

The Overview:

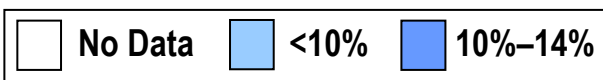
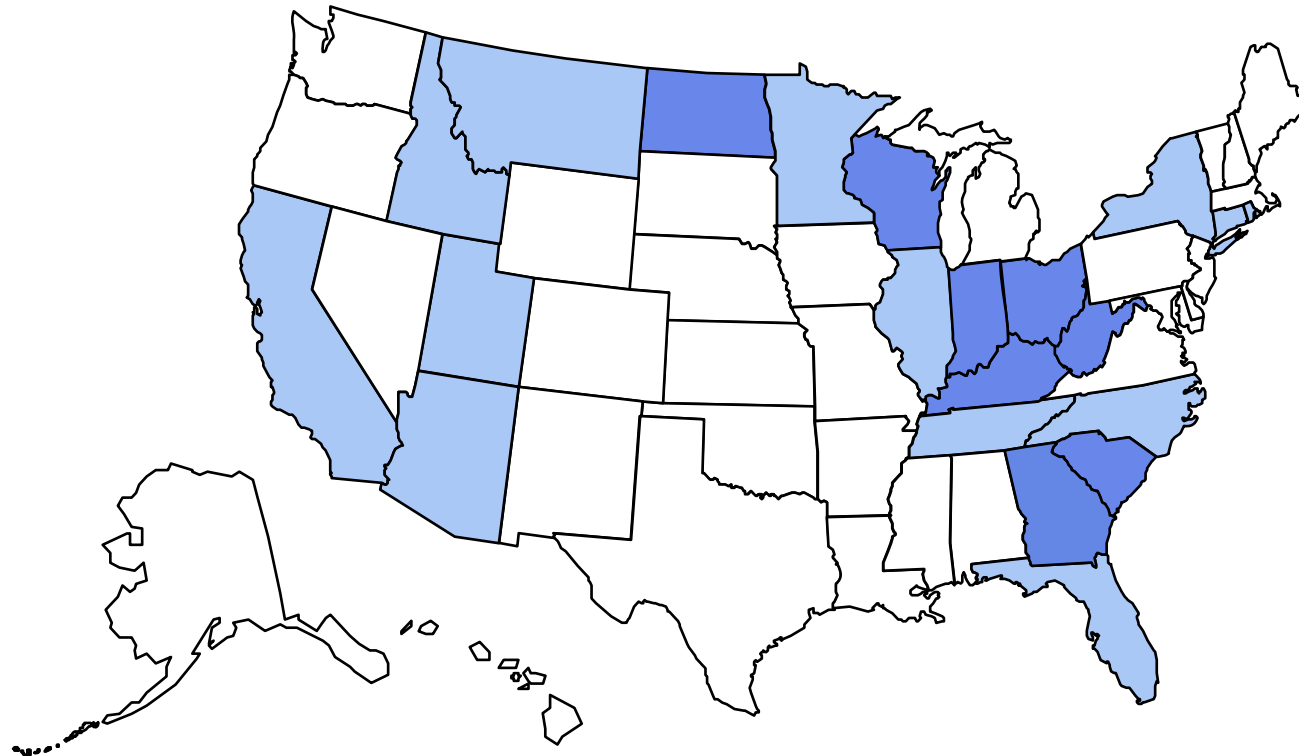
Opportunities for promoting healthy weight gain in child care

Kristen Copeland, MD FAAP
Assistant Professor of Pediatrics
Division of General and Community Pediatrics
Annual Child Care Administrator's Meeting
August 1, 2007

Obesity Trends* Among U.S. Adults

BRFSS, 1985

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

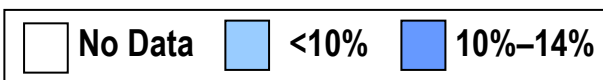
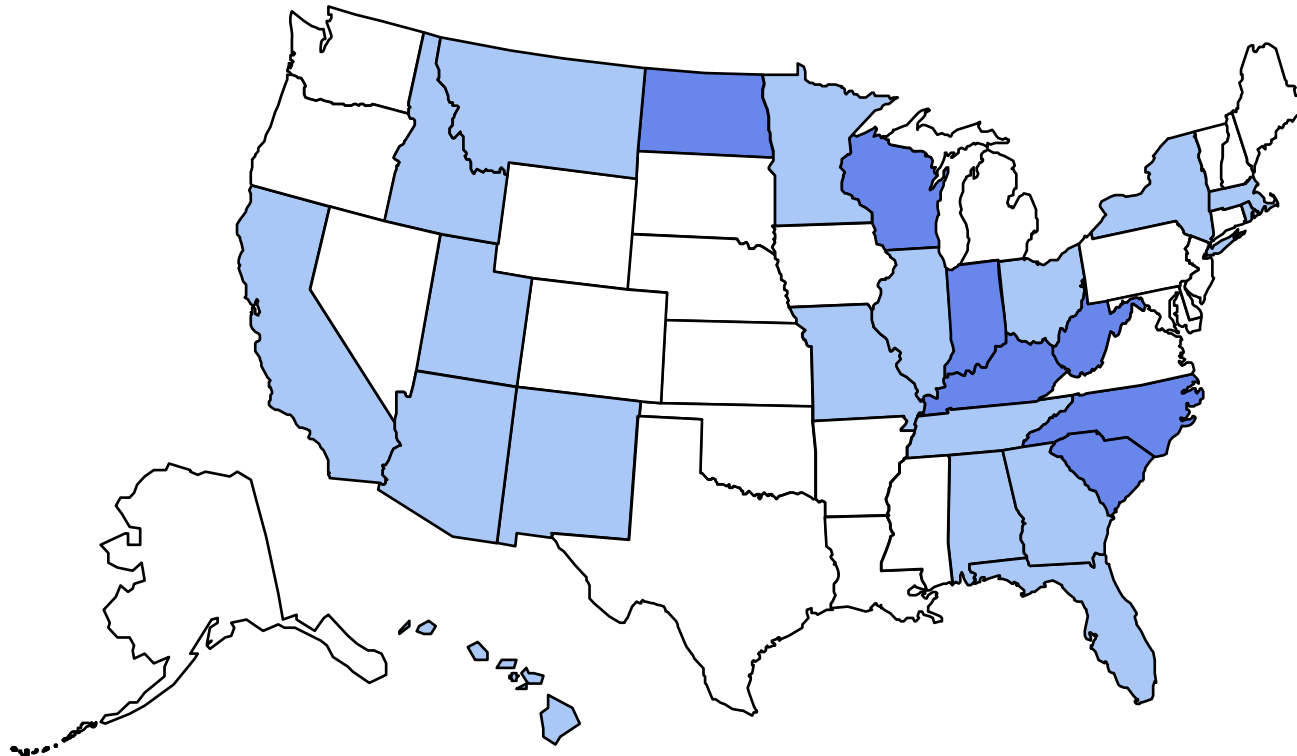


Source: Behavioral Risk Factor Surveillance System, CDC.

Obesity Trends* Among U.S. Adults

BRFSS, 1986

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

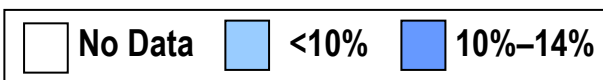
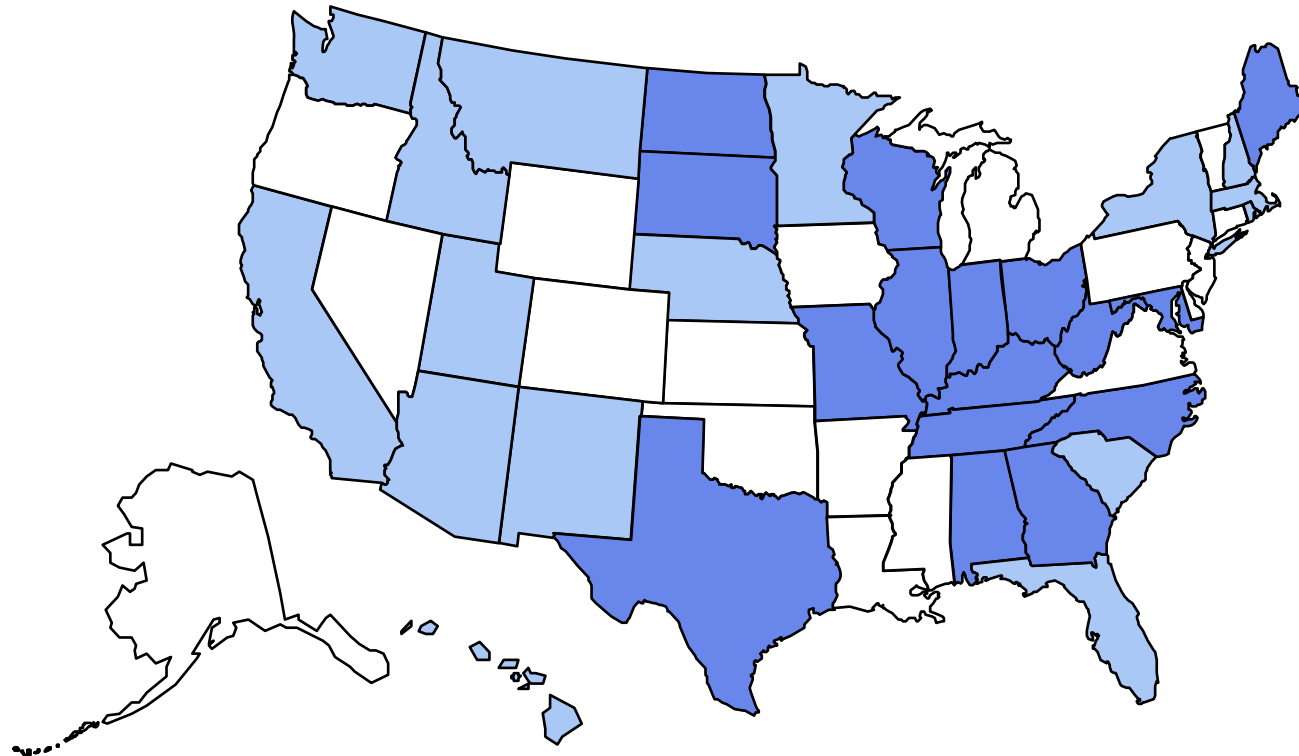


Source: Behavioral Risk Factor Surveillance System, CDC.

