ISSUE REPORT

The State of Obesity:

BETTER POLICIES FOR A HEALTHIER AMERICA 2021

Special Feature: COVID-19, Social Determinants of Health, and Obesity

Trust for America's Health

TFAH.ORG

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Acknowledgments

Trust for America's Health (TFAH) is a nonprofit, nonpartisan public health policy, research, and advocacy organization that promotes optimal health for every person and community, and makes the prevention of illness and injury a national priority.

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REPORT AUTHORS

Molly Warren, S.M.
Senior Health Policy Researcher and Analyst
Trust for America's Health

Stacy Beck, J.D.
Consultant

Dara Lieberman, MPP
Director of Government Relations
Trust for America's Health

CONTRIBUTORS

Vinu Ilakkuvan, DrPH
Consultant

Sarah Ketchen Lipson, Ph.D., Ed.M.
Assistant Professor
Boston University School of Public Health
Associate Director
The Healthy Minds Network

REVIEWERS

Kristy Anderson, MPP
Senior Government Relations Advisor
American Heart Association/American Stroke Association

Eduardo Sanchez, M.D., MPH
Chief Medical Officer for Prevention
American Heart Association

Mary Story, Ph.D., RD
Professor of Global Health, and Family Medicine and Community Health
Duke University
Associate Director for Academic Programs
Duke Global Health Institute
Director
Healthy Eating Research National Program, Robert Wood Johnson Foundation

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View this report online at tfah.org/stateofobesity2021. For more data on childhood obesity, visit stateofobesity.org.

The State of Obesity

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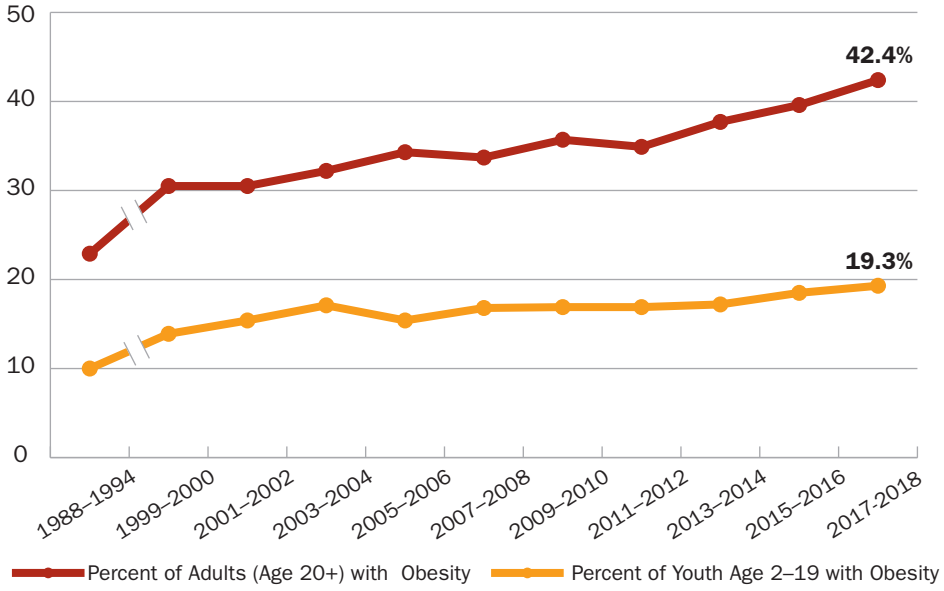
Introduction

The COVID-19 pandemic added new obstacles and exacerbated existing barriers to healthy eating and physical activity in 2020 and 2021, and deepened longstanding racial and economic inequities in the United States. Emerging data suggests eating habits shifted, physical activity declined, stress and anxiety increased, food insecurity worsened, and many Americans gained weight throughout the pandemic, a sharp reminder of the effects that underlying social, economic, and environmental conditions have on the health and well-being of Americans. Many of direct and indirect effects of the pandemic fell disproportionally on certain populations, including low-income communities and communities of color.

These more recent changes are on top of a decades-long rise in obesity rates across the United States, with the adult rate passing 40 percent nationally for the first time in 2017–2018, according to the National Health and Nutrition Examination Survey (NHANES). Since 1999–2000, the adult obesity rate in the United States has increased 39 percent.[1,2]

State-level data from the Behavioral Risk Factor Surveillance System (BRFSS) confirm the trend that adult obesity rates continued to climb in many states in 2020. In 2020, adult obesity rates topped 35 percent in 16 states, up from 12 states in 2019. Between 2015 and 2020, half of states (26) had statistically significant increases in their adult obesity rates.[3]

Percent of U.S. Adults and Youth with Obesity, 1988–2018

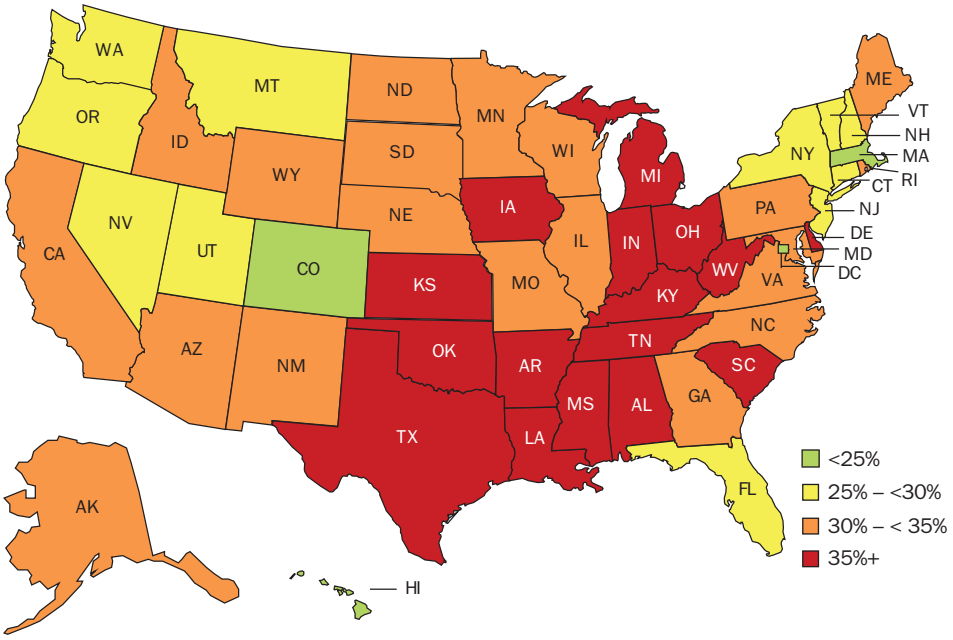


Source: NHANES

In response to long-term increases in obesity plus additional harm from COVID-19, the United States needs bolder policies and more investment in long-term, evidence-based programs that reduce obesity; more collaboration across public and private sectors; more innovation and better solutions to the obesity crisis; and continued attention and more action on addressing the underlying conditions and structural and systemic inequities that undermine many Americans' health.

This is the 18th annual report by Trust for America's Health on the obesity crisis in the United States. This year, our special feature highlights the interaction of the COVID-19 pandemic with social, economic, and environmental conditions that have changed eating habits, food insecurity rates, physical-activity patterns, and obesity levels. This report, as in previous years, also includes a section that reviews the latest data available on adult and childhood obesity rates (page 18), a section that examines key current and emerging policies (page 29), and, finally, a section that outlines recommended policy actions (page 53).

Adult Obesity Rates by State, 2020



Source: TFAH analysis of BRFSS data

CONSEQUENCES OF OBESITY

Obesity is associated with a range of physical and mental diseases; causes additional healthcare costs and productivity losses individually and collectively; and reduces the nation's military readiness. Examples of consequences include:

- **Obesity increases the risk of a range of diseases for adults**—including higher rates of complications and serious illness from COVID-19, as well as type 2 diabetes, high blood pressure, heart disease, stroke, arthritis, depression, sleep apnea, liver disease, kidney disease, gallbladder disease, pregnancy complications, and many types of cancer—and an overall risk of higher mortality.[4,5,6,7,8 9,10,11,12,13,14,15]

- **Children with obesity are also at greater risk for certain diseases,** like type 2 diabetes, high blood pressure, and depression.[16,17,18,19] A 2017 study of new type 2 diabetes diagnoses in children between the years 2001 and 2012 found a 7.1 percent annual increase in cases diagnosed per 100,000 children ages 10 to 19 (versus a 1.4 percent increase annually for type 1 diabetes, which is not associated with obesity).[20]

- **Individuals with obesity had substantially higher medical costs than healthy-weight individuals.**[21] A 2016 study found that obesity increased annual medical expenses in the United States by $149 billion.[22] Indirect, or nonmedical, costs from obesity also run into the billions due to missed time at school and work, lower productivity, premature mortality, and increased transportation costs.[23]

- **Being overweight or having obesity is one of the most common reasons young adults are ineligible for military service.** In addition, the proportion of active-duty service members who have obesity has risen in the past decade—along with healthcare costs and lost work time. According to Mission: Readiness, a nonpartisan group of more than 700 retired admirals and generals, excess weight prevents one in four young adults from qualifying for military service, and the U.S. Department of Defense is spending more than $1 billion each year on obesity-related issues.[24,25]

2021 STATE OF OBESITY RECOMMENDATIONS

Trust for America's Health directs its policy recommendations to government officials and stakeholders at all levels but primarily to national and state officials. TFAH's two guiding principles when making these recommendations are: (1) apply a multisector, multidisciplinary approach (because a single effort in just one sector or discipline is not likely to have a significant impact); and (2) intentionally focus on those populations with a disproportionate risk of obesity. A summary of TFAH's recommendations are below; the full recommendations are on page 53.

