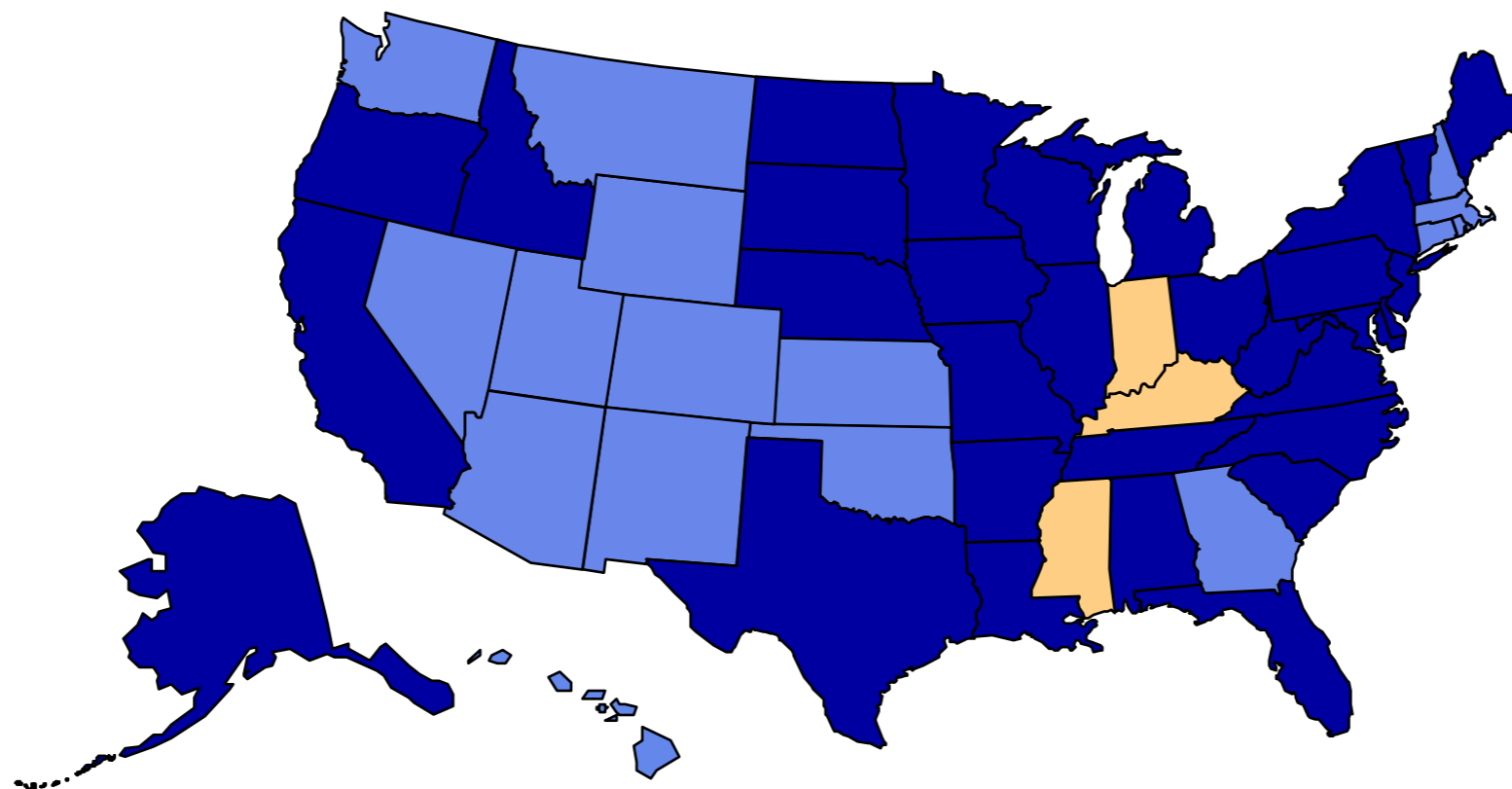
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# Obesity Trends\* Among U.S. Adults

BRFSS, 1997

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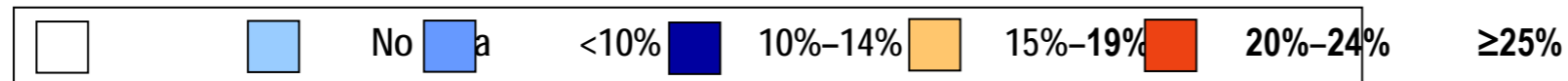
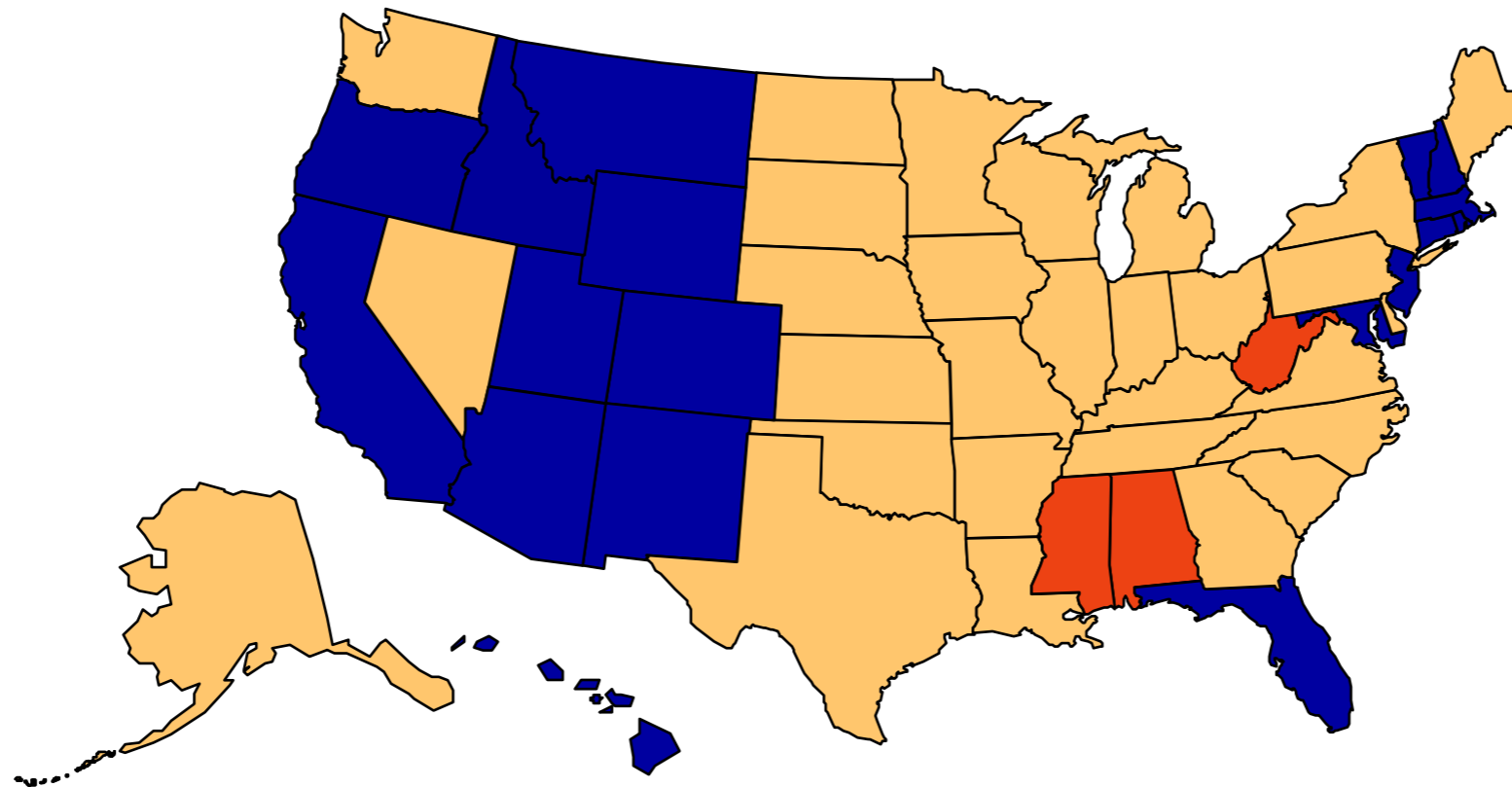