Obesity Trends* Among U.S. Adults

BRFSS, 1987

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

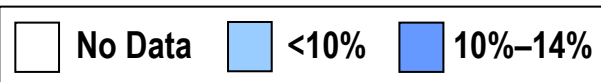
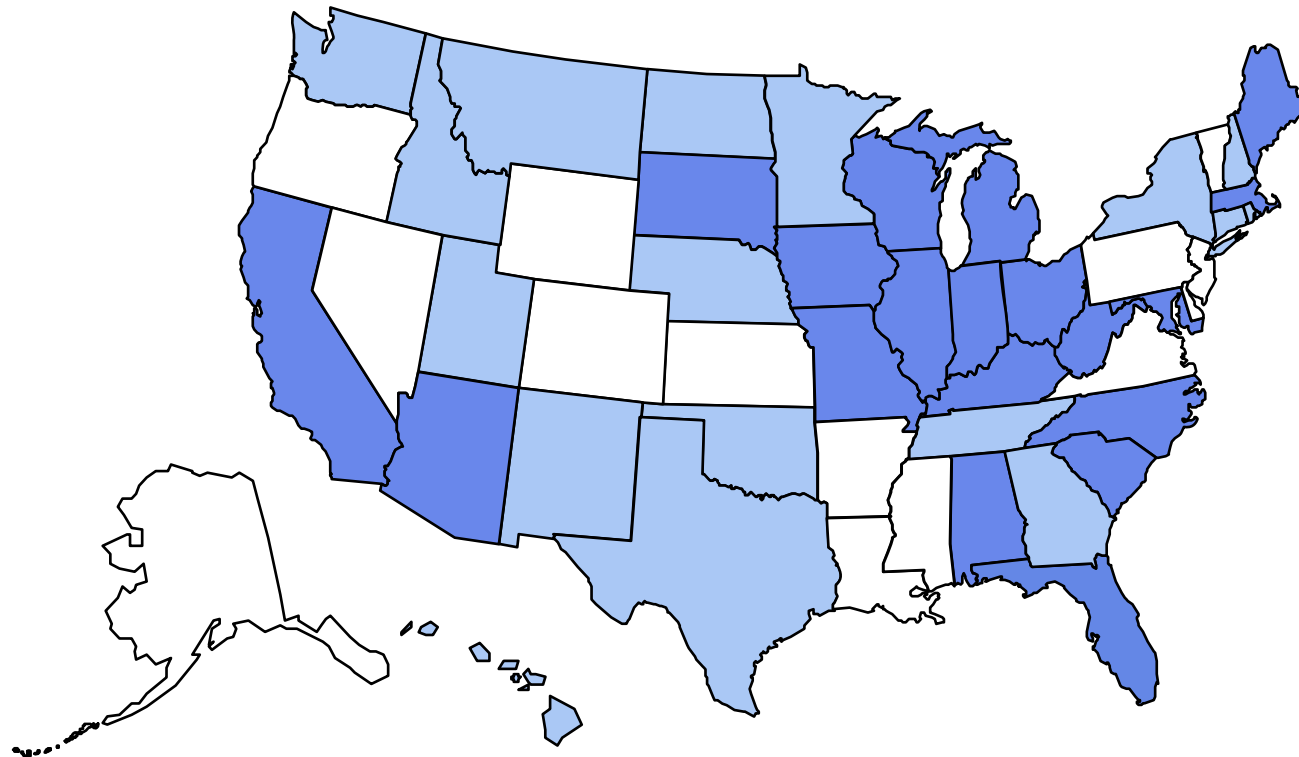


Source: Behavioral Risk Factor Surveillance System, CDC.

Obesity Trends* Among U.S. Adults

BRFSS, 1988

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

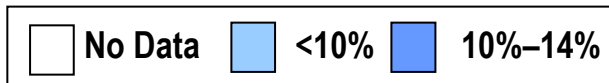
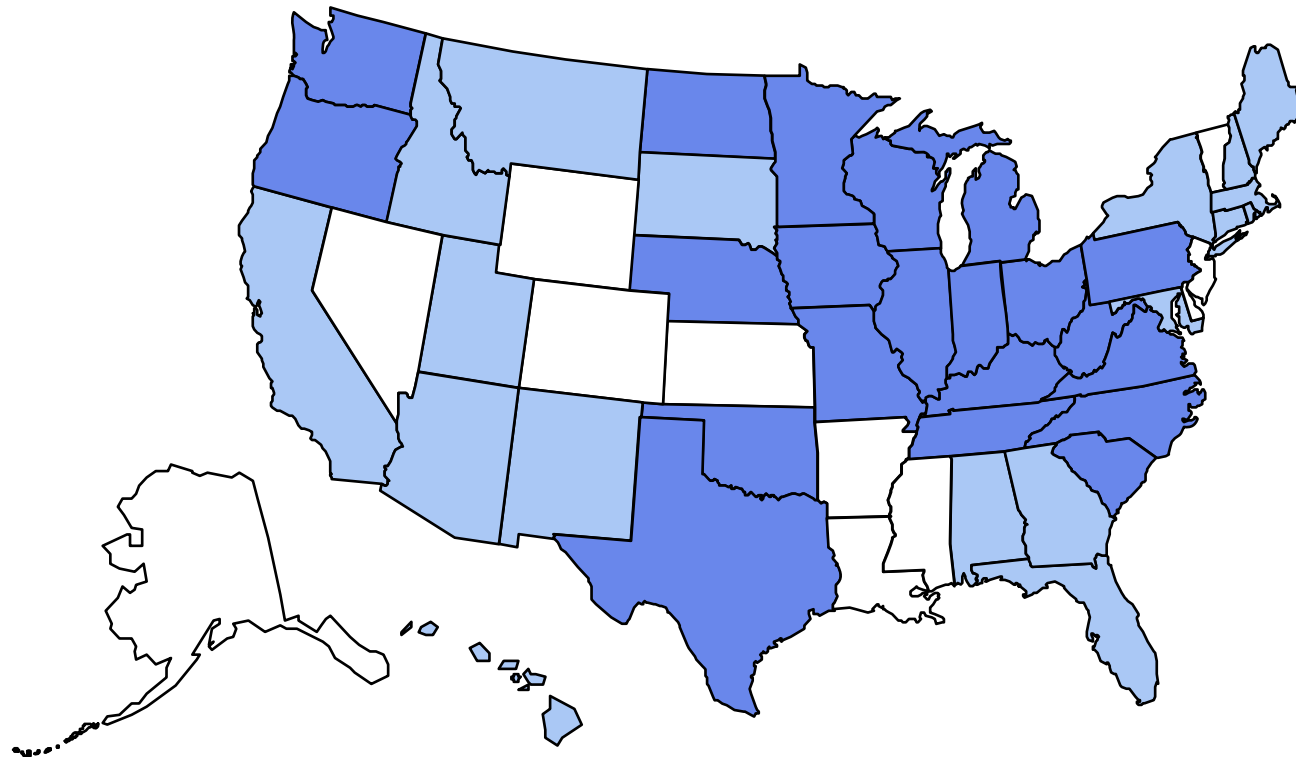


Source: Behavioral Risk Factor Surveillance System, CDC.

Obesity Trends* Among U.S. Adults

BRFSS, 1989

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

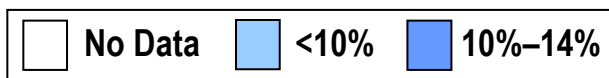
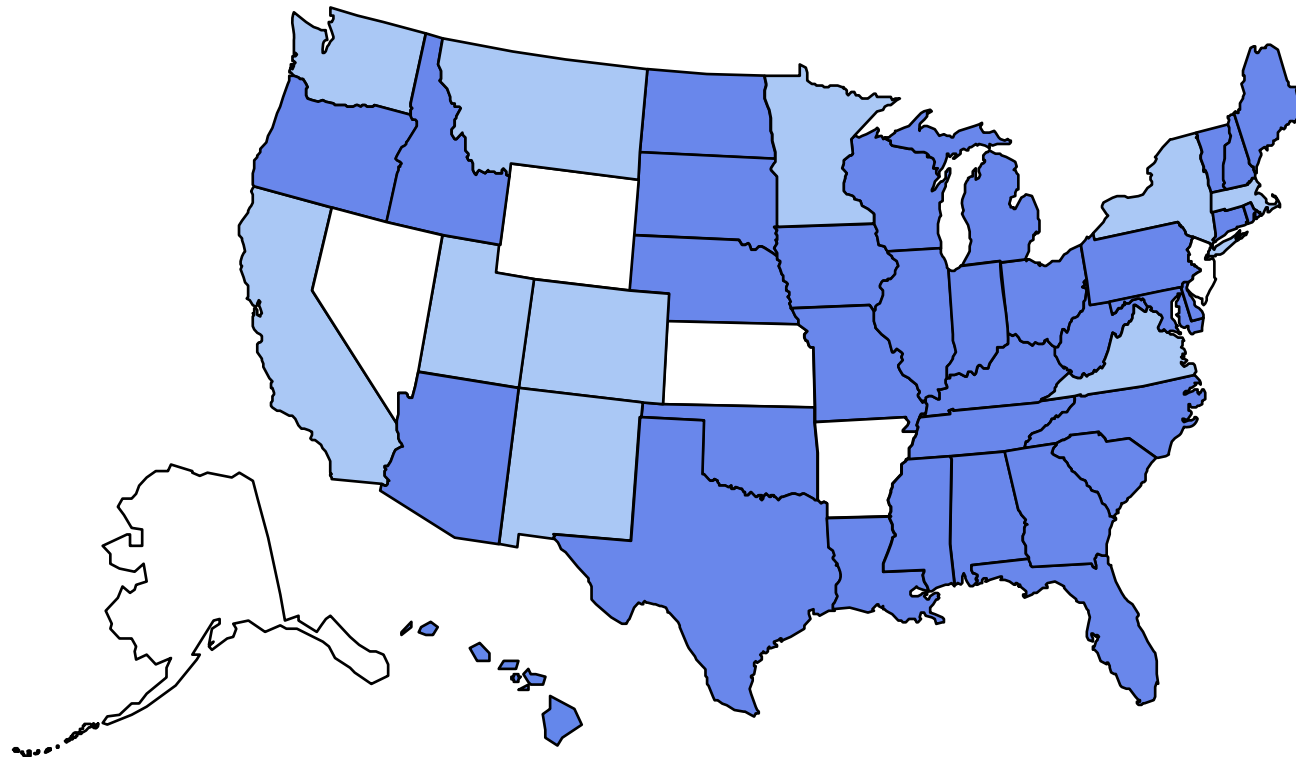


Source: Behavioral Risk Factor Surveillance System, CDC.