1. Increase health equity by strategically dedicating federal resources to efforts that reduce obesity-related disparities by:

- Expanding CDC obesity-prevention programs including the State Physical Activity and Nutrition program and Racial and Ethnic Approaches to Community Health program;
- Expand the Social Determinants of Health program at CDC that supports multisector collaborations;
- Instituting economic policies that reduce poverty at a population level;
- Prioritizing health equity in planning and decision-making at federal agencies; and
- Adapting federal grantmaking practices to ensure that organizations that are best able to conduct obesity-prevention activities also have the tools to successfully apply for grants.

2. Decrease food insecurity while improving nutritional quality of available foods by:

- Making healthy school meals for all permanent, as is current policy through the 2021–2022 school year due to COVID-19 waivers, and, in the interim, encouraging Community Eligibility Program participation;
- Strengthening nutrition standards for school meals and snacks;
- Maintaining eligibility, increasing value of benefit, ensuring there are no new participation barriers, and extending COVID-19 flexibilities in the Supplemental Nutrition Assistance Program (SNAP);
- Improving diet quality in SNAP through voluntary pilot programs, and supporting programs that promote healthy eating, like SNAP-Ed and GusNIP;
- Expanding access to the Special Supplemental Nutrition Program for Women, Infants, and Children for young children and postpartum women and continuing the increase in benefits implemented under the American Rescue Plan through FY 2022;
- Bolstering the Child and Adult Care Food Program by allowing a third meal-service option, increasing reimbursements to support healthier standards, streamlining administrative operations, and continuing funding for nutrition and wellness education;
- Expanding support for programs that promote maternal and child health and breastfeeding support;
- Supporting access to healthy school meals, regardless of school status or setting;
- Designing public land use and incentivizing businesses to increase healthy food options, like adding healthful corner stores, community gardens, and farmers' markets; and
- Boosting outreach efforts to families to apply to school meal programs and other nutrition assistance programs.

3. Change the marketing and pricing strategies that lead to health disparities by:

- Closing tax loopholes and eliminating business-cost deductions related to the advertising of unhealthy food and beverages to children on television, the internet, social media, and places frequented by children;
- Discouraging unhealthy food and drink options by enacting drink taxes—and using the revenue to shrink health and socioeconomic disparities;
- Improving the nutrition of the food that the government agencies' procure to better serve public health and set an example for private sector; and
- Incorporating local wellness policy regulations that include strategies to reduce unhealthy food and beverage marketing and advertising to children and adolescents, like by prohibiting coupons, sales, and advertising around schools;

4. Make physical activity and the built environment safer and more accessible for all by:

- Increasing federal education funding to support health and physical education, as well as programs that promote social-emotional learning and improve health outcomes for children;
- Codifying and funding new evidence-based physical-activity guidelines every 10 years;
- Boosting funding for active transportation projects like pedestrian and biking infrastructure, recreational trails, and Safe Routes to Schools, and adding flexibilities to projects to ensure all communities are able to access funding;

- Making Safe Routes to Schools, Vision Zero, Complete Streets, and non-infrastructure projects eligible under the Highway Safety Improvement Program;
- Identifying innovative methods for conducing physical education and prioritizing physical activity during schooltime during physical distancing schooling;
- Working locally to make community spaces more conducive and safer for physical activity and active transport and encouraging of outdoor play.
- Conditioning federal infrastructure funding on states' adoption of Complete Streets principles; and
- Encouraging outdoor play and activity for children via state and federal programs, and additional park development for communities most in need.

5. Strengthen obesity prevention throughout the healthcare system by:

- Expanding access to health insurance coverage by expanding Medicaid and making marketplace coverage more affordable;
- Clarifying to health insurers that obesity-related preventive health care services must be covered with no patient cost-sharing like all other grade A or B U.S. Preventive Services Task Force recommendations;
- Expanding the capacity of health care providers and payers to screen and refer individuals to social service needs, coordinate care delivered by health and social service programs, sufficiently reimburse social services providers, and better integrate social needs data into medical records;
- Eliminating barriers to healthcare coverage and access for communities of color, rural communities, and other underserved populations;
- Addressing social determinants of health in communities with high levels of obesity, through community-directed goals and strategies and evidence-based programs;
- Covering evidence-based comprehensive pediatric weight-management programs and services in their Medicaid benefits; and
- Building capacity for community-based organizations, and incentivizing cross-sector collaboration between Medicaid managed care organizations and community-based partners to better support enrollees' health.

WHAT IS OBESITY?

"Obesity" means that an individual's body fat and body-fat distribution exceed the level considered healthy.[26,27] There are many methods of measuring body fat. Body-mass index (BMI) is an inexpensive method often used as an approximate measure, although it has its limitations and is not accurate for all individuals (e.g., muscular individuals often have lower body fat than their BMI would suggest).[28] To calculate BMI, divide a person's weight (in kilograms) by his or her height (in meters) squared. The BMI formula for measurements in pounds and inches is:

$$\text{BMI} = \left(\frac{\text{Weight in pounds}}{(\text{Height in inches}) \times (\text{Height in inches})} \right) \times 703$$

For adults, BMI is associated with the following weight classifications:

BMI LEVELS FOR ADULTS AGES 20 AND OVER

BMI Level	Weight Classification
Below 18.5	Underweight
18.5 to < 25	Healthy weight
25 to < 30	Overweight
30 and above	Obesity
40 and above	Severe Obesity

Medical professionals measure childhood obesity differently, comparing a child's BMI to children of the same age and sex since there are fluctuations with growth and development. A child's BMI is expressed as percentile of his or her peer group and obtained from growth charts developed by the Centers for Disease Control and Prevention using height and weight data from American children from 1963 to 1965 and from 1988 to 1994.[29]

BMI LEVELS FOR CHILDREN AGES 2-19

BMI Level	Weight Classification
Below 5th percentile	Underweight
5th to <85th percentile	Healthy weight
85th to < 95th percentile	Overweight
95th percentile and greater	Obesity

SPECIAL FEATURE: COVID-19, Obesity, and Social Determinants of Health

The COVID-19 pandemic has caused widespread illness (more than 36 million Americans with cases) and death (more than 600,000 Americans have died) over the past year and a half.[30,31] The harm from death and acute illness, including extended recoveries and continued morbidity, reverberates to families, friends, caregivers, and colleagues. Indirect effects have extended further—from general stress and anxiety about the virus and social isolation, to the economic impacts and housing insecurity from job losses, to the negative consequences of policies and changing norms. Some of the essential public health interventions aimed at reducing the spread of COVID-19 and saving lives—like changes to socializing, business, schools, and other aspects of daily life—came with substantial consequences for Americans.

COVID-19 cases, hospitalizations, and deaths have disproportionately affected certain populations, particularly some racial/ethnic minority groups, including American Indians, Blacks, and Latinos; older Americans; individuals with certain underlying medical conditions, including obesity; and those living in congregate settings (e.g., nursing homes and prisons).[32,33,34] The indirect consequences of the COVID-19 pandemic also disproportionately hurt some racial/ethnic minority communities in a number of ways: Black and Latino households were more likely to experience job loss during the pandemic's resulting recession, have higher food insecurity, were more likely to have symptoms of anxiety or depression, and had lower rates of full time, in-person schooling as of April 2021.[35,36,37]

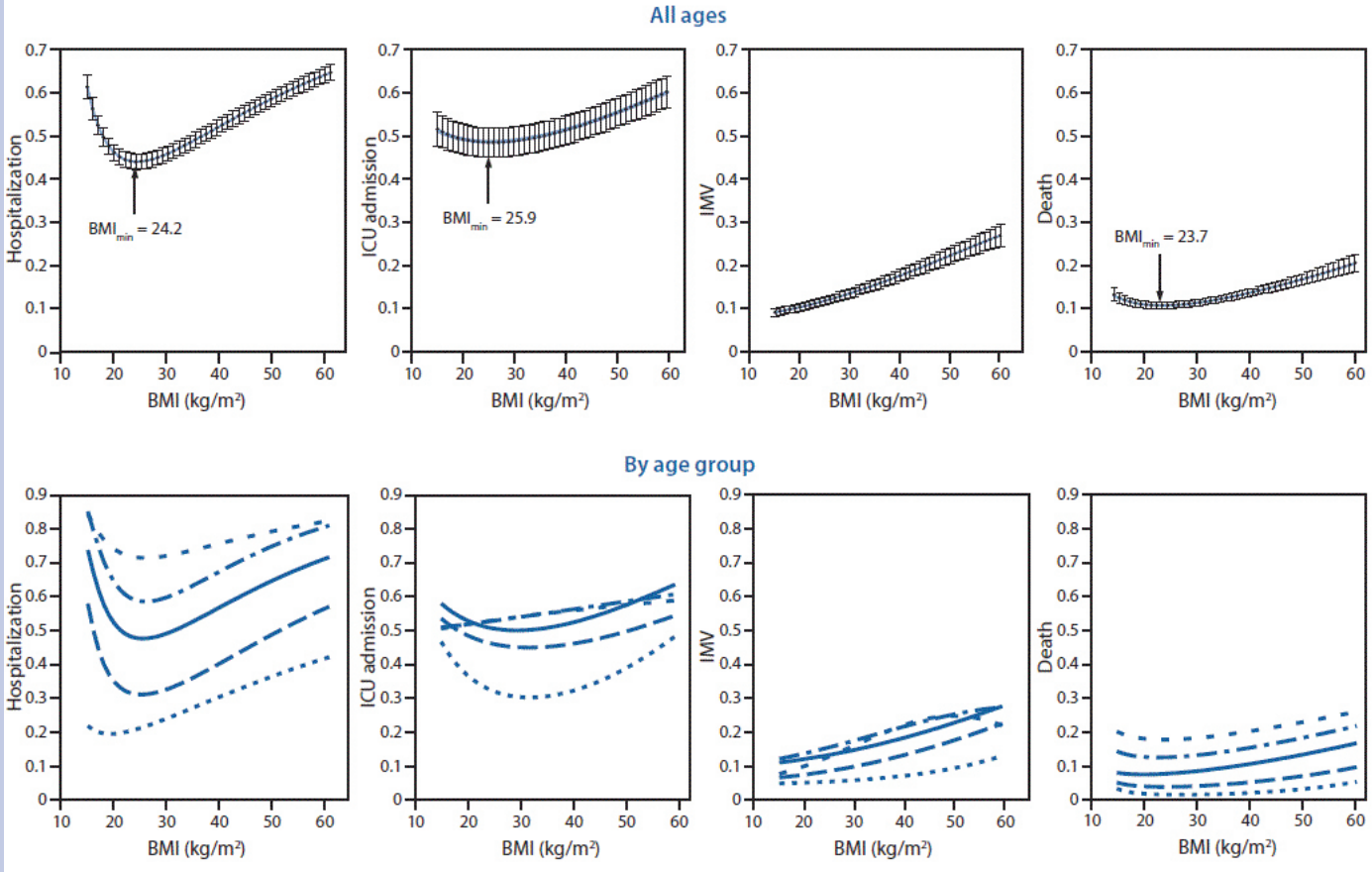
OBESITY'S IMPACT ON COVID-19 DISEASE SEVERITY