# Obesity Trends\* Among U.S. Adults

## BRFSS, 2002

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs. overweight for 5' 4" person)



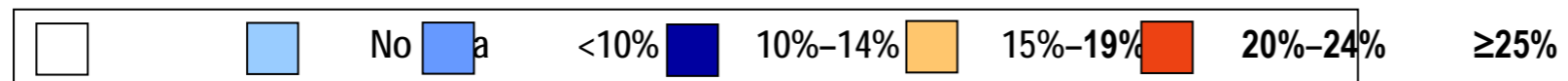
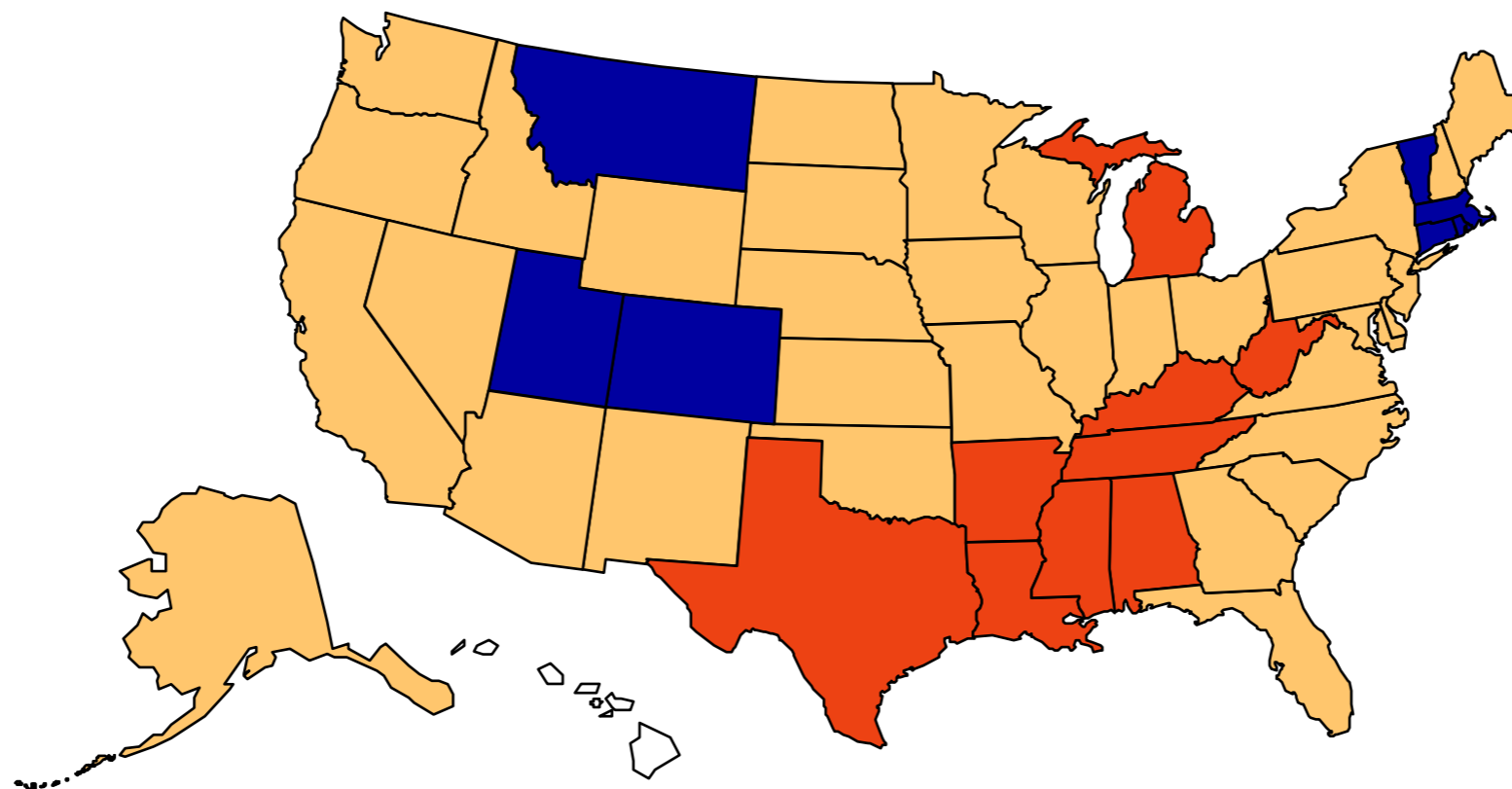