Obesity Trends* Among U.S. Adults

BRFSS, 1990

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

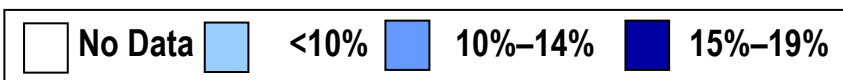
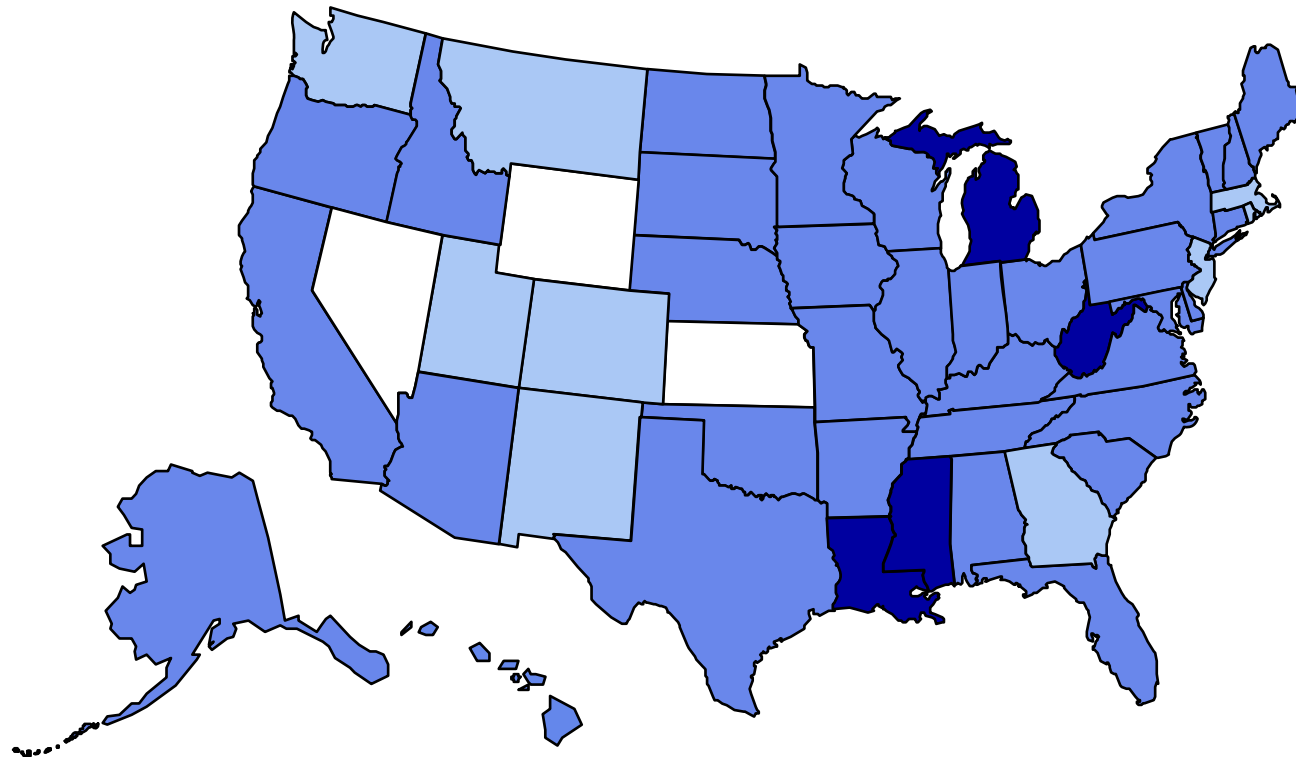


Source: Behavioral Risk Factor Surveillance System, CDC.

Obesity Trends* Among U.S. Adults

BRFSS, 1991

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

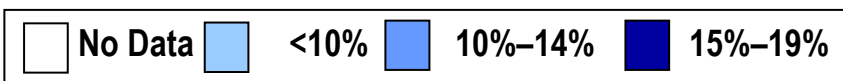
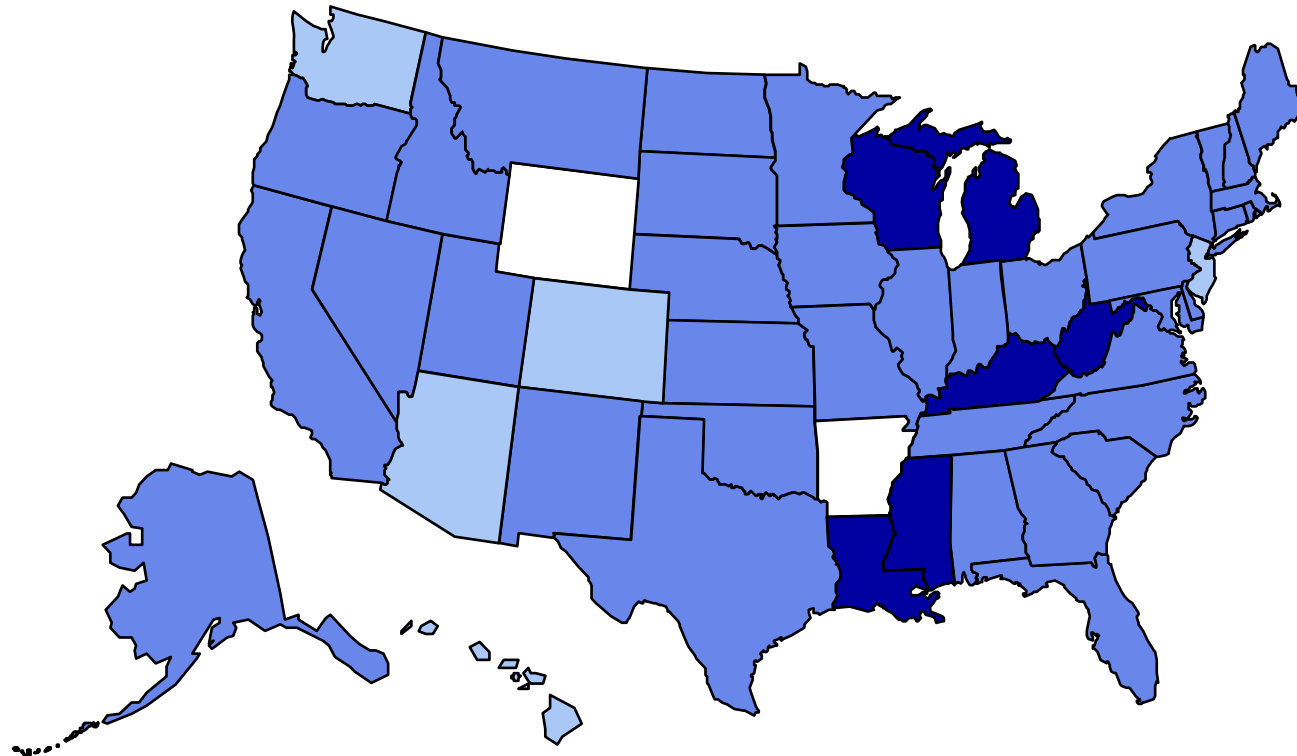


Source: Behavioral Risk Factor Surveillance System, CDC.

Obesity Trends* Among U.S. Adults

BRFSS, 1992

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

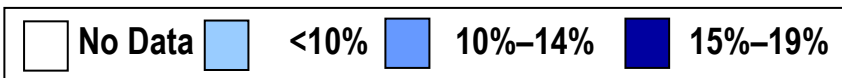
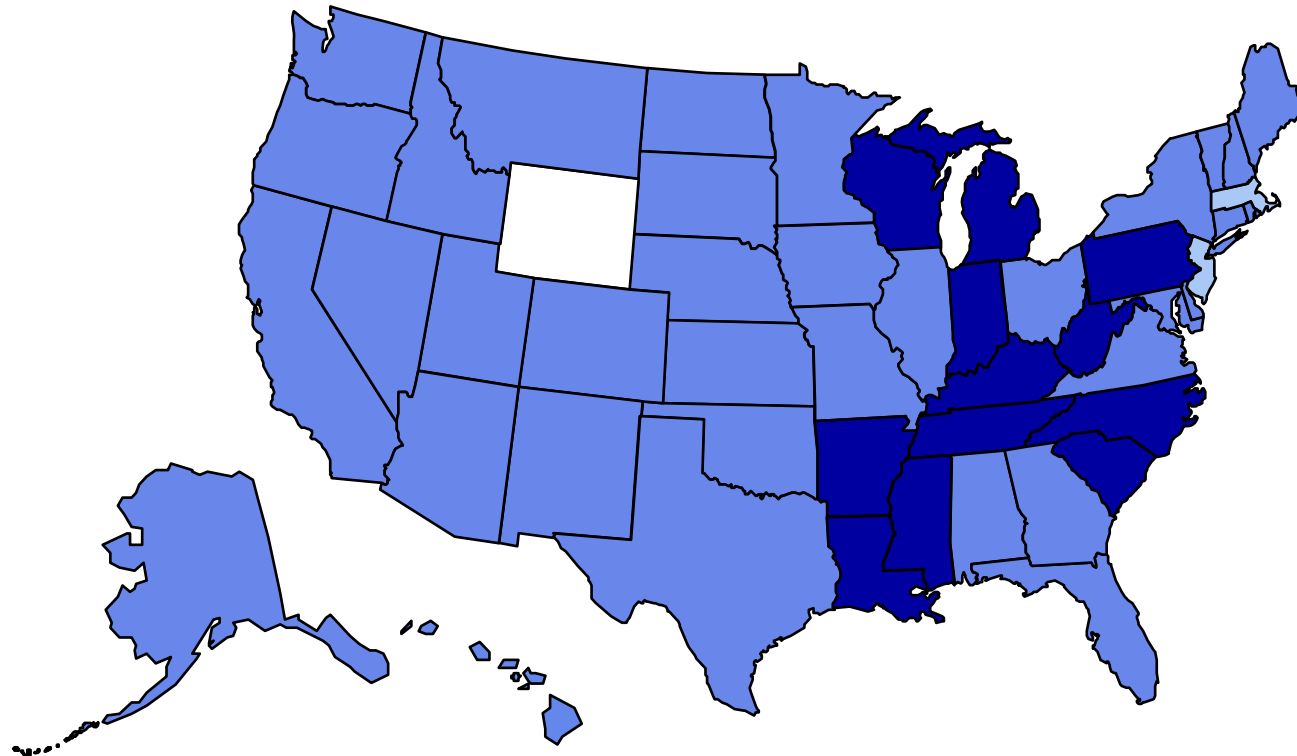


Source: Behavioral Risk Factor Surveillance System, CDC.