Obesity is associated with a range of physical and mental diseases. Many studies from the past year and a half suggest that obesity is a risk factor for more severe disease and complications among individuals with COVID-19.[38,39,40,41] A March 2021 Centers for Disease Control and Prevention study of 148,000 adults found an association between BMI and hospitalization, ICU admission, invasive mechanical ventilation, and death. For all of these outcomes, there are progressively higher risks with higher BMI. Adults with BMI between 18.5 and 30 (considered healthy weight and overweight) have the lowest risk for poor outcomes.[42]

Another recent study from the *Journal of the American Heart Association* estimated 30 percent of the adult COVID-19 hospitalizations through November 2020 were attributable to obesity, and obesity, diabetes, hypertension, and heart failure were together attributable for 64 percent of hospitalizations.[43]

These associations between obesity and more severe COVID-19 disease courses and complications also appears to hold true for youth. A *Journal of the American Medical Association* study from June 2021 found that the highest risk factors for hospitalization from COVID-19 for children and teenagers under 18 were having type 1 diabetes or obesity, and youth with obesity also had higher risk for severe illness.[44]

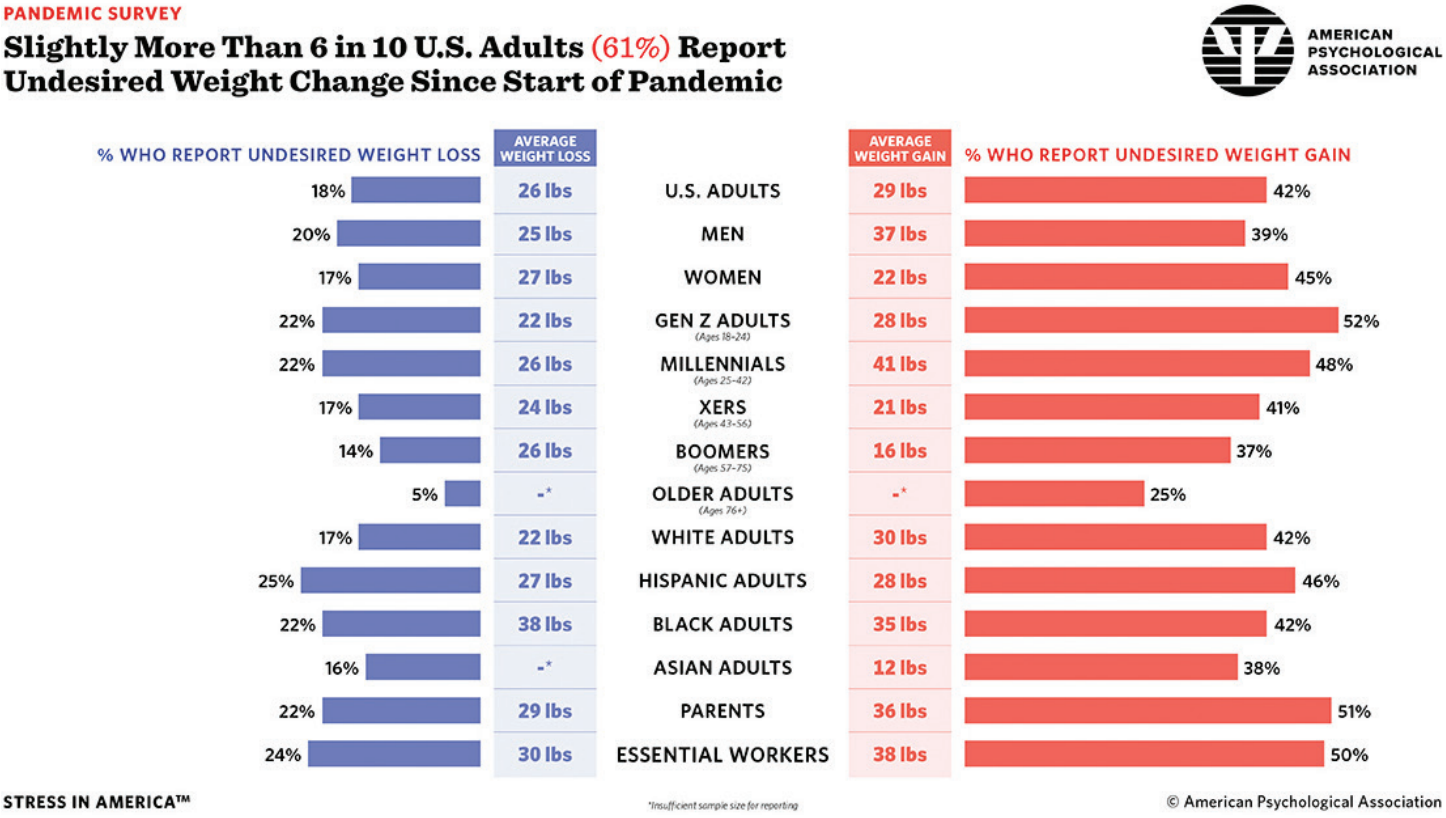
Estimated risk for severe COVID-19–associated illness* among adults aged ≥18 years, by body mass index (BMI) and age group — Premier Healthcare Special COVID-19 Release (PHD-SR), United States, March–December, 2020



Source: CDC, https://www.cdc.gov/mmwr/volumes/70/wr/mm7010e4.htm#F1_down

A. WEIGHT GAIN AND OBESITY RATES DURING THE COVID-19 PANDEMIC

Emerging data suggest that one of the indirect effects of the pandemic was weight gain for many adults and youth in the United States. National self-reported survey data show weight gain was common across the country. An American Psychological Association survey conducted by the Harris Poll from February 2021 found that 42 percent of adults in the United States reported undesired weight gain since the start of the pandemic. The average reported weight gain was 29 pounds. Younger adults ages 18 to 42 (Gen Z and Millennials), parents, essential workers, and Latinos were disproportionately likely to report weight gain (of any amount), while adults age 25 to 42 (Millennials), essential workers, parents, men, and Blacks reported the largest number of pounds gained.[45]



Clinical data support the self-reported survey findings. One study from the *Journal of the American Medical Association* analyzed BMI changes in 11,000 adults in a large health system in Cambridge, Massachusetts who had height and weight measurements both before March 1, 2020 and after May 31, 2020 (spanning the three months at the beginning of the pandemic when Massachusetts had its strictest COVID-19-related closures). The study found 46 percent of women and 41 percent of men gained weight over the time period. Furthermore, nearly 27 percent of men and 30 percent of women gained more than 5 percent of their baseline weight. The rates of obesity and overweight increased significantly among women (but not men). The study also looked at the characteristics associated with patients who gained weight and found that men who gained more than 5 percent of their baseline weight were more likely to be younger, have food and housing insecurity, and use tobacco. Women who gained more than 5 percent of their baseline were also more likely to be younger and use tobacco, as well as more likely to be Spanish and Brazilian Portuguese speakers.[46]

Another study looking at weight gain in youth likewise found increases in obesity in 2020. A *Pediatrics* study examined average obesity rates of patients ages 2 to 17 in the Children's Hospital of Philadelphia Care Network between June and December 2019 (pre-pandemic) compared with June to December 2020 (during the pandemic). The study found that the overall obesity prevalence increased from 13.7 percent

pre-pandemic to 15.4 percent a year later during the pandemic. The increase was highest among elementary school children ages 5 to 9; Latino youth; Black youth; youth who were publicly insured; and youth whose families had lower income.[47] Earlier research found that that obesity rates in young children increased during summer breaks and decreased during the school year, which suggests a possible causal link between weight gain for children and school closures.[48]

B. SHIFTING CONDITIONS DURING THE COVID-19 PANDEMIC

The COVID-19 pandemic led to systemic changes that impacted jobs, sectors, and certain conditions in which people were living, with resultant changes in available choices and behaviors. These underlying social, economic and environmental factors are often called social determinants of health (SDOH) and can have a major impact on well-being and health at the population level.[49] SDOH have always been connected with obesity, and COVID-19's interaction with SDOH has intensified certain effects on choices, behaviors, and health, including obesity. The changes in conditions in 2020 and 2021 have disproportionately affected certain populations—often poorer communities and communities of color—and magnified longstanding racial and health inequities.