# Obesity Trends\* Among U.S. Adults

BRFSS, 2004

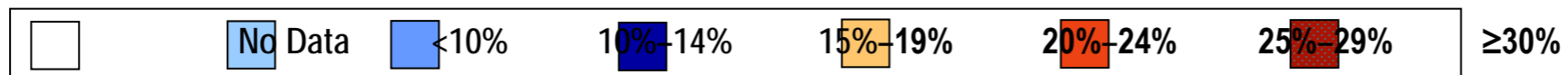
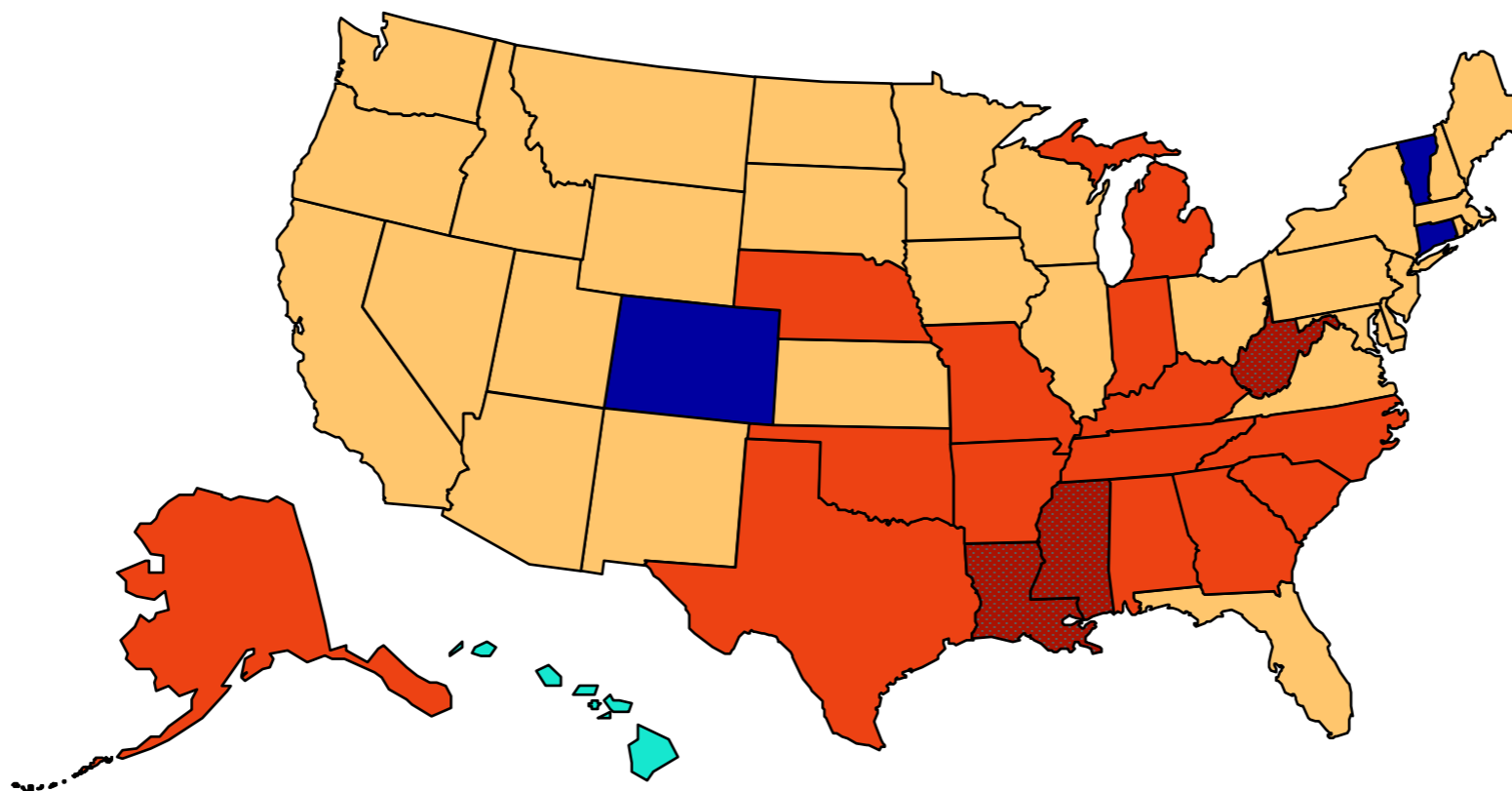
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# Obesity Trends\* Among U.S. Adults