Obesity Trends* Among U.S. Adults

BRFSS, 1993

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

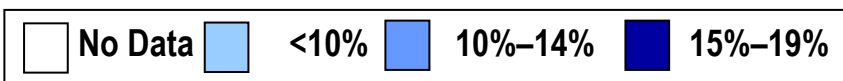
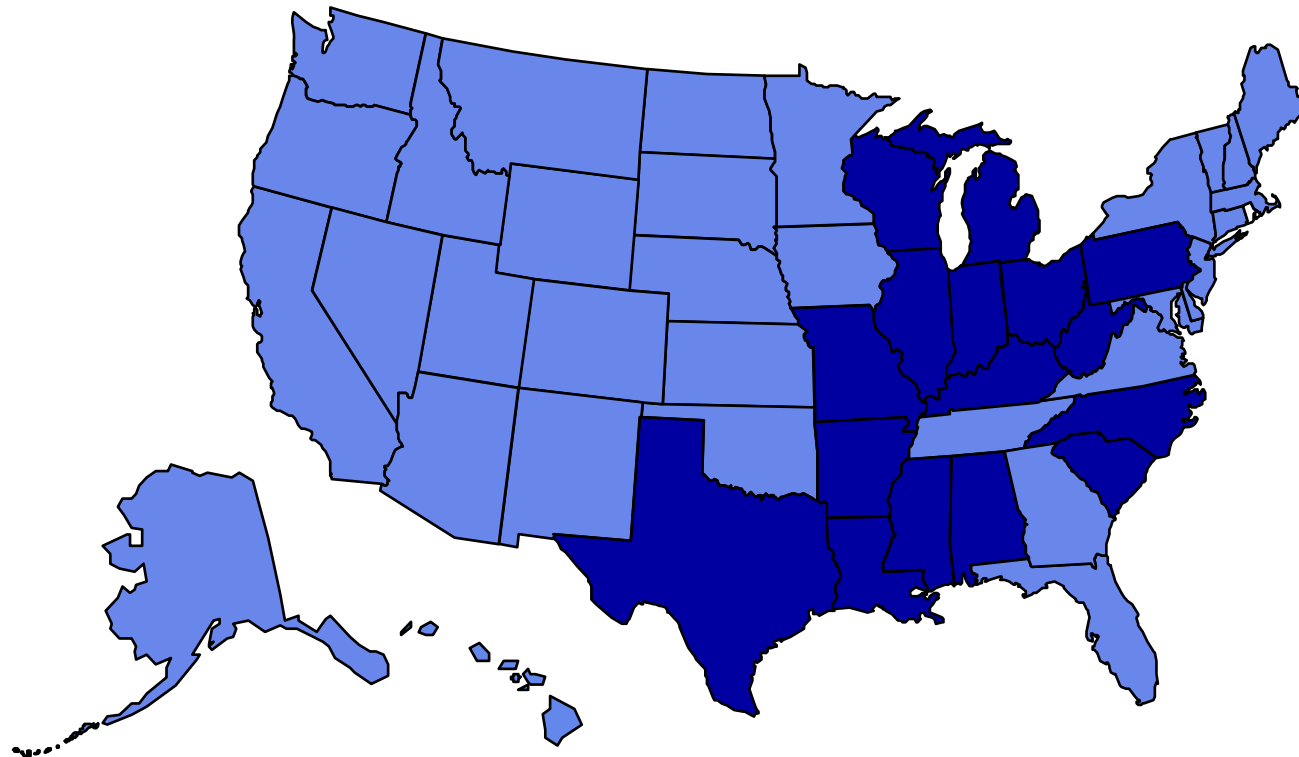


Source: Behavioral Risk Factor Surveillance System, CDC.

Obesity Trends* Among U.S. Adults

BRFSS, 1994

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

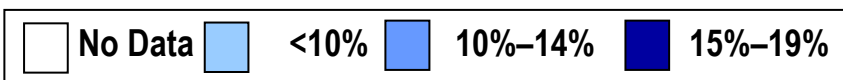
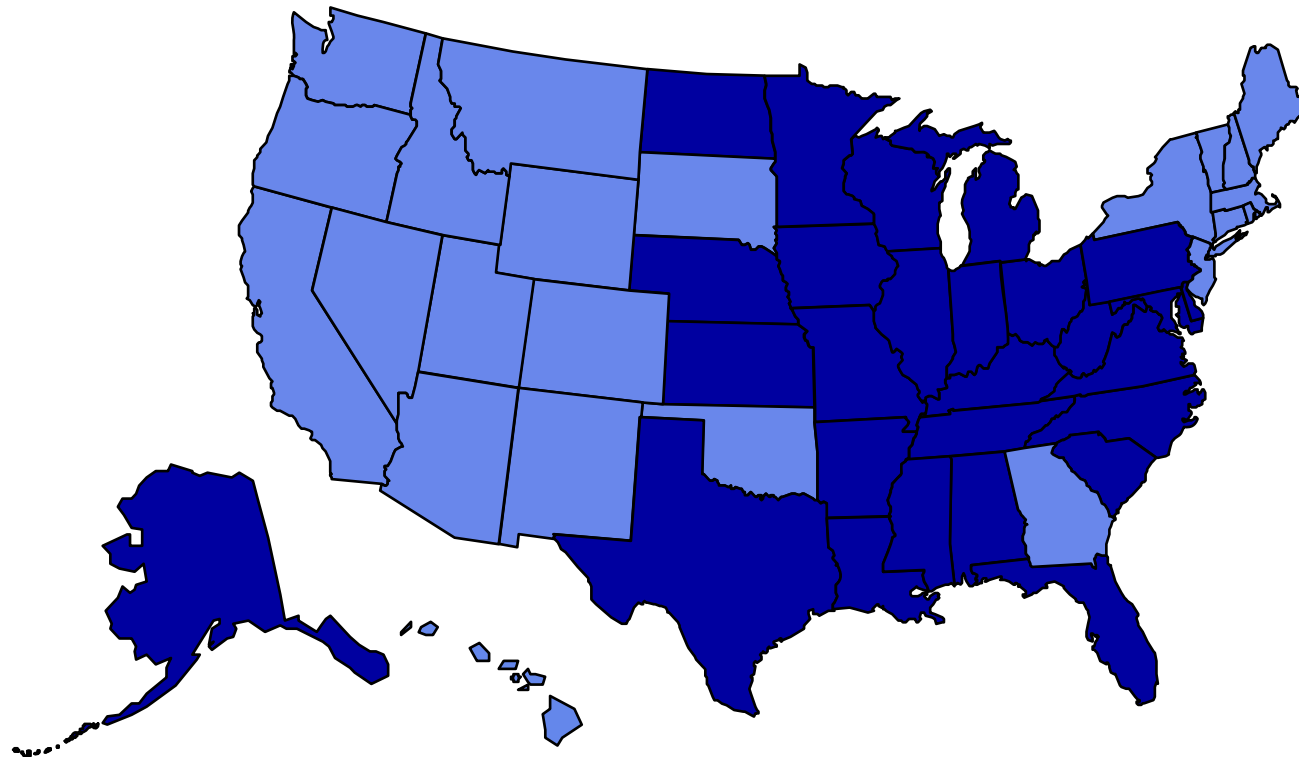


Source: Behavioral Risk Factor Surveillance System, CDC.

Obesity Trends* Among U.S. Adults

BRFSS, 1995

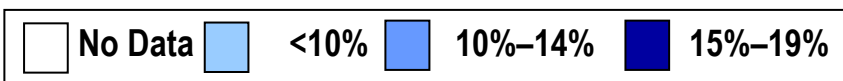
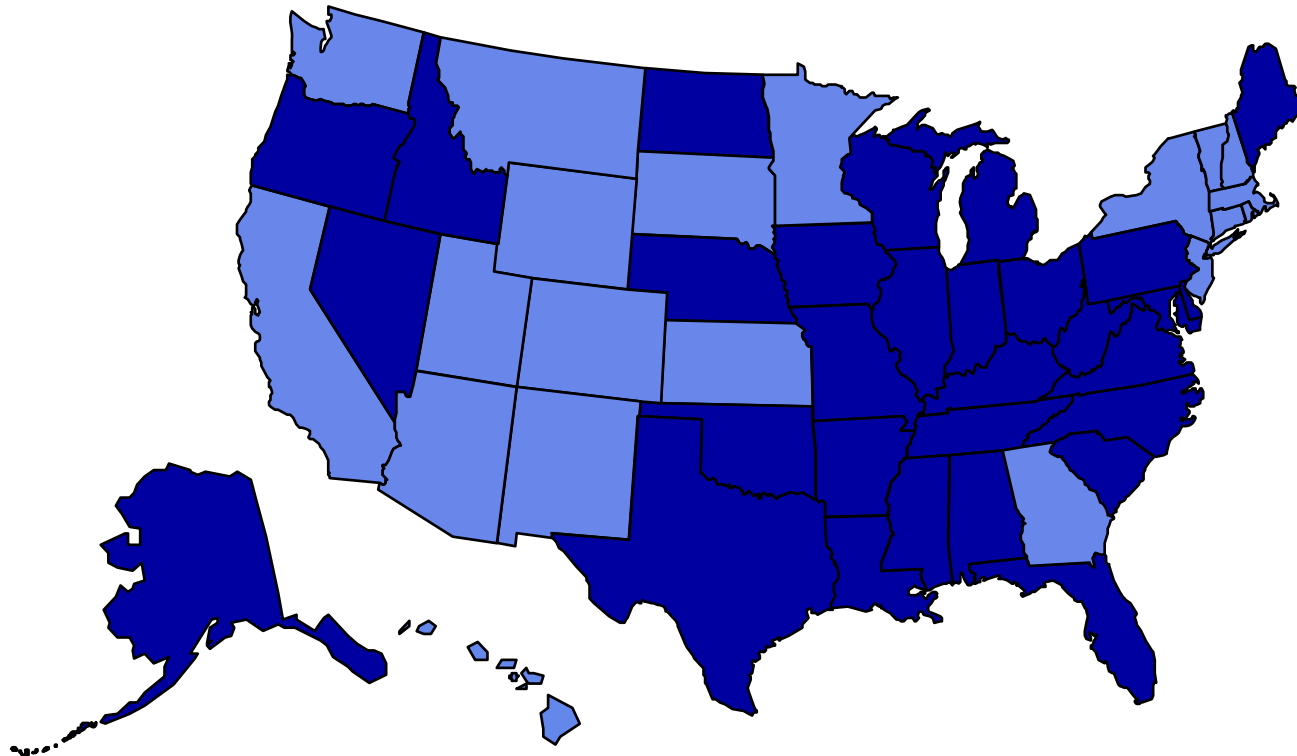
(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 1996