Sometimes the pandemic impacted choices that were available to individuals—for example, COVID-19 restrictions led to farmers market closings in 2020 which may have reduced access to fresh produce; job loss or reduced hours meant reduce income available for purchasing food; and child care and school closures reduced children's access to nutritious lunches. Other times the effects stemmed from mediating factors—for example, job loss and financial distress leading to stress, increased alcohol consumption as a coping mechanism, and heightened housing and food insecurity, a critical social determinant of health in its own right that is often linked with obesity and poor health outcomes.[50]

Other examples of the kinds of effects from the pandemic that changed the conditions and lives of Americans in ways that could potentially negatively impact health and well-being, and lead to unhealthy weight gain include:

- Reduction in physical activity due to gym, park, school, community center, and recreation facility closures due to physical-distancing requirements, or reductions in active commuting due to a new work-from-home schedule;
- New challenges in maintaining healthy eating habits due to economic hardship, increased food insecurity, food safety concerns, and closure or reduced access to usual food stores, restaurants, and farmers markets;
- Increased sedentary behavior and disruption in school-based services and supports (e.g., counseling services, breakfast and lunch meal programs, physical education, child abuse reporting) due to school/child care closures; and
- New mental distress from financial strain from business closures or modifications, or employment loss or reduction; social isolation to maintain physical distance and reduce exposure to COVID-19 or added stress and worry about health and COVID-19 exposures, consequences of illnesses, healthcare coverage, school closures, etc.

WHAT ARE SOCIAL DETERMINANTS OF HEALTH?

SDOH are defined by the U.S. Department of Health and Human Services (HHS) as "the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks," and divides the conditions into five buckets: (1) Economic Stability; (2) Education Access and Quality; (3) Healthcare Access and Quality; (4) Neighborhood and Built Environment; (5) Social and Community Context.[51]

SDOH conditions shape daily life and available choices around healthy food, physical activity, education, jobs, and financial security which, in turn, systematically affect obesity rates and people's health. These conditions are tied closely to equity issues—including structural racism, poverty, and community context. For example, a 2019 study found that racial inequality in income, unemployment, and homeownership—indicators of structural racism—were associated with obesity.[52] The results of that study further suggested that these structural racism indicators tracked with obesity through environmental factors like the number of grocery stores and fast-food restaurants in the community, and social contexts, like stress, which are predictors of poorer health.[53,54,55,56,57]

Altogether, the research suggests that real change in reducing obesity and improving health at the population level requires understanding and action on all the drivers of high obesity rates—from addressing historical to present-day inequities and underinvestment that result in limited resources in communities to ensuring availability and encouraging culturally appropriate, healthy choices for individuals.

Addressing social determinants requires working across sectors and leveraging data and resources to address social, environmental, and economic conditions that affect health and health equity.[58] With appropriate support, public health can play key roles in addressing SDOH: they can provide the evidence base for effective policies and interventions, offer best practices, analyze and share data across sectors, convene different governmental and community-based organizations to identify and address barriers to health, and collaborate across sectors to prioritize and implement evidence-based strategies. The Improving Social Determinants of Health Act of 2021 would authorize a program at CDC to lead the agency's SDOH work and award grants to state, local, territorial, and tribal health agencies and organizations to address SDOHs. The president's FY 2022 budget request for CDC included a $153 million request to support implementation of SDOH work at CDC and across the country.

HOW INEQUITY CONTRIBUTES TO OBESITY: From Living Context to Weight Outcomes

Developed from a presentation at the Roundtable on Obesity Solutions, National Academies of Sciences, Engineering, and Medicine

Historical, social, economic, physical, and policy contexts

Legal risks and protections

Institutional racism and other forms discrimination

Political voice and voter registration

Economics:
- Debt
- Poverty
- Home ownership
- Wealth-building/Inheritance
- Health insurance
- Minimum wage
- Public assistance
- Housing costs
- Employment discrimination
- Marketing
- Cost of living

Employment and occupation:
- Education attainment
- Employment discrimination
- Health insurance/Amenities
- Physical demand of job/Sitting vs. standing
- Job flexibility

Education:
- School district
- Neighborhood segregation
- Housing discrimination
- Public funding for schools
- School quality
- Higher-education access

Neighborhood/Locality:
- Rurality
- Jurisdiction
- Public transportation
- Distance to healthcare
- Retail outlets
- Food access
- Racial segregation
- Poverty rates
- Wage deserts
- Job access
- Housing stock
- School quality
- After-school programs
- Walking and biking infrastructure
- Community centers
- Neighborhood safety
- Parks
- Neighborhood resources (e.g., higher-education institution)
- Policing and law enforcement
- Stigma and interpersonal racism
- Blight, community ecology

Systematic effects on daily life and choices

Food-related:
- Food access, affordability, appeal
- Exposure to food advertising
- Federal nutrition assistance
- Food and nutrition literacy
- Food norms
- Dieting

Physical activity-related:
- Options for safe, affordable recreation
- Personal transportation
- Public transportation
- Exposure to violence
- Activity norms
- Exercise

Resource limitations:
- Discretionary time
- Discretionary income
- Income stability
- Housing stability
- Healthcare access

Chronic stress

Sleep health

Food security

Weight control and related contextual outcomes and effects on individuals

Food intake

Dietary quality

Child feeding and parenting

Physical activity

Sedentary behavior

Excess weight gain

Ability to lose weight

Ability to maintain weight

Body composition and fitness

Source: Kumanyika S. "A Health Equity Approach to Obesity Efforts: A Workshop." Washington, DC: National Academies of Sciences, Engineering, and Medicine , April 1, 2019. http://www.nationalacademies. org/hmd/Activities/Nutrition/ ObesitySolutions/2019-APR-1.aspx (accessed July 21, 2019).

C. INCREASES IN FOOD INSECURITY, CHANGES IN EATING HABITS, AND DECREASES IN PHYSICAL ACTIVITY DURING THE PANDEMIC

As related most directly to obesity, Americans saw increases in food insecurity, shifted eating habits, and reduced their physical activity during 2020.

Food insecurity reached unprecedented levels due to COVID-19. At the beginning of the pandemic, unemployment surged, household food insecurity tripled, food banks across the country reported large spikes in demand, and Supplemental Nutrition Assistance Program (SNAP) enrollment increased by 2 million (14 percent) between February and April 2020 in states that posted such data. [62,63,64] Food insecurity has declined some from 2020, but continues to stay well above 2019 levels. Feeding America projects that 42 million people, including 13 million children, may experience food insecurity in 2021.[65]

Extended school and child care closures worsened food insecurity for many families whose children rely on the school meal programs. Most U.S. schools closed in March 2020, and many remained closed for a year or longer. In June 2021, only 53 percent of American students were back attending school in person five days a week.[66] Most major child nutrition programs saw large declines in meals and food service in 2020. For example, the National School Lunch Program served 3.2 billion lunches in fiscal year (FY) 2020, 34 percent fewer meals than the 4.9 billion in FY 2019.[67] It is also important to note that families of color were disproportionately impacted. A September 2020 survey revealed that 41 percent of Black and Latino families with school-age children had experienced food insecurity that month.[68] For additional information on child nutrition programs,

Massimo Giachetti

including changes in meals and food served, see pages 35-37, and for a further discussion about the link between food insecurity and obesity, see page 34.

The International Food Information Council's survey from the beginning of the pandemic in April 2020 found that 85 percent of Americans made some change in the food they eat or how they prepare it because of the COVID-19 pandemic. Key findings include: 60 percent cooking at home more, 32 percent snacking more, and 27 percent thinking about food more than usual. At the time, there was also worry about food safety, with nearly half of consumers at least somewhat concerned about the safety of food that was prepared outside their homes (e.g., takeout).[59] Another study, from the *Journal of the American Medical Association,* looked specifically at alcohol use (a high-calorie beverage that has additional risks as well).[60] Comparing surveys from April 29–June 9, 2019, and May 28–June 16, 2020, the researchers found an increase in overall alcohol consumption for adults, with higher increases among women, adults ages 30 to 59 years, and white people.[61]

Data also show a decrease in physical activity from reduced active transportation, closures of gyms, community centers, parks, child care, and schools, and cancellation of sports and other activities. One study from the Annals of Internal Medicine compared step counts tracked by smartphones from 450,000 users across 187 countries and found a decline in steps between January and March 2020, including in the United States.[69] Another survey—which examined the activity levels of elementary- and middle-school-age children (ages 5–13) in April and May 2020—parents reported decreases in physical activity and increases in sedentary behavior, particularly among older children (ages 9–13).[70, 71]

Behavior and weight changes during the COVID-19 pandemic were not solely found in the United States but internationally as well—with studies finding a decrease in physical activity and an increase in obesity among teenagers and young adults in China; changes in exercise patterns in adults in Belgium; and changes in weight and dietary habits in Italy.[72,73,74] These international changes underscore how changing conditions universally affect people, their habits, and their health.

Shaping societal conditions is essential to improving health and well-being should be a priority as the nation seeks to build back equitably from the pandemic. Every American should have healthy food and physical-activity choices that are available, accessible, and affordable.

D. POLICY CHANGES IN RESPONSE TO COVID-19 PANDEMIC

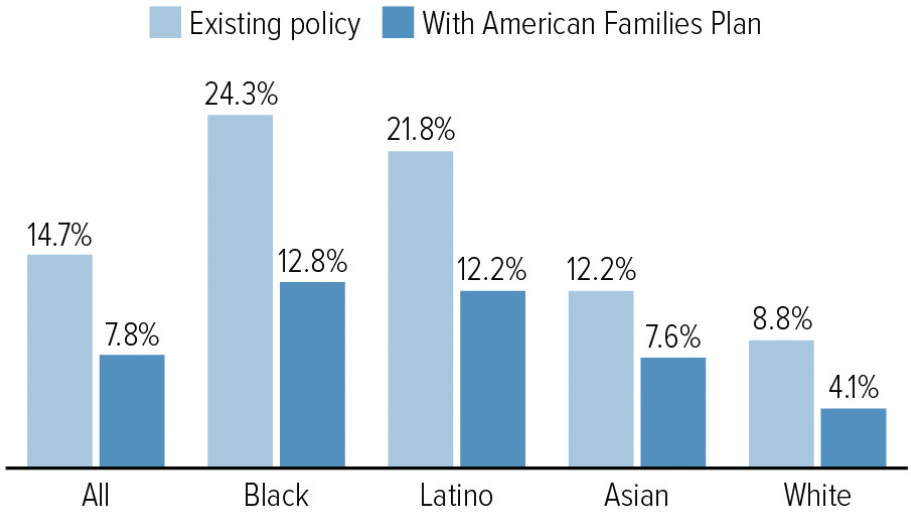
Over the course of the pandemic, a number of measures were taken at the federal level to improve certain conditions, specifically reducing widespread economic hardship and food insecurity by bolstering financial and nutrition assistance programs and adding flexibilities to allow programs to serve individuals and families despite social distancing requirements and facility closures. See page x for more on changes to the safety net programs and reducing food insecurity during the pandemic.