## BRFSS, 2005

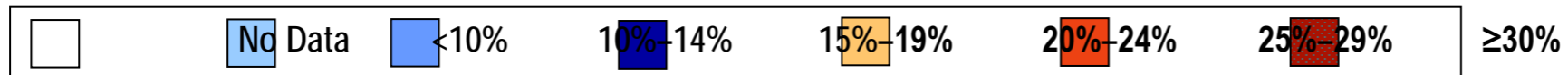
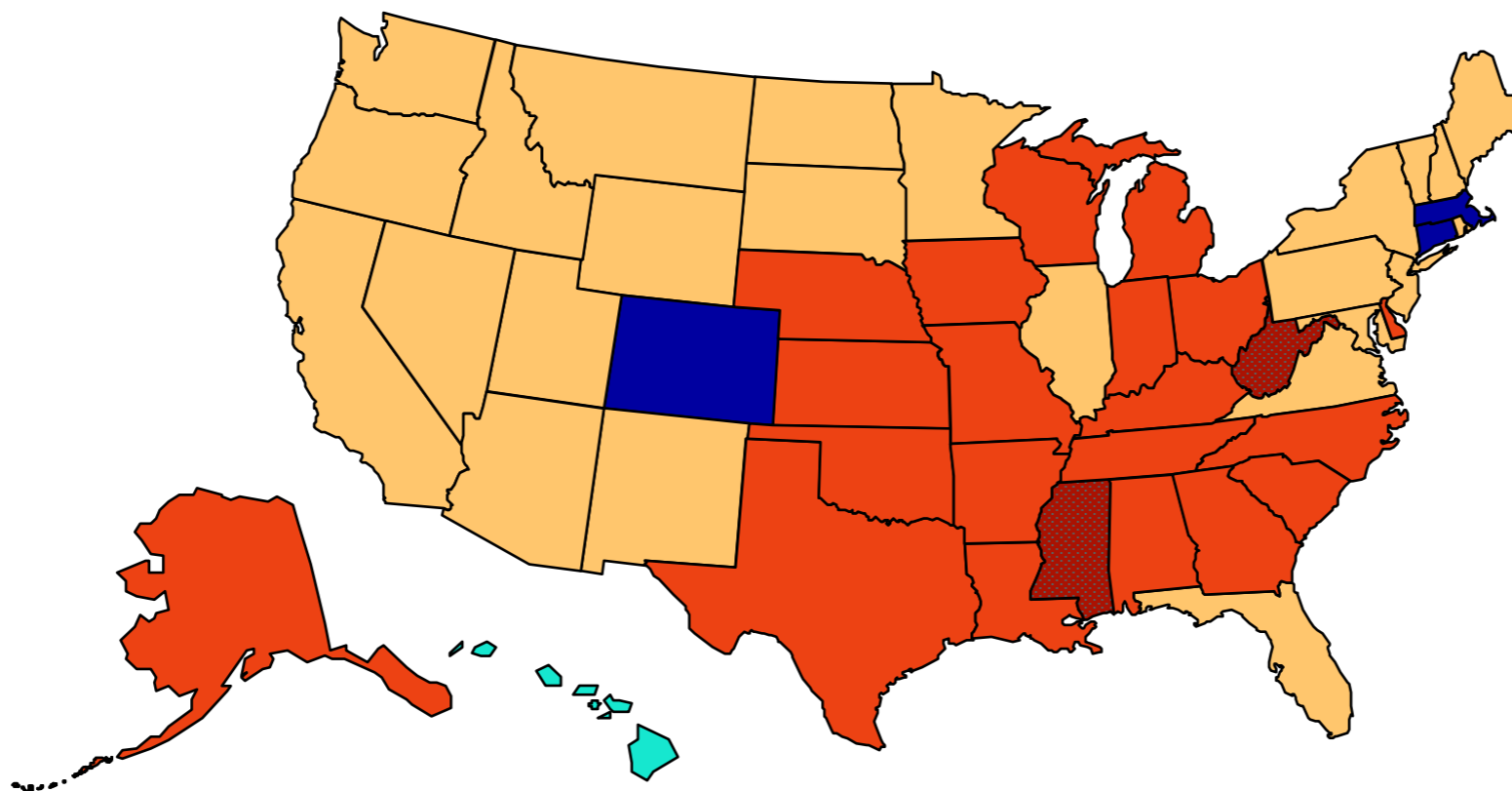
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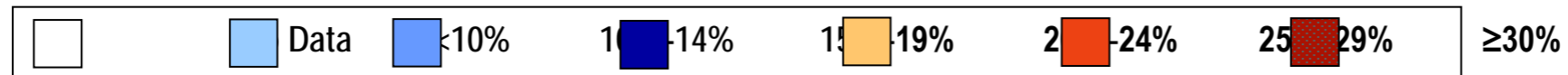
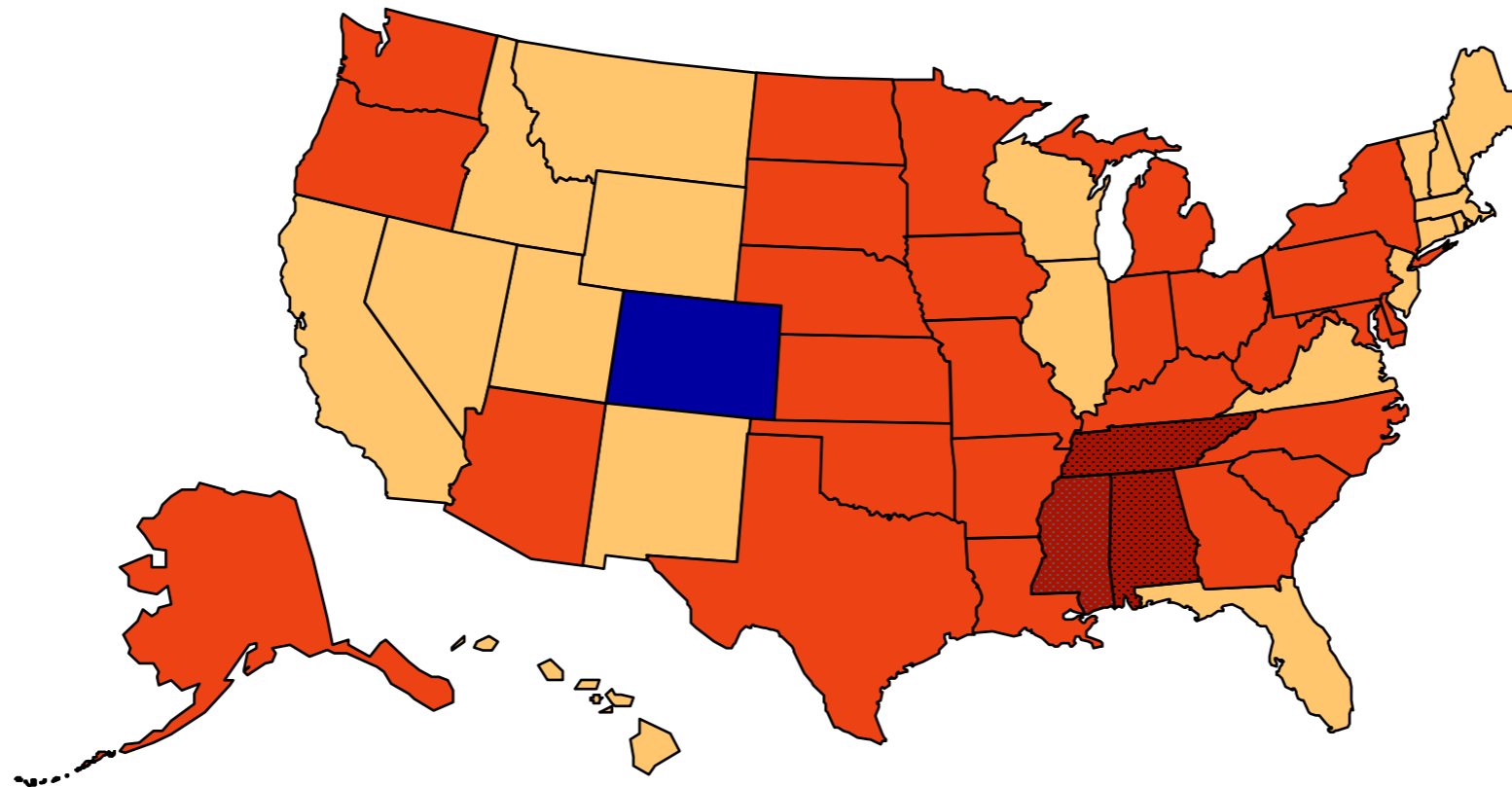