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

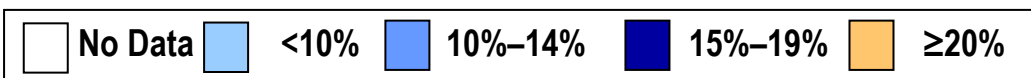
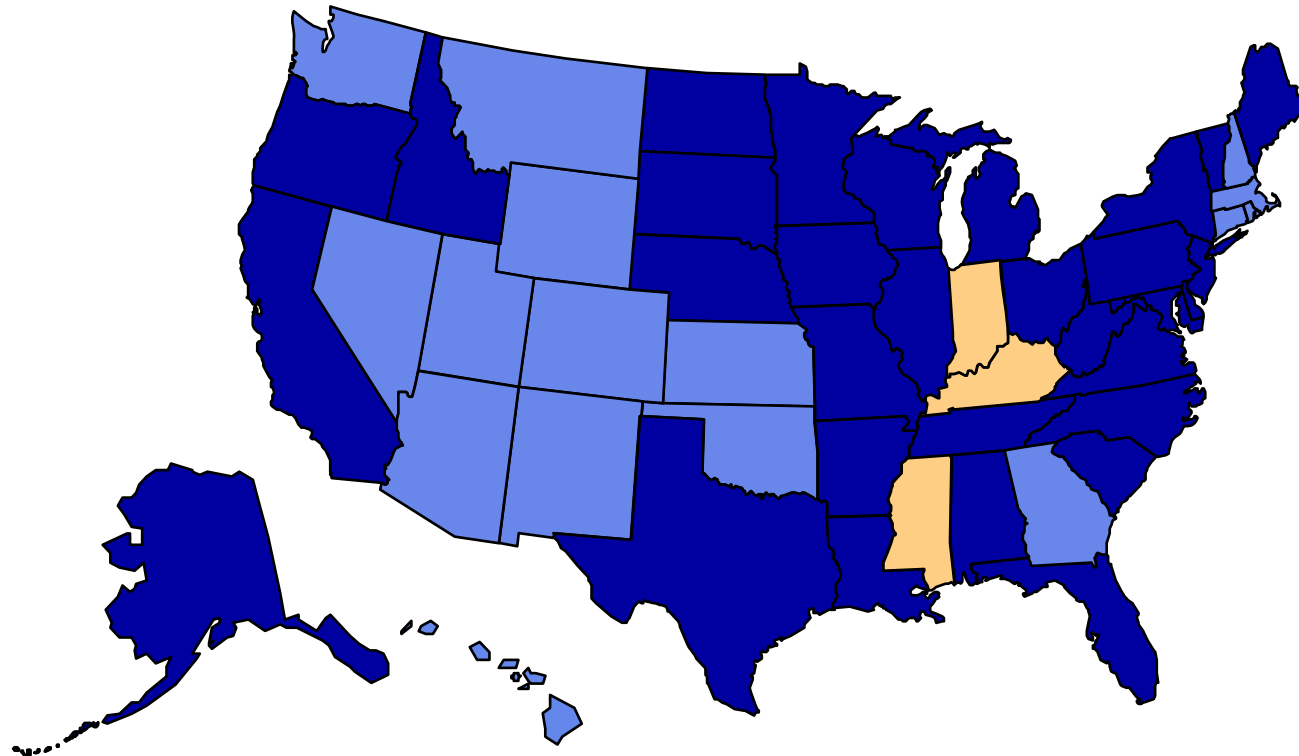


Source: Behavioral Risk Factor Surveillance System, CDC.

Obesity Trends* Among U.S. Adults

BRFSS, 1997

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

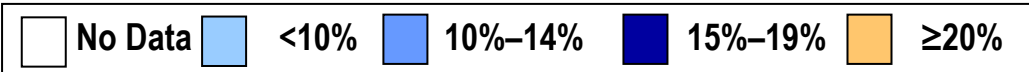
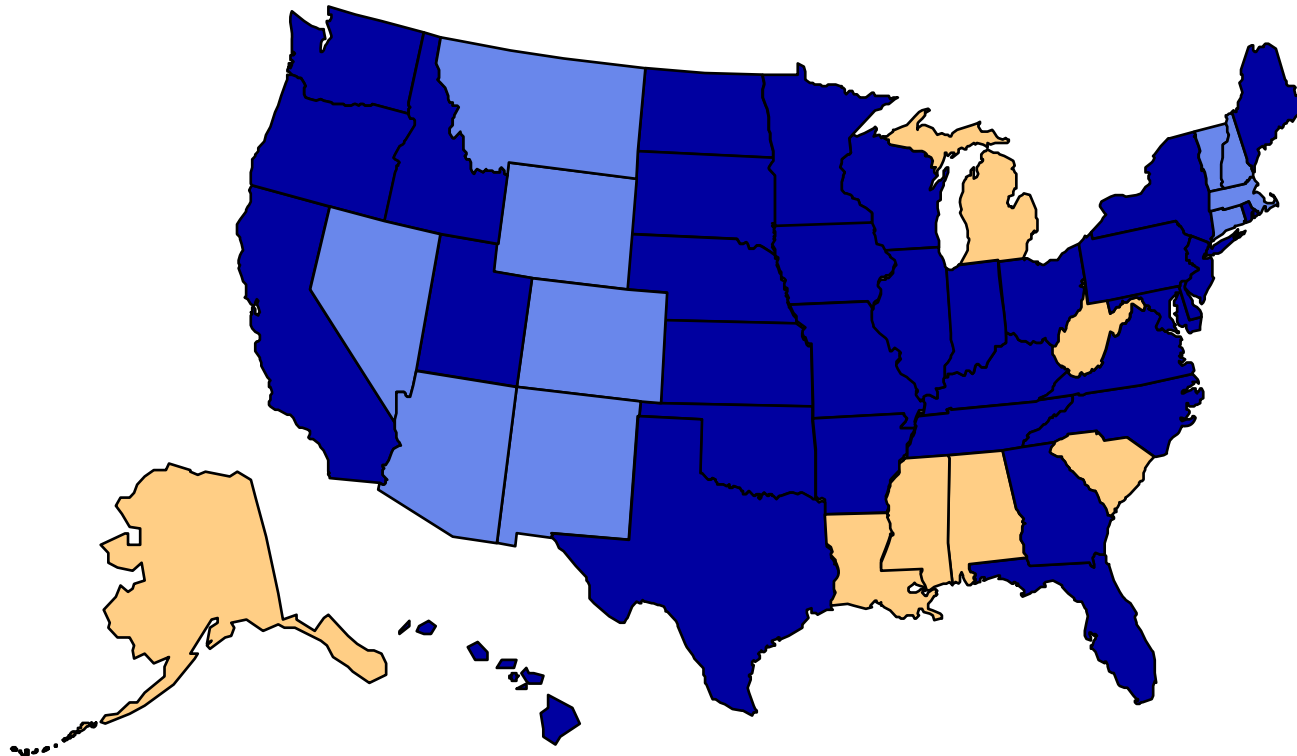


Source: Behavioral Risk Factor Surveillance System, CDC.

Obesity Trends* Among U.S. Adults

BRFSS, 1998

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

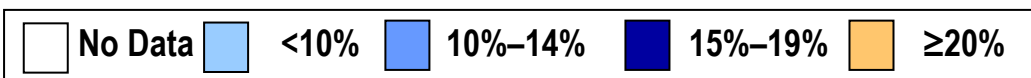
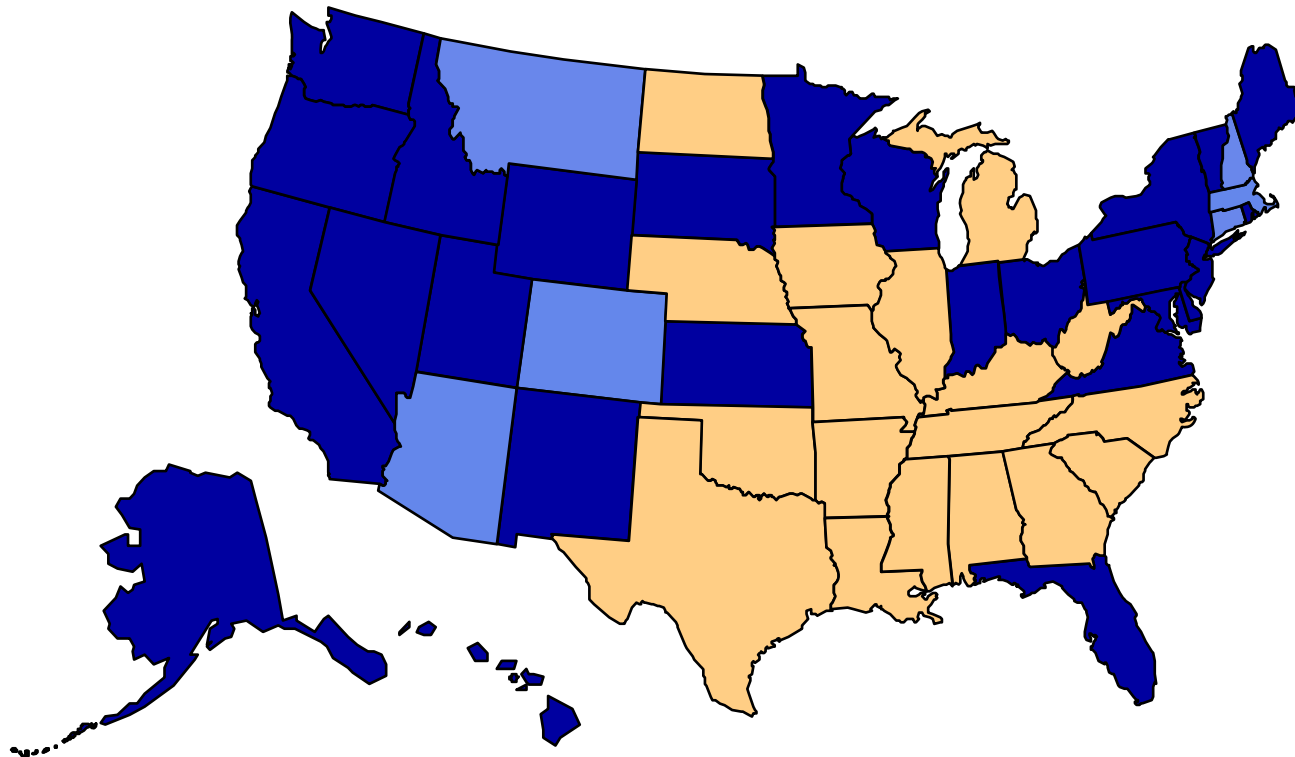


Source: Behavioral Risk Factor Surveillance System, CDC.