There have been improvements in unemployment and food insecurity in recent months. As of July 2021, the overall unemployment rate had fallen to 5.4 percent, down from an all-time high of 14.4 percent in April 2020 but still substantially higher than the 3.5 percent in February 2020 before the pandemic.[75] The March 17–29, 2021 time period showed a decrease in food insecurity to 18 percent for all households—the first time food insecurity fell below 20 percent during the pandemic—corresponding with the passage of American Rescue Plan Act of 2021 the prior week. The American Rescue Plan Act continued and expanded many social safety-net programs, including extending the emergency increase in SNAP benefits, continuing unemployment benefits, and providing a third economic-impact payment of up to $1,400 per person (payments started March 12, 2021).[76,77]

Despite these efforts, unemployment and food insecurity remains higher than before the pandemic, particularly in the Black and Latino communities, and continued attention is necessary to help these communities and bolster underlying conditions for all Americans.[78,79,80,81] President Biden's proposed American Families Plan would increase income assistance programs, including making permanent many of the American Rescue Plan's tax credit expansions. If enacted, researchers estimate the American Families Plan could cut child poverty nearly in half.[82]

Key Provisions of American Families Plan Would Cut Child Poverty Nearly in Half and Substantially Reduce Racial and Ethnic Gaps in Child Poverty

Percent of children in poverty in 2022



Note: Figures use the Supplemental Poverty Measure. This analysis includes the effects of an expanded and fully refundable Child Tax Credit, expansion of the Earned Income Tax Credit for workers without children, the Child and Dependent Care Tax Credit, the Summer Electronic Benefit Transfer (EBT) Program and Pell Grants. Due to limitations of the Census data, the figures do not reflect program rules that limit eligibility for certain immigrants. This omission likely has little effect on most of the estimates shown here; the poverty reduction for Latino and Asian children, however, may be somewhat overstated.

Source: Sophie Collyer et al., "The Potential Poverty Reduction Effect of the American Families Plan." Columbia University Center on Poverty and Social Policy, April 28, 2021.

Understanding Our Society Will Help Us Understand Obesity

Q&A with Angela Odoms-Young, Ph.D.

Dr. Angela Odoms-Young *is an associate professor in Nutritional Sciences at Cornell University.*

TFAH: Much of your research is focused on diet and health outcomes, particularly in communities of color. What are the major take-aways from that research, and what do they tell us about obesity?

Odoms-Young: My interest is in social, cultural and environmental factors that influence diet and diet related health conditions. Most of my work is mid-stream and I have a growing interest in structural factors. What is meant by mid-stream? Poor food environments; stress and trauma; lack of economic development, including the lack of food retail; and lack of opportunity for active transportation and physical activity.

This work breaks out into three buckets. One is understanding how these factors influence dietary outcomes: what are the linkages between these factors and what happens at the individual level?

The second bucket focuses on what do you do about it? How do you partner with communities? What programs are there that can be co-designed with communities, particularly those communities that have been disproportionally impacted. Food-assistance programs are part of this bucket.

The third bucket focuses on cultural resilience. I'm interested in how reclaiming cultural traditions can help communities to be more resilient.

All three buckets relate to one another. We think about what's outside our community—oppression and racism. I also want to think about what's inside the community to foster resilience. We want racism and structural oppression to be gone overnight, but, unfortunately, they won't be gone overnight. So, we need to work alongside communities to build resilience.

TFAH: How do the environmental and structural factors you study impact rates of obesity in African American communities?

Odoms-Young: We need to think of obesity as an outcome. If you look at the conditions under which Black people live, those conditions over years have created what we see today.

The fact that people of color are disproportionately impacted makes perfect sense because generally society has restricted their access to resources.

I'm trained as a nutritionist, we think backwards. Nutrition-equity, food-equity, food justice— these are outcomes. We need to look at equity through an obesity lens, rather than looking at obesity through an equity lens. When you do that, obesity is just one of many outcomes that burden the Black community. When we look at equity, not health equity or food equity but equity, you need to look at historical and cultural oppression—these factors contribute to what happens today including obesity and poor health. For example, the racial wealth gap. We know that wealth is generally associated with good health, people who have more income have better health outcomes. The historical extraction of wealth out of Black and Indigenous communities has played a role in poor health outcomes, including more obesity.

A second example is cultural dispossession. A lot of this work has been done with Indigenous communities but it's also true for African American communities. Cultural dispossession over time has led to a loss of traditions that were healthier, and, therefore, to more obesity.

I'm ultimately interested in overarching well-being within a community, and not just obesity. Within communities of color, we need to focus both on the structural and the internal. How can we help people accomplish their health goals within the context of the existing structural issues? How can we bring social and structural factors into individual-level interventions? We can't forget our cultural resilience because people are facing oppression. People in communities of color understand the impact of social and structural factors because it's in everything. That's true for obesity, it's also true for high school graduation rates, access to housing—for a whole host of things.

I'm a big supporter of the WIC [Special Supplemental Nutrition Program for Women, Infants, and Children] program and how the program incentivizes fruit and vegetable purchases through the cash-value benefit. We also need to recognize that very few people—including those who

can afford to—are meeting the five servings a day of fruit and vegetable guidelines. We need to learn more about how to incentivize fruit and vegetable intake even among higher income people. What's baked into our society at every level? Understanding that will help us understand obesity.

TFAH: What are the typical assumptions about obesity that are wrong?

Odoms-Young: One assumption is that people think we need to do one thing when we need to do many things. We still have the assumption about individual behavior. We also have assumptions about communities that are disproportionately impacted. We get focused on community and structural factors or on individual factors; that leads to assumptions that we only need one thing. We need solutions from a systems standpoint and to also provide support for individuals. We need a holistic approach that is linked to health. I like first-person language, people with obesity because it puts the focus on people. When you put the focus on people, you are putting the focus on people's needs.

TFAH: What are the right policy solutions?

Odoms-Young: There are several policy areas that should be explored to address systemic injustices (upstream) that all contribute to obesity and obesity-related behaviors (downstream). More research is needed to understand the pathways, but many of these policies have the potential to create racial equity overall which theoretically will reduce gaps in the inequitable burden of obesity.

The first thing we need to do is recognize that since we have such a high prevalence of obesity in all communities, it has to be in the societal structure. The way things are structured within society is how we got here. It's the lack of healthy structures within institutions that could be supportive and inclusive of people's health. Obesity prevention needs to be more upstream. We need to focus not only on the lack of food access but also how to change it, how to develop or attract a grocery store, and build a community food system.

I support increasing the amount for SNAP and increasing the amount for WIC, and I'm for looking at community eligibility for school lunches. I like incentives rather than restrictions. I like holistic policies and policies that look at addressing structural disinvestment. We need overarching policies that look at the conditions that people need to be healthy. We need polices at all levels. Policies for everybody—if 42 percent of the population are people with obesity this is not an individual problem this is a societal structure problem.

Specifically, the policy areas we need to focus on are school meals, the food system, housing policies, city-planning, wealth-equity policies and transportation policies—they all have the potential to impact obesity.

If we look at midstream policy solutions, we need to look at prevention within the healthcare sector. For example, clinical guidelines that focus on health behaviors that link to obesity prevention. A second example is payment, like reimbursement for providers in all of our health channels so they can do obesity-prevention work.

In the context of all other structures—education, workplace, etc.—policies need to be in place to help people be healthier. People that work on a factory line are not experiencing a lot of health and wellness at work. Workplace supports for families, paid family leave, are also critical. I'm not only talking about a gym at work; I'm talking about policies within the design and structure of work that help you lead a healthier lifestyle. Workplaces can be designed to ensure that people have the opportunity for exercise and access to healthy foods. Work hours are also part of the equation.

TFAH: Are there any COVID-19-related policy changes or lessons that we should continue to follow?

Odoms-Young: Yes, the policies put in place to help deal with COVID-19 have been helpful and should remain in place. Pandemic EBT [electronic benefits transfer] has been excellent, the increase in WIC waivers—those kinds of policies need to stay in place. Another take-away from COVID is the need to invest in disadvantaged communities for the long-term. We can't just think we're going to give people SNAP or WIC and all of our problems will be solved. We can't think about the head of the pin anymore when we think about obesity, we have to think in a holistic perspective. Obesity is the result of all of a person's burdens.

TFAH: Any final thoughts?

Odoms-Young: Obesity is a consequence of life and structures that we need to change. We need to think about overarching structures and equity within those structures. Create opportunities for everybody and then add additional supports for people who face extra barriers.

You can't look ahead unless you look backwards to understand the historical factors. In order to intervene you have to understand how we got here. You need to understand the broader context of life. Ultimately, what conditions contribute to obesity? Everything. It's the entire experience that contributes to people being in poor health, both historic and contemporary.