# Obesity Trends\* Among U.S. Adults

## BRFSS, 2007

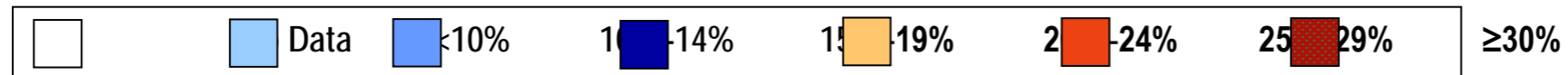
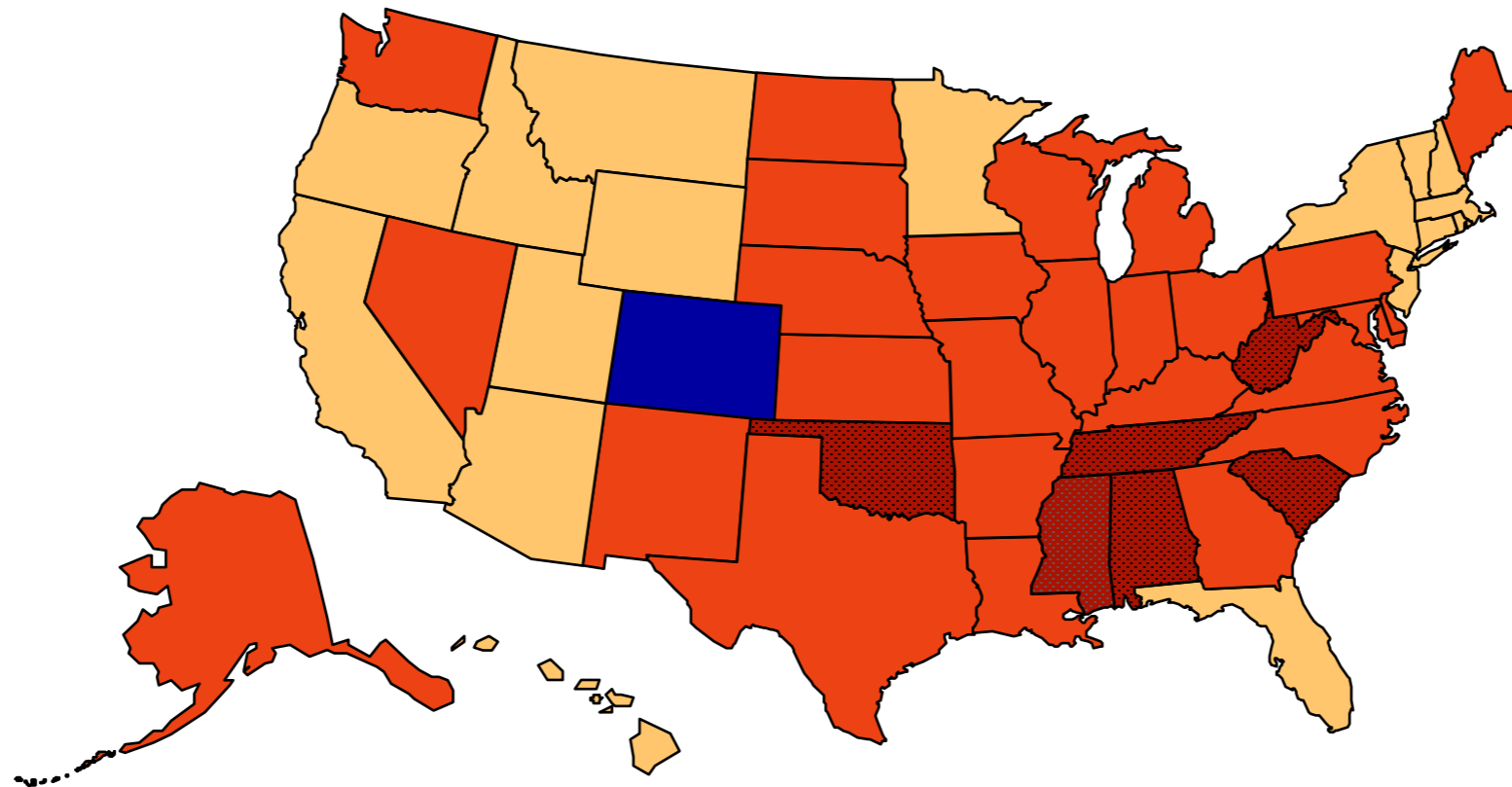
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# Obesity Trends\* Among U.S. Adults