Obesity Trends* Among U.S. Adults

BRFSS, 1999

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

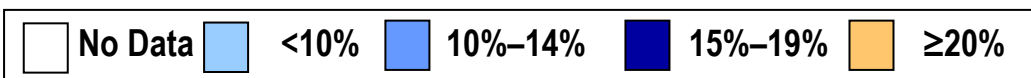
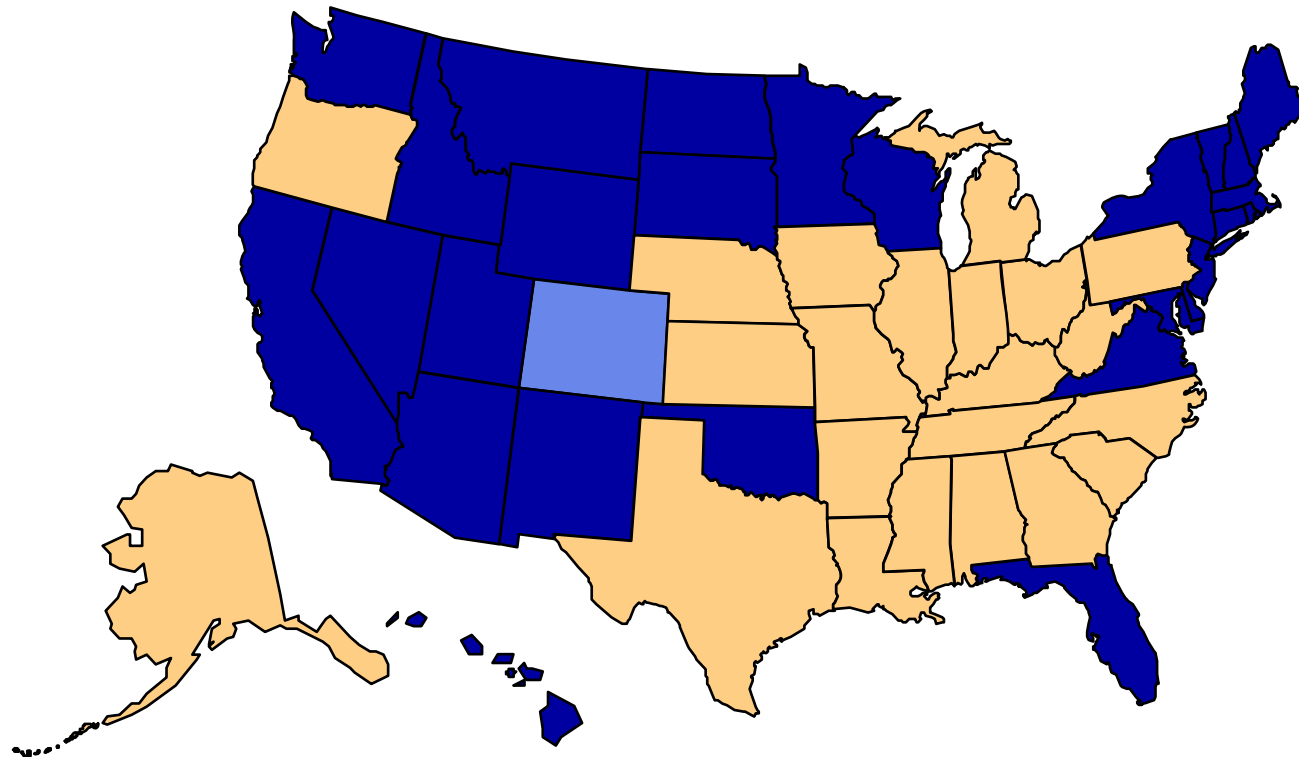


Source: Behavioral Risk Factor Surveillance System, CDC.

Obesity Trends* Among U.S. Adults

BRFSS, 2000

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

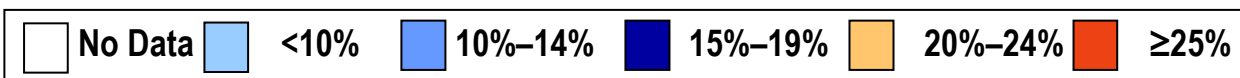
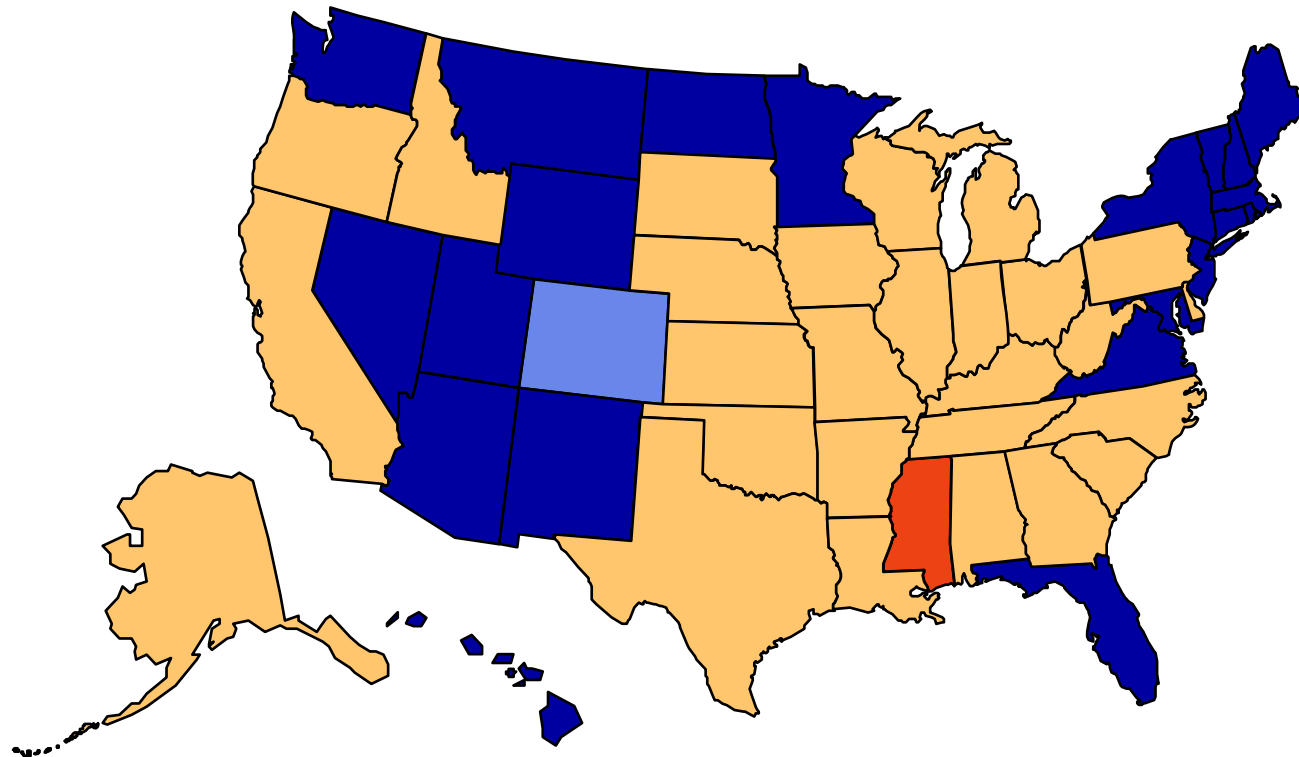


Source: Behavioral Risk Factor Surveillance System, CDC.

Obesity Trends* Among U.S. Adults

BRFSS, 2001

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

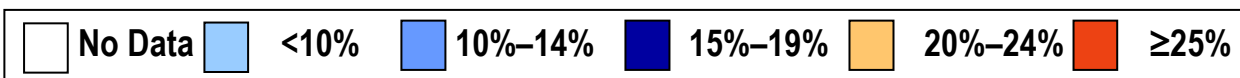
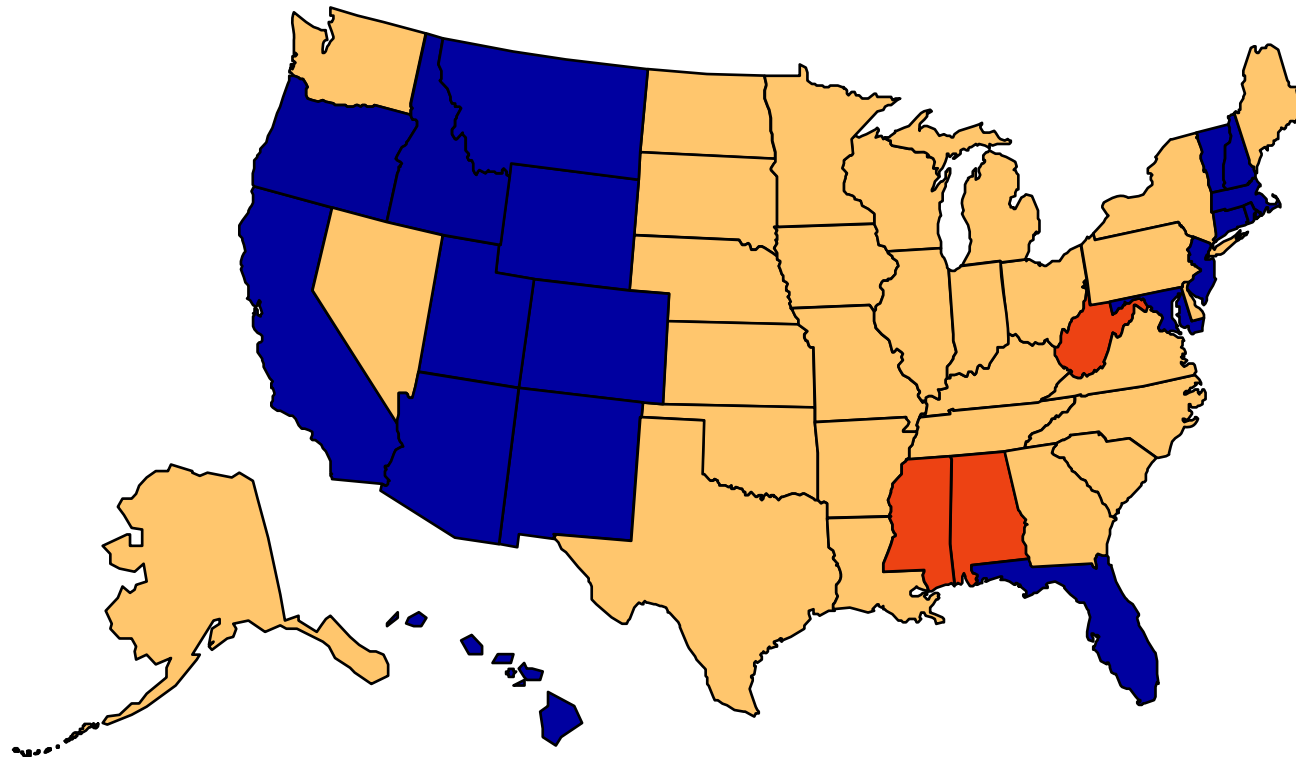


Source: Behavioral Risk Factor Surveillance System, CDC.