Obesity-Related Data and Trends

A. TRENDS IN ADULT OBESITY (BMI >30)

The national adult obesity rate has been rising for decades, with the most recent national data, from 2017–2018 NHANES, showing adult obesity rates passing 40 percent.[83,84,85] This subsection provides the most recent data available on adult obesity levels by state and by demographics, using the two primary U.S. surveys that track adult obesity rates: NHANES and BRFSS.

DATA SOURCES FOR ADULT OBESITY MEASURES

1. The National Health and Nutrition Examination Survey is the source for the national obesity data in this report. As a survey, NHANES has two main advantages: (1) it examines a nationally representative sample of Americans ages 2 years and older; and (2) it combines interviews with physical examinations. The downsides of the survey include a time delay from collection to reporting and a small survey size (approximately 5,000 interviews over two years) that is not designed to be used for state or local data.[86]

2. The Behavioral Risk Factor Surveillance System is the source for state-level adult obesity data in this report. As a survey, BRFSS has three major advantages: (1) it is the largest ongoing telephone health survey in the world (approximately 450,000 interviews per year); (2) each state survey is representative of the population of that state; and (3) the survey is conducted annually, so new obesity data are available each year.[87] The limitations of the survey includes use of self-reported weight and height, which result in underestimates of obesity rates due to people's tendency to over-report their height and under-report their weight. Also, the sample sizes in some states are too small to be useful for providing estimates about racial and ethnic groups.

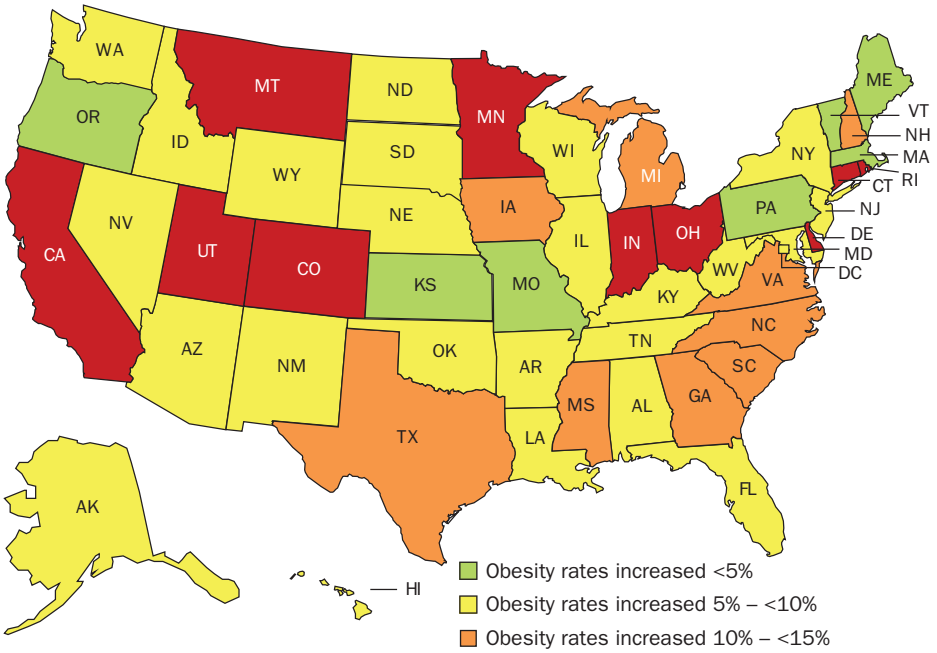
i. State Obesity Rates

State-level obesity rates vary considerably, from a low of 24.2 percent in Colorado to a high of 39.7 percent in Mississippi, according to 2020 BRFSS data.[88] Other key findings from the recently released data include:

- In 2020, the adult obesity rate was at or above 35 percent in 16 states. Delaware, Iowa, Ohio, and Texas had adult obesity rates above 35 percent for the first time in 2020, joining 12 other states.[89]
- Historically, no state was over 25 percent before 2000; and as recently as 2012, no state was at 35 percent.[90]
- Between 2019 and 2020, three states (Alabama, California, and Iowa) had statistically significant increases in their obesity rate and no states had statistically significant decreases. In the prior five years (2015–2020), 26 states had statistically significant increases in their obesity rate.
- More than half of adults in every state were either overweight or had obesity in 2020. The combined rate of adults being overweight and having obesity ranged from 57.3 percent (in DC) to 72.8 percent (in Mississippi).

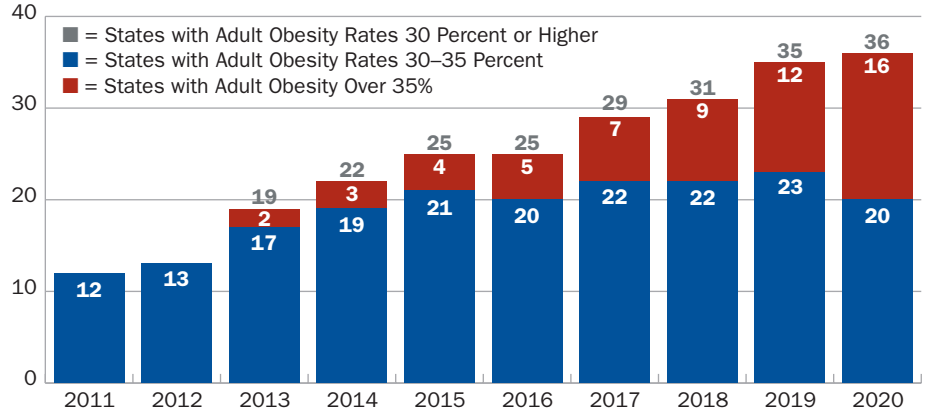
For additional state-level data from BRFSS, see the charts on pages 22-24.

Percent Change in Adult Obesity Rates by State, 2015-2020



SOURCE: TFAH analysis of BRFSS data

Number of States with Adult Obesity Rates At 30 Percent or Higher, 2011–2020

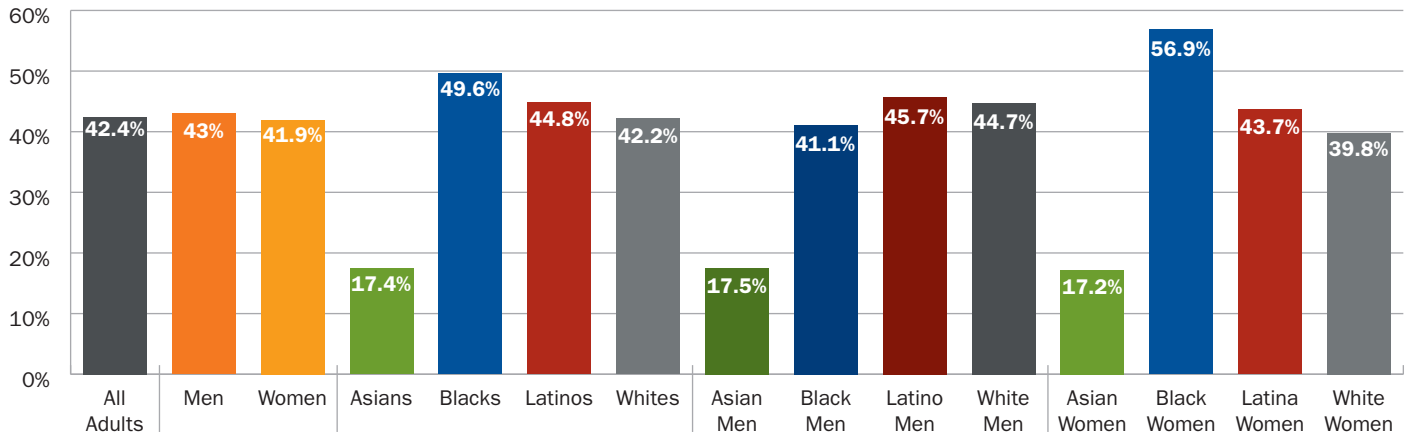


Source: TFAH analysis of BRFSS data

WHY ARE REPORTED NATIONAL OBESITY RATES HIGHER THAN STATE-BY-STATE RATES?

How is it that only 16 states have adult obesity rates exceeding 35 percent, yet the national obesity rate is 42.4 percent? It's because state obesity rates are from the BRFSS, which collects self-reported height and weight. Research has demonstrated that people tend to overestimate their height and underestimate their weight. In fact, one study found that, due to this phenomenon, the BRFSS may underestimate obesity rates by nearly 10 percent.[91] NHANES, from which the national obesity rate is derived, calculates its obesity rate based on measurements obtained at respondents' physical examinations. Accordingly, the higher rates found by NHANES are a more accurate reflection of obesity in the United States.[92]

Percent of U.S. Adults With Obesity by Select Demographics, 2017–2018



SOURCE: NHANES

ii. Demographic Trends

Obesity levels vary substantially by race/ethnicity as well as by income level, urbanization, and education, all of which are inexorably linked with the social, economic, and environmental conditions in those communities