## BRFSS, 2008

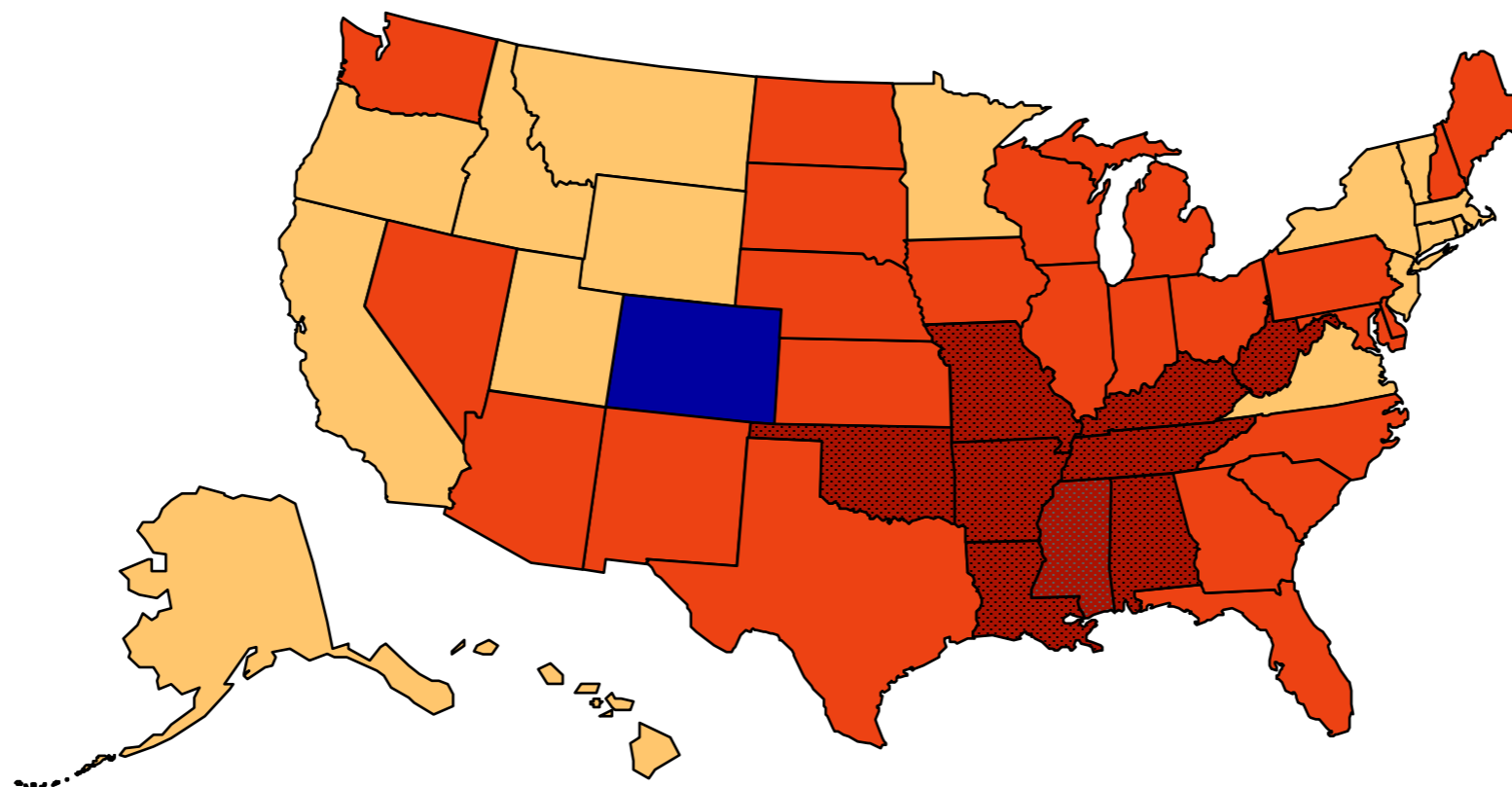
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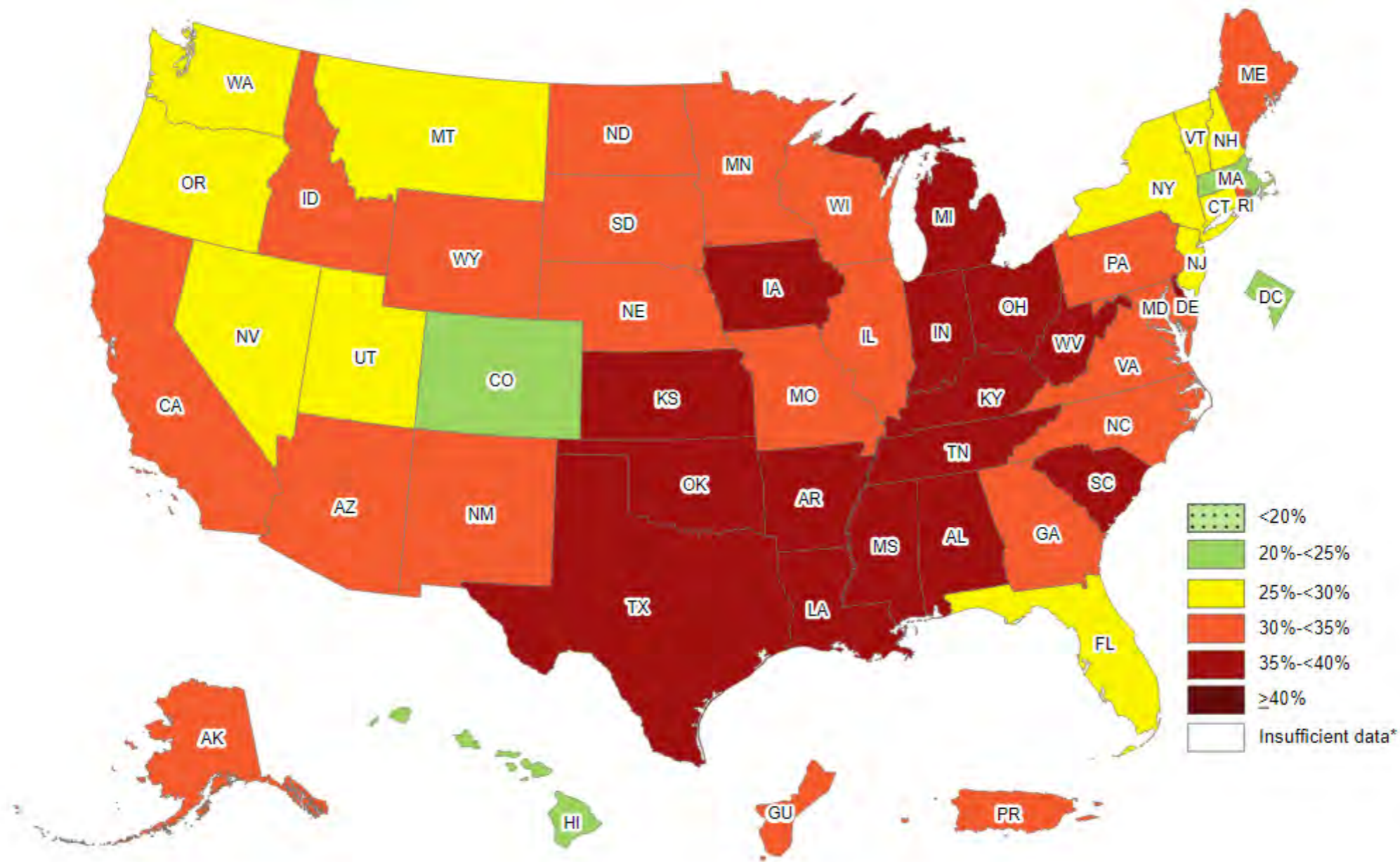




# Prevalence Rate 42%

## Obesity Among U.S. Adults by State 2020

† Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be



\*Sample size <50, the relative standard error (dividing the standard error by the prevalence) ≥30%, or no data in a specific year.