Obesity Trends* Among U.S. Adults

BRFSS, 2002

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

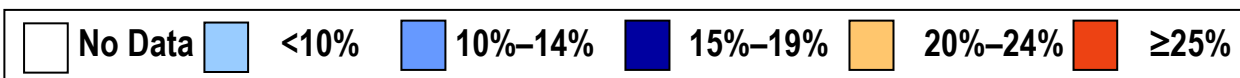
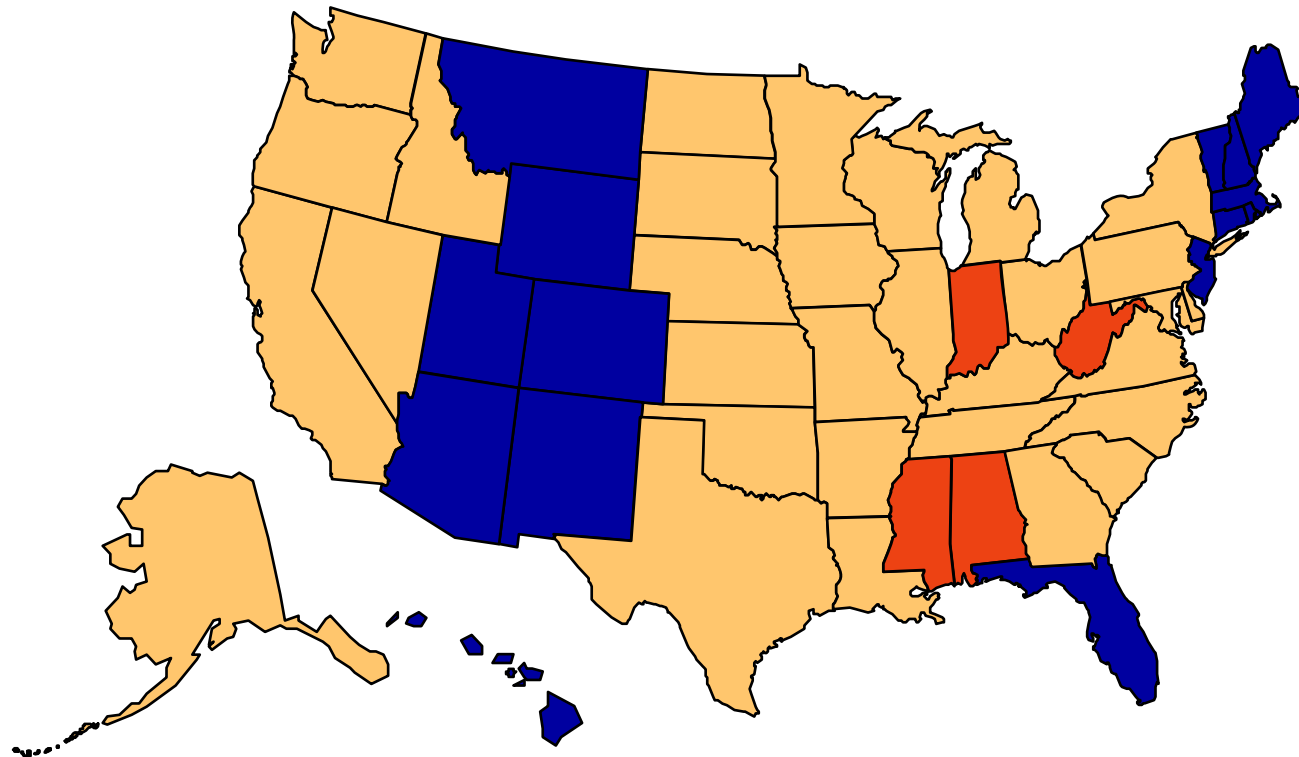


Source: Behavioral Risk Factor Surveillance System, CDC.

Obesity Trends* Among U.S. Adults

BRFSS, 2003

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

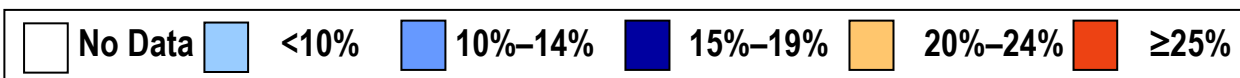
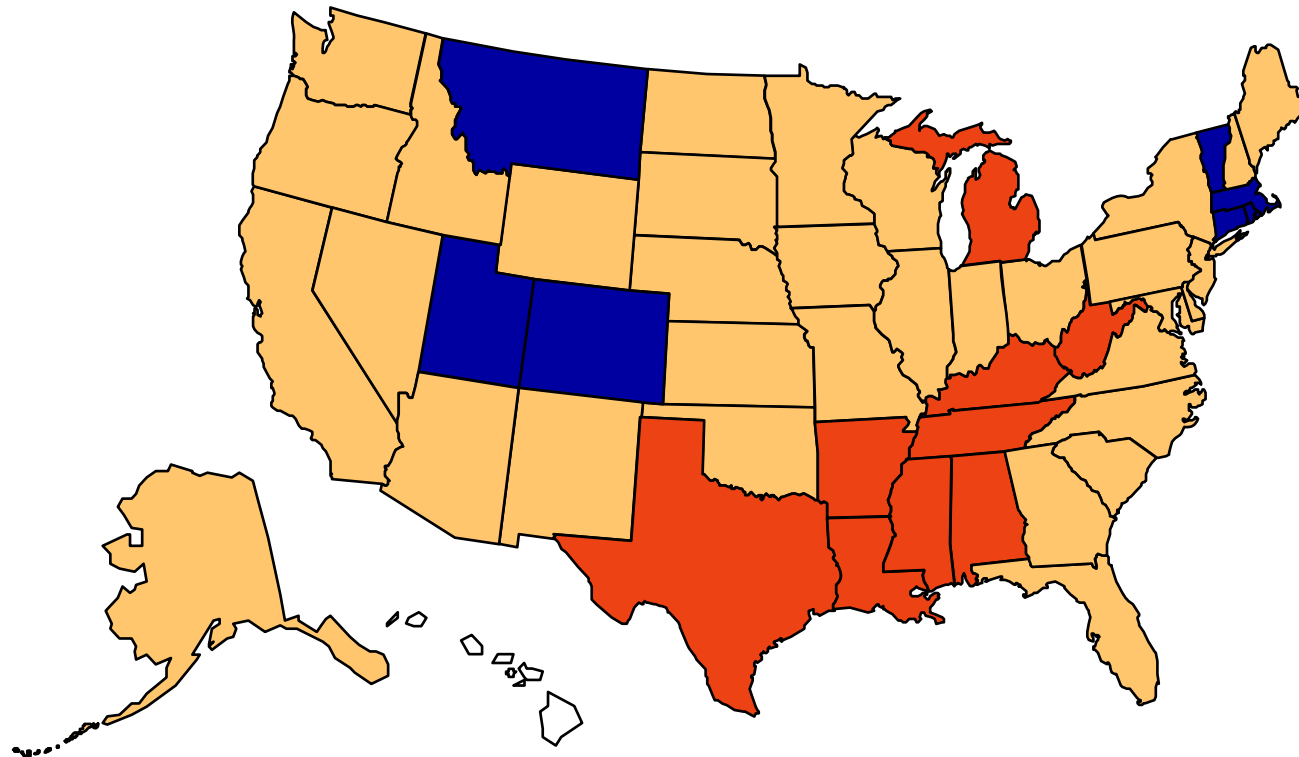


Source: Behavioral Risk Factor Surveillance System, CDC.

Obesity Trends* Among U.S. Adults

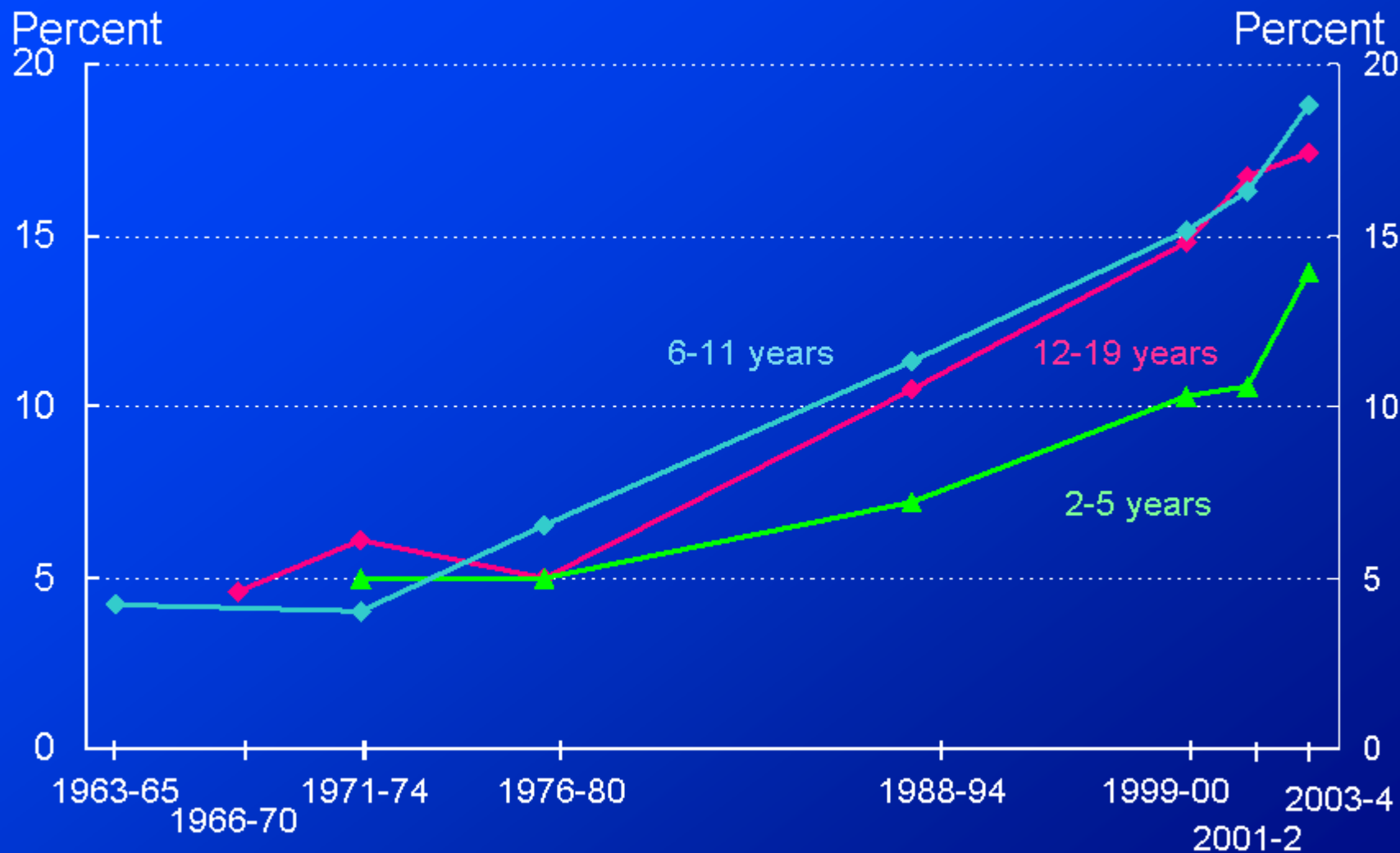
BRFSS, 2004

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)



Source: Behavioral Risk Factor Surveillance System, CDC.