- **Income: Generally, adults with lower incomes are more likely to have obesity.**
  - According to a CDC analysis of 2011–2014 NHANES data, there is one exception to this trend: the very poor, who live below the federal poverty line (FPL), had lower obesity rates (39.2 percent) than those with incomes just above the poverty line (42.6 percent). (In 2020, FPL was an annual income of $12,760 for an individual and $26,200 for a family of four.)[93] But both income groups—those below the FPL and those at 100 percent to 199 percent FPL—had higher obesity levels than those with incomes at or above 400 percent FPL (29.7 percent).[94] *Note: Differences among white women mostly drive these trends.*
  - This dynamic holds true for children as well. CDC analysis of 2011–2014 NHANES data for youth ages 2 to 19 found that 18.9 percent of youth in the lowest-income group (≤130 percent FPL) had obesity, 19.9 percent of youth in the middle-income group (>130 percent to ≤350 percent FPL) had obesity, and 10.9 percent of youth in the highest-income group (>350 percent FPL) had obesity.[95] The differences in obesity rates among girls have widened substantially between 1999 and 2014, with girls in the highest-income group having a modest decrease in obesity, while girls in the lowest- and middle-income groups seeing increases. (Boys had more stable obesity levels at all income levels over this time period.)[96]
- **Race/ethnicity: Racial/ethnic disparities in obesity are stark, with Black women having the highest rates of any group.**
  - According to 2017–2018 NHANES data, Blacks had the highest rate of obesity (49.6 percent) for adults ages 20 and higher, followed by Latinos (44.8 percent), whites (42.2 person), and Asians (17.4 percent).
  - The higher obesity rate among Black women drives the higher obesity rate among Black people. More than half—56.9 percent—of Black women have obesity. That is the highest sex and race/ethnicity combination included in NHANES—and 43 percent higher than white women (39.8 percent). In contrast, Black men have an obesity rate of 41.1 percent, which is slightly lower than white men (44.7 percent).
  - Asian adults overall have much lower rates of obesity than any other race/ethnicity reported in NAHNES. Other studies have shown variation on obesity rates among different ethnicities and national origins within the overarching group. For example, the 2014 Native Hawaiian and Pacific Islander National Health Interview Survey found that Native Hawaiian adults ages 18 and older had self-

reported obesity rates of 37.4 percent and Pacific Islander adults had obesity rates of 44.5 percent; in comparison, all Asians had an obesity rate of 11 percent in the 2014 National Health Interview Survey (and whites had a 28.2 percent obesity rate).[97]

- There is also evidence suggesting that Asians should have lower BMI cutoffs for overweight and obesity measures than other races and ethnicities, because they have higher health risks at lower BMIs. This includes a higher risk for type 2 diabetes and other metabolic diseases at lower BMIs. Since a high BMI is a factor in determining whether to test for diabetes, fewer Asians are tested and diagnosed by healthcare providers.[98] An estimated 40 percent of Asians with diabetes have not been diagnosed, which is much higher than the overall population.[99]
- It is also important to note that many national surveys, including NHANES, do not report data on health measures for American Indian and Alaska Native (AI/AN) adults. The surveys that do exist do not gather or present findings by tribal nations. Available data shows that the AI/AN population has high rates of obesity. The 2017 National Health Interview Survey, which is based on self-reported height and weight, finds 38.1 percent of AI/AN adults had obesity, which is roughly the same as Black adults in that survey and substantially higher than white adults.[100] This gap highlights the need to advance data collection for populations of smaller sizes.

- **Rural/urban: Rural areas and counties have higher rates of obesity and severe obesity.**
  - According to 2016 BRFSS data, adult obesity rates were 19 percent higher in rural regions than they were in metro areas. More than one-third (34.2 percent) of adults in rural areas had self-reported obesity compared with 28.7 percent of metro adults.).[101]
  - Similarly, a CDC analysis of NHANES data found that adults (ages 20 and older) who lived in the most urban areas of the country (large "metropolitan statistical areas") had the lowest obesity rates in 2013–2016.[102]
- **Education: Adults with lower education levels are more likely to have obesity.**
  - According to 2017 BRFSS data, 35.6 percent of adults with less than a high school education had obesity compared with 22.7 percent of college graduates—a difference of more than 50 percent.[103]
  - The difference is greater when looking at children and the education level of the head of household. A CDC analysis of 2011–2014 NHANES data found that, in homes where the head of household was a high school graduate or less, 21.6 percent of children ages 2 to 19 had obesity; however, in homes with a head of household who graduated college, only 9.6 percent of children had obesity, more than half the prevalence.[104]

Adult Obesity Rates and Related Health Indicators, 2020

States	Obesity		Overweight & Obesity		Diabetes		Physical Inactivity		Hypertension	
	Percent of Adults Who Have Obesity (95% CI)	Rank	Percent of Adults Who Have Obesity or Are Overweight (95% CI)	Rank	Percent of Adults with Diabetes (95% CI)	Rank	Percent of Adults Who Are Physically Inactive (95% CI)	Rank	Percent of Adults with Hypertension (95% CI)	Rank
Alabama	**39+/-1.8***	3	**72.7+/-1.6***	2	15+/-1.3	2	29.1+/-1.7**	4	42.5 (+/-1.5)	3
Alaska	31.9+/-2.5	26	66.8+/-2.5	30	7.9+/-1.4	48	20.8+/-2.2	31-T	32.8 (+/-2.6)	23-T
Arizona	**30.9+/-1.4**	31-T	66.1+/-1.4	33	11.3+/-0.9	20	22.2+/-1.2	26	32.5 (+/-1.6)	25
Arkansas	36.4+/-2	9-T	67.3+/-2**	24-T	13.2+/-1.2	7	28.9+/-1.8	5	41 (+/-1.8)	4
California	**30.3+/-1.9***	35	**64+/-2**	43-T	10.2+/-1.2	31	20.2+/-1.7	36	27.8 (+/-1)	47
Colorado	**24.2**	51	**59.2**	49	**7.5**	51	15.7**	50	25.8 (+/-1)	49-T
Connecticut	**29.2+/-1.6**	38	**64.4+/-1.7**	39	9.5+/-1	37	19.7+/-1.4**	40	30.9 (+/-1.2)	33-T
Delaware	**36.5+/-2.1**	7-T	68.7+/-2.2	20	12.7+/-1.5	11-T	24.4+/-2	14-T	27.2 (+/-2)	48
D.C.	24.3+/-2.2	50	57.3+/-2.3	51	7.8+/-1.1	49-T	17.2+/-1.9	49	36.4 (+/-2.1)	10
Florida	28.4	42	64.1	42	11.8	17-T	25.7	10	33.5 (+/-1.4)	19-T
Georgia	**34.3+/-1.7**	17	67.3+/-1.8	24-T	11.8+/-1	17-T	24.4+/-1.5**	14-T	34.8 (+/-1.7)	14-T
Hawaii	24.5+/-1.3	48	58.1+/-1.6	50	**11.1+/-1**	23-T	18.8+/-1.3**	42	30.7 (+/-1.4)	36-T
Idaho	**31.1+/-1.8**	28	66.3+/-1.8	32	8.6+/-1**	44	19.8+/-1.5**	39	30.6 (+/-1.8)	38-T
Illinois	32.4+/-2.2	23	68+/-2.1	22	10.3+/-1.4	29-T	24.3+/-2	16	32.2 (+/-1.4)	26
Indiana	36.8+/-1.3	5	**69.1+/-1.3**	18	12+/-0.8	16	25.9+/-1.2**	8-T	34.8 (+/-1.2)	14-T
Iowa	**36.5+/-1.2***	7-T	**71.8+/-1.2***	3	**10.1+/-0.7**	32	22.6+/-1**	23-T	31.8 (+/-1)	27
Kansas	35.3+/-1.2	15	**69.7+/-1.2**	12	**11.2+/-0.7**	21-T	21.7+/-1.1**	29	33.5 (+/-1)	19-T
Kentucky	36.6	6	**70.1**	8	13.1	8	30.1	1	40.9 (+/-1.7)	5
Louisiana	38.1	4	70.6	6	14.3	4	28.7**	6	39.7 (+/-1.7)	6
Maine	31+/-1.5	29-T	65.6+/-1.5	35	10.5+/-0.8	28	21.1+/-1.3**	30	36.2 (+/-1.4)	11
Maryland	31+/-1.2	29-T	66.5+/-1.2	31	10.3+/-0.7	29-T	20.1+/-1**	37-T	34.3 (+/-1)	17
Massachusetts	24.4+/-1.5	49	60.5+/-1.7	48	9+/-1	39-T	19.4+/-1.4**	41	28.1 (+/-1.2)	46
Michigan	**35.2**	16	**69.8**	10-T	**12.1**	15	20.3**	34-T	35.1 (+/-1.2)	12-T
Minnesota	**30.7+/-0.9**	33-T	**67.3+/-1***	24-T	**8.7+/-0.5**	43	18+/-0.8	45	28.7 (+/-0.8)	45
Mississippi	**39.7+/-1.6**	1	**72.8+/-1.5**	1	14.6+/-1.1	3	29.5+/-1.5**	2	43.6 (+/-1.8)	2
Missouri	34+/-1.3	18-T	**69.5+/-1.3**	14-T	10.9+/-0.8	25	25.2+/-1.3**	11	30.9 (+/-1.4)	33-T
Montana	**28.5+/-1.4**	41	**64.6+/-1.5**	36-T	9.1+/-0.8*	38	18.6+/-1.2	44	29.5 (+/-1.3)	44
Nebraska	**34**	18-T	**69.8**	10-T	**9.8**	35	20.8**	31-T	31 (+/-1)	31-T
Nevada	28.7+/-2.6	39	64.3+/-2.8	40-T	11.2+/-1.8	21-T	24.2+/-2.6	17	32.8 (+/-2.4)	23-T
New Hampshire	**29.9+/-1.7**	37	65.7+/-1.8	34	9+/-0.9	39-T	18.7+/-1.5**	43	31.5 (+/-1.6)	30
New Jersey	27.7+/-1.21	45	64.6+/-1.29	36-T	10.04+/-0.83	33	20.4+/-1.13	33	n/a	–
New Mexico	30.9+/-1.9	31-T	67.7+/-1.9	23	12.2+/-1.2	14	22.6+/-1.7**	23-T	31.6 (+/-1.6)	29
New York	26.3+/-1.1	46	63.3+/-1.2	45	10.8+/-0.8	26	24.6+/-1.1**	13	29.6 (+/-1.1)	43
North Carolina	**33.6+/-1.6**	20	69.3+/-1.6	17	**12.7+/-1.1**	11-T	22.1+/-1.4**	27-T	35.1 (+/-1.6)	12-T
North Dakota	33.1+/-2	22	70.7+/-2	5	9.9+/-1.1	34	24.1+/-1.8**	18-T	29.8 (+/-1.6)	42
Ohio	**35.5+/-1.2**	14	**69+/-1.2**	19	**12.5+/-0.8**	13	24.1+/-1**	18-T	34.5 (+/-1.2)	16
Oklahoma	**36.4+/-1.8**	9-T	69.4+/-1.8	16	13+/-1.1	9-T	28.4+/-1.6**	7	37.8 (+/-1.4)	9
Oregon	28.1+/-1.5	43	64.3+/-1.6	40-T	9.7+/-1	36	17.8+/-1.3**	47	30.6 (+/-1.4)	38-T
Pennsylvania	31.5+/-1.7	27	67.1+/-1.8	29	11.4+/-1.2	19	23.6+/-1.7	21	33.3 (+/-1.4)	21
Rhode Island	**30.1+/-2**	36	64.6+/-2.1	36-T	10.6+/-1.1	27	22.9+/-1.8**	22	33 (+/-1.7)	22
South Carolina	**36.2**	11	**69.5**	14-T	**13.6**	6	25.9	8-T	38.3 (+/-1.5)	8
South Dakota	33.2+/-2.6	21	**69.6+/-2.5**	13	7.8+/-1.1**	49-T	22.1+/-2.3**	27-T	30.9 (+/-2.2)	33-T
Tennessee	35.6	13	70.0	9	14.2	5	24**	20	39.3 (+/-1.6)	7
Texas	**35.8**	12	70.2	7	13.0	9-T	25.0	12	31.7 (+/-1.5)	28
Utah	**28.6+/-1.1**	40	**62.4+/-1.2**	46	**8+/-0.6**	46-T	15.3+/-0.9**	51	25.8 (+/-1)	49-T
Vermont	26.3+/-1.6	47	61.9+/-1.9	47	8+/-0.9	46-T	17.9+/-1.5	46	30.2 (+/-1.6)	41
Virginia	**32.2**	25	**67.3+/-1***	24-T	11.1	23-T	20.1**	37-T	33.6 (+/-1.2)	18
Washington	**28**	44	64.0	43-T	8.8	42	17.3	48	30.3	40
West Virginia	**39.1+/-1.6**	2	**71.1+/-1.5***	4	15.7+/-1.1	1	29.2+/-1.5	3	43.8 (+/-1.7)	1
Wisconsin	32.3+/-0	24	68.4	21	9.0	39-T	20.3**	34-T	31 (+/-1.6)	31-T
Wyoming	30.7+/-2	33-T	67.3	28	8.3+/-1	45	22.4+/-1.7	25	30.7 (+/-1.8)	36-T