# FOOD INSECURITY FOOD ACCESS FOOD ENVIRONMENT

## Food Insecurity

Concept centered on understanding whether households have enough consistent food to *live a healthy, active life*. Captures the prevalence of hunger.

## Food Access

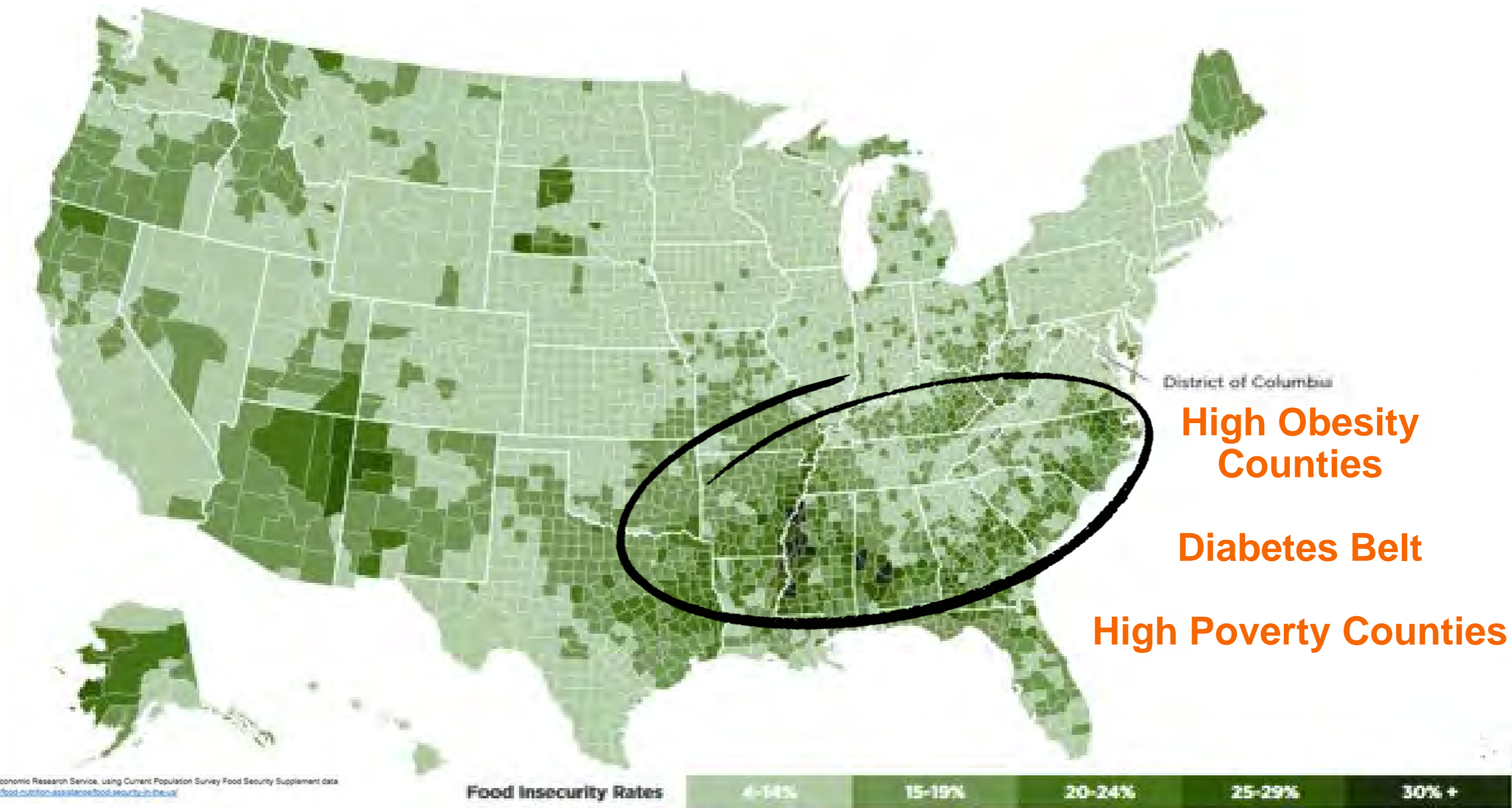
Areas without ready access to fresh, healthy, and affordable foods. Also known as food deserts (limited access to healthy, affordable food).

## Food Environment

Food environment refers to the physical, economic, political and socio-cultural context in which consumers engage with the food system to make their decisions about acquiring, preparing and consuming food.



# FOOD INSECURITY IN THE UNITED STATES BY STATE/COUNTY: 2020





# COMMUNITY FOOD SYSTEMS

## Local Food Systems Include...

- Geography and place
- Short supply chain
- Social Embeddedness –  
Social Connections, Mutual Exchange, Trust
- Focus on relationship between *agriculture and nutrition*
- Knowledge and awareness about healthy diets
- Addressing food waste
- Ensuring economic development through local foods
- Creating Food Sovereignty

SHORTCOMINGS..



Alignment with FAO United Nations  
Nutrition and Food Systems  
Sustainable Development Goals

# Social Determinants of Health



- **Health Care Access**
- **Education Access and Quality**
- **Social and Community Context**
- **Economic Stability**
- **Neighborhood and Built Environment**

Healthy People 2030, U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. <https://health.gov/healthypeople/objectives-and-data/social-determinants-health>

# Clemson University Health Outreach and Research



CLEMSON'S LAND-GRANT MISSION OF SUPPORTING SOUTH CAROLINA FAMILIES AND COMMUNITIES INCLUDES HEALTH



BUILDS ON THE COOPERATIVE EXTENSION SERVICE FRAMEWORK



JOSEPH F. SULLIVAN CENTER – 40+ YEARS OF DELIVERING GAP AND PREVENTIVE CARE TO RURAL SOUTH CAROLINA VIA MOBILE HEALTH CLINIC VANS



CLEMSON IS A "NEUTRAL BROKER" WITH HISTORY OF COLLABORATING WITH HEALTH SYSTEMS, OTHER STAKEHOLDERS IN RURAL COMMUNITIES



# CLEMSON RURAL HEALTH



## Overcoming barriers to care challenges by

- Improving health care access
- Improving quality of health care
- Aligning community development projects with health
- Expanding Research
- Increasing student experiences