Trends in Child and Adolescent Overweight



Note: Overweight is defined as BMI \geq gender- and weight-specific 95th percentile from the 2000 CDC Growth Charts.

Source: National Health Examination Surveys II (ages 6-11) and III (ages 12-17), National Health and Nutrition Examination Surveys I, II, III and 1999-2004, NCHS, CDC.

Why is childhood obesity a problem?

- *Obese children are likely to become obese adults*
- Health risks
 - Cardiovascular disease
 - Hypertension
 - Type 2 Diabetes
 - Orthopedic problems / arthritis
 - Sleep apnea
- Socio-emotional
 - Stigma, negative stereotyping, teasing / bullying
 - Depression, low self-esteem

What has caused the obesity epidemic?

- Energy imbalance: energy intake exceeds expenditure
 - *Definitive proof of independent contribution of diet and activity behaviors remains elusive, due to nature of study designs (cross-sectional) and difficulties accurately measuring behaviors*
- Genetics vs. Environment
 - **Most experts agree obesity epidemic is largely attributable to the environment**
- Environmental changes:
 - Intake
 - Expenditure
 - Media /Marketing, esp. to children
 - Cultural changes
 - Harried/time pressure, car-reliant, consumer culture

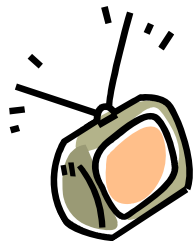
Environmental changes: nutrition*

- Increased availability of food and variety of food choices
 - supermarkets, gas stations with wide selection of energy-dense foods, vending machines
- Cheap food has higher energy density
- Fast food consumption
 - Many households located close to multiple fast food outlets, but no grocery store
- Bigger portion sizes:
 - NIH Portion Distortion quiz <http://hp2010.nhlbi.nih.net/portion/>
- Soft drinks / sweetened beverages
 - account for a lot of calories, ~10-15% of total calories
 - May not be able to compensate as well for liquid calories

Environmental changes: physical activity

Environmental changes

- Technology: Television, computers, video games
- Changes in neighborhood design
- Concerns about safety



Effects of changes

- Much less active commuting (walk/biking) to school compared to past
- Physical education and recess opportunities cut in school
- Children spend less time playing outside (time use studies)



Other benefits of exercise & healthy eating

- Healthy eating

- Cancer prevention
- Heart disease prevention
- Bone health/osteoporosis prevention



- Physical activity

- Improved fitness
- Lower BP
- Higher serum HDL
- Increased bone mineral density
- Improved mood, self-esteem & attention
- Improved sleep?



The need to act early

- Evidence suggests dietary and physical activity habits are established at an early age, and may track into adolescence and adulthood

Nutrition guidelines for preschoolers

- 2005 USDA Dietary Guidelines:
 - Consume variety of types of fruits/veggies, whole-grain, 2 cups/day fat-free or lowfat milk, <35% of calories from fat, <10% saturated fat, no trans fat
- Expert committee 6/07 (AAP, ADA, AMA, AAFP)
 - Limit consumption of sugar-sweetened beverages (incl. 100% fruit juice)
 - Eat fruits/vegetables
 - Eat breakfast daily
 - Limit eating out, particularly fast food
 - Limit portion size



Physical activity guidelines for preschoolers

- NASPE, Feb 2002
 - Toddlers: 30 min structured PE, >60 min unstructured play, <60 min sedentary at a time
 - Preschoolers: 60 min structured PE, >60 min unstructured, <60 min sedentary at a time
- AAP, May 2006
 - Free play should be encouraged, emphasis on fun
 - Limit screen time <2hrs/day
- Expert committee June 2007
 - Limit screen time to 1-2 hrs/day
 - 60 minutes of moderate to vigorous activity daily

Policies for child care settings

- Nutrition: Incongruence of CACFP with 2005 USDA guidelines:
 - Milk must be served at all meals, but no guideline on %fat
 - 100% fruit juice counts as fruit/vegetable
 - No requirement for whole grains
 - No limits on low-nutrition, high calorie foods, or fat content
- PA: Licensing guidelines vary widely among states
 - Very few require a minimum daily amount of activity
 - 22 states restrict screen time
- Opportunities for improvement!
- Top-down approaches vs. grass-roots approach

Variability among centers

- Menu studies
 - Food served exceeds national recommendations for fat, and % saturated fat
 - Not enough fresh fruits and vegetables
- The amount of physical activity children in childcare receive varies widely
 - Most children not meeting guidelines
 - The child care center attended is by far the strongest predictor of amount of physical activity
 - Amount of TV watched in childcare is relative unknown
- Opportunities for improvement!

The need for evidence-based recommendations

- Most recommendations are based on expert opinion, no data
- NAP SACC and “I am Moving, I am Learning” are examples of interventions designed to collect evidence
- The goal of our current work in Cincinnati is to amass evidence about what child care center environmental attributes successfully facilitate children’s activity

Benefits of physical activity

Preliminary finding from focus groups

- Energy release
 - nap better
- Improved mood
 - Interact with parents better
- Improved concentration
 - Improved learning at group time
- Combating obesity



Barriers to physical activity

Preliminary finding from focus groups

Child:

- getting dirty
- injuries



Staff:

- not wanting to go outside
- staff overweight / lazy

Parent:

- direct parent requests not to take child outside
- indirect
 - dressing child in improper clothing (eg flip flops, no coat, or nice/expensive clothes and jewelry)



The need for ECE professional input

- Need to keep programs feasible and grounded in child care environment
- Need for interventions to be age-and developmentally appropriate
 - no 30 minute structured PE for toddlers!



Health and ECE collaboratives

- CHEER: Childcare, Health, & Early Education Research Consortium
- AAP provisional section on child care
- AAP Health Topics page on Obesity/Overweight:
<http://www.aap.org/healthtopics/overweight.cfm>
- E-News for Caregivers/Teachers
<http://www.healthychildcare.org/CaregiverEnews.cfm>

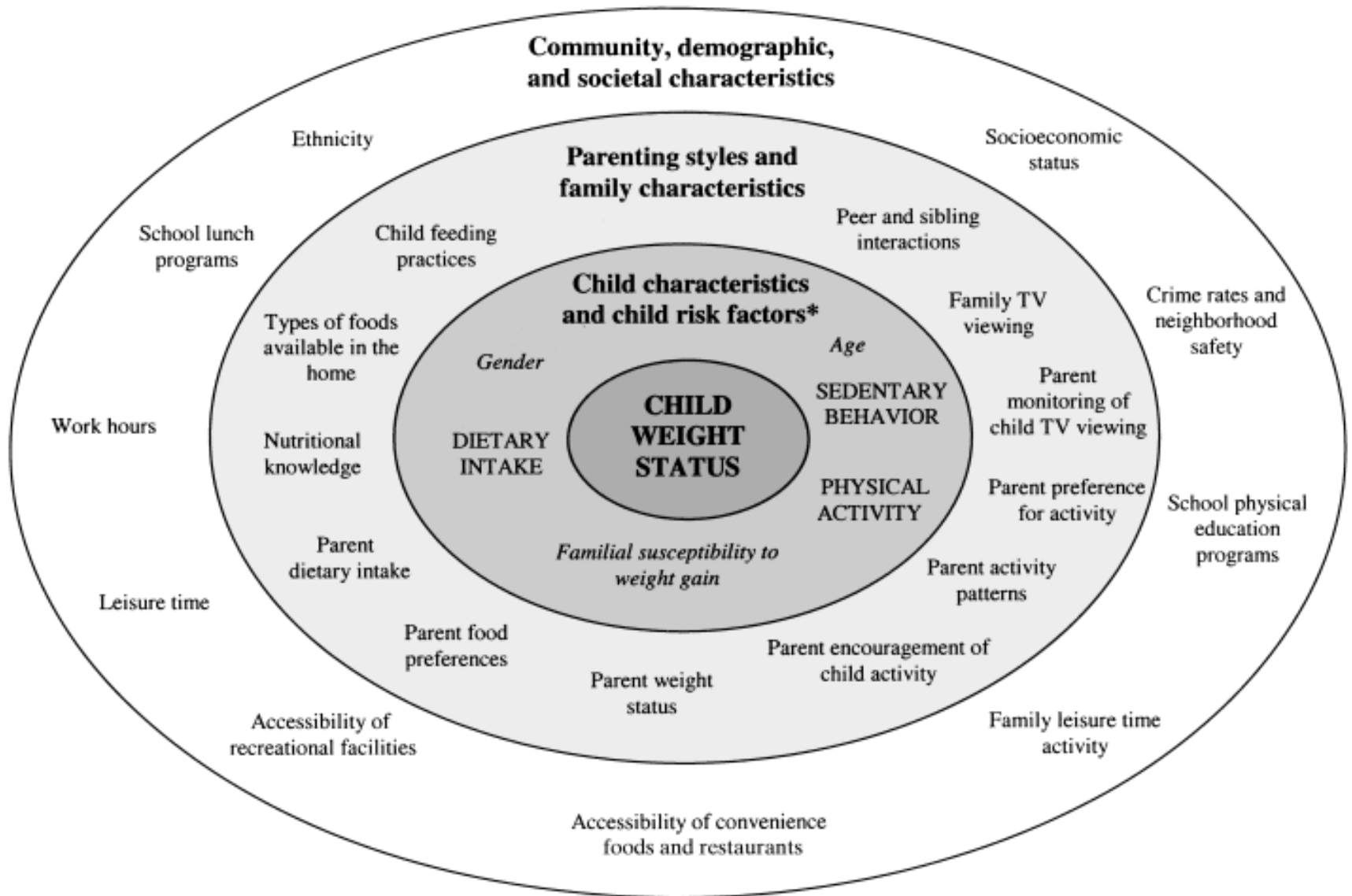
Conclusions

- Obesity is a problem, and largely attributable to environmental causes
- Child care settings offer a potential solution, and could potentially have a long-lasting and profound impact on reversing childhood obesity epidemic
- There is a need for solution-oriented research, better evidence to guide recommendations, and continued collaborations between health and ECE professionals
- The solution may be in your hands!
 - Importance of grass-roots efforts, starting small, tailoring programs to meet local needs



change the outcome®

Ecological Model of predictors of childhood overweight*



*Adapted from: Davidson & Birch *Obesity Reviews* 2001 p. 159-171