SOURCE: TFAH analysis of Behavioral Risk Factor Surveillance System data

For rankings, 1 = Highest Rate, and 51 = Lowest Rate; T = Tie. Red and * indicate state rates that significantly increased between 2019 and 2020; Green and ** indicate state rates that significantly decreased between 2019 and 2020; **Bold** indicates state rates that significantly increased between 2015 and 2020. Because data from 2019 are not available for New Jersey, increases/decreases for the state are not available. Hypertension data is collected bi-annually; this data is from 2019.

Adult Obesity Rates by Race/Ethnicity and Sex, 2020

	Asian*		Black*		Latino*		White*		Male		Female	
States	Percent of Asian Adults With Obesity	Rank	Percent of Black Adults With Obesity	Rank	Percent of Latino Adults With Obesity	Rank	Percent of White Adults With Obesity	Rank	Percent of Men With Obesity	Rank	Percent of Women With Obesity	Rank
Alabama	15.6	11	46.2	4	35.3	21	34.3	9	37.7	2	40.3+/-2.3	2
Alaska	25.5	1	41.6	20	34.0	26-T	29.0	33	33.8+/-3.6	17-T	29.6+/-3.5	35
Arizona	12.3	18	35.7	34-T	35.9	14	27.6	39	30.8+/-1.9	33	31+/-2	29
Arkansas	n/a	–	45.0	8	34.0	26-T	36.1	4	33.8+/-2.7	17-T	39.1+/-2.8	5
California	10.5	28-T	41.7	19	36.2	12-T	24.4	47	30.7+/-2.7	34-T	29.8+/-2.8	33
Colorado	6.3	36	31.0	46	30.9	41-T	21.8	48	24.3	50	24.1	49
Connecticut	11.6	24-T	40.3	25	34.5	24-T	26.6	43-T	28.4+/-2.2	43	30+/-2.2	32
Delaware	13.4	14-T	43.0	13-T	34.5	24-T	33.3	16-T	35.4+/-3.3	8-T	37.7+/-3	8
D.C.	7.3	34	39.1	29	25.2	49	11.2	50	19.1+/-2.8	51	29.1+/-3	36
Florida	14.9	12	35.7	34-T	29.7	45-T	27.4	40	28.9	39-T	27.9	43-T
Georgia	11.6	24-T	40.5	23-T	35.7	16-T	30.7	25-T	33.3	20	35.2	17
Hawaii	16.6	10	33.1	43	33.0	32-T	18.8	49	26.7	46	22.3+/-1.8	51
Idaho	19.0	3	30.7	48	33.1	30-T	29.2	32	32+/-2.5	28	30.2+/-2.5	31
Illinois	12.1	20	41.0	21-T	35.4	18-T	31.1	22-T	34.1+/-3	15	30.7+/-3.2	30
Indiana	n/a	–	39.7	27	40.0	2	35.1	6-T	35.4	8-T	38.1+/-1.9	7
Iowa	13.4	14-T	45.4	6	36.4	11	35.3	5	36.8	4	36.2	13-T
Kansas	11.9	21	43.3	12	38.0	8	34.5	8	35.7	7	34.8+/-1.7	18
Kentucky	n/a	–	43.0	13-T	33.2	29	36.5	2	37.0	3	36.1	15-T
Louisiana	16.9	6-T	45.2	7	32.2	37	33.3	16-T	36.4	5-T	39.8+/-2.7	3
Maine	n/a	–	34.8	37-T	28.2	47	31.1	22-T	32.3+/-2.2	26	29.7+/-1.9	34
Maryland	11.8	22-T	39.9	26	31.3	38-T	28.9	34-T	30.3+/-1.7	37	31.6+/-1.6	25
Massachusetts	9.6	31	30.9	47	30.4	43-T	25.3	45	25.4	49	23.4+/-2	50
Michigan	8.8	33	42.3	16	43.1	1	33.9	12-T	33.4	19	37.1	10-T
Minnesota	18.8	4	33.7	42	33.9	28	30.3	27-T	33.1+/-1.3	21	28.2+/-1.3	40-T
Mississippi	n/a	–	46.7	1	33.0	32-T	36.2	3	36.4	5-T	42.8+/-2.2	1
Missouri	n/a	–	42.2	17	39.5	5	33.6	15	31.9	29	36.2+/-1.9	13-T
Montana	n/a	–	n/a	–	29.7	45-T	26.9	42	28.9+/-2	39-T	28.2+/-2.1	40-T
Nebraska	9.3	32	41.1	21-T	35.8	15	33.9	12-T	34.7	11	33.3	21
Nevada	13.4	14-T	37.3	31	33.1	30-T	28.9	34-T	30.4+/-3.8	36	27+/-3.5	45
New Hampshire	13.7	13	31.3	45	25.8	48	30.7	25-T	31.8	30-T	27.9+/-2.2	43-T
New Jersey	n/a	–	n/a	–	n/a	–	n/a	–	28.6+/-1.65	41-T	26.7+/-1.8	46
New Mexico	n/a	–	37.9	30	35.7	16-T	24.8	46	30.7+/-2.7	34-T	31.1+/-2.6	28
New York	11.4	27	34.8	37-T	30.4	43-T	26.6	43-T	26.4+/-1.5	47	26.3+/-1.5	48
North Carolina	16.9	6-T	46.5	2	31.3	38-T	29.9	29	32.8	23	34.4	19
North Dakota	16.7	8-T	25.8	49	37.9	9	33.9	12-T	34.5+/-2.7	12	31.5+/-3	26
Ohio	10.5	28-T	40.5	23-T	39.7	3-T	34.2	10	33.9	16	37.1+/-1.7	10-T
Oklahoma	12.2	19	43.4	11	36.2	12-T	35.1	6-T	34.3+/-2.5	14	38.6+/-2.4	6
Oregon	16.7	8-T	33.0	44	35.4	18-T	28.3	36-T	27.7+/-2.1	45	28.5+/-2.1	38
Pennsylvania	7.2	35	41.8	18	32.9	34	31.3	21	30.9	32	32.1+/-2.5	22
Rhode Island	n/a	–	35.8	33	35.2	22	28.3	36-T	31.8+/-3	30-T	28.4+/-2.6	39
South Carolina	23.7	2	43.9	10	30.9	41-T	32.4	18	33.0	22	39.4	4
South Dakota	n/a	–	34.3	40	37.8	10	30.9	24	32.2	27	34.3	20
Tennessee	n/a	–	44.3	9	35.0	22	34.1	11	34.4	13	36.7	12
Texas	12.5	17	39.2	28	39.7	3-T	32.2	19	35.4	8-T	36.1	15-T
Utah	11.6	24-T	34.7	39	32.3	35-T	28.0	38	28.6	41-T	28.4	37
Vermont	n/a	–	37.2	32	21.7	50	27.1	41	26.1+/-2.3	48	26.8+/-2.3	47
Virginia	11.8	22-T	42.6	15	31.3	38-T	30.3	27-T	32.6	24	31.8	24
Washington	10.0	30	34.2	41	34.8	23	29.3	31	28.0	44	28.0	42
West Virginia	n/a	–	46.3	3	39.3	6	39.4	1	40.6+/-2.4	1	37.6+/-2.1	9
Wisconsin