Improving health outcomes, equity and wellness







## **Clemson Rural Health**

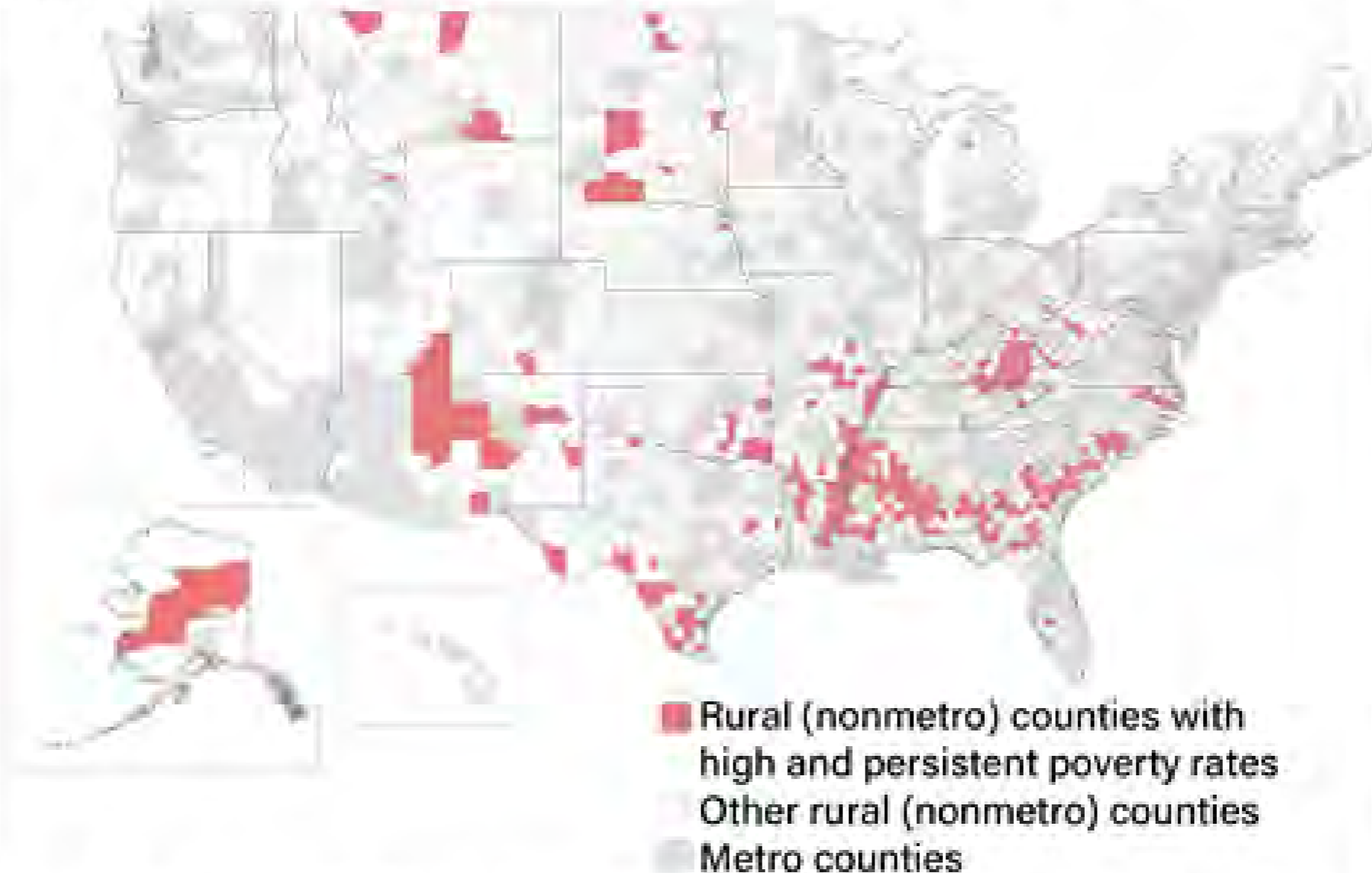
### **Mobile Health Care Access – 5 solar powered Mobile clinics – rural community outreach includes Student Internships and Training**

Nurses, Public Health, Psychology – Mental Health, Opioid Treatments Social Workers, Palliative Care, Community Health Workers, Addiction Treatment, Healthy Food Access- Veggie Rx, Nutritionists, Telehealth; Pandemic response

### **Research and Innovation**

Food and Nutrition Security, Clinical Trials, Health Disparities, Rural Mental Health Research, Virtual Care Coordination, Opioid Use/Hep C; Youth Development; Obesity; Diabetes; Walkability studies; Community Development; Social Cohesion; Regional Planning

## Rural counties with high and persistent poverty in 2019 were mostly located across the South



Notes: **High and persistent poverty county** = county designated as persistent poverty (over the 30-year period ending with 2007-11) in the ERS County Typology Codes 2015 edition and high poverty in the current period (2015-2019). Nonmetro (rural) status determined by 2013 metropolitan area designations from the U.S. Office of Management and Budget.

Source: USDA, Economic Research Service using 1980, 1990, and 2000 decennial census data and American Community Survey 5-year estimates for 2007-2011 and 2015-2019.



# Social Capital, Food and Nutrition Security, and Community Development

## **Social Capital**

The connections among individuals who join or form groups with other individuals – the social networks, trust and reciprocity that arise from these groups

## **Bonding Social Capital**

The shared understandings and the mutual trust, collective identity, and sense of shared future among community. Shared sense of place.

## **Bridging Social Capital**

Connects diverse groups within and outside the community at the neighborhood, government, non-governmental level.

Food and nutrition security requires access and coordination – **MUST BE ABLE TO ENGAGE WITH BROADER COMMUNITY.**

# Land Grant Universities' Role in Human Health - Recommendation

## Build Social and Bridging Capital Across the Southern Region

### Create and Strengthen Learning Communities

- Build Learning Communities between Land Grants Within States
- Build Learning Communities between Land Grants Across the Southern Region
- What works? And Why?
- What doesn't work? And Why?
- How can we learn from one another to tackle these serious, longstanding problems through the Land Grant Mission?

**THANK YOU!**



*College of*  
**BEHAVIORAL, SOCIAL  
AND HEALTH SCIENCES**





# 2021 South Carolina Food Insecurity Rate is 12.3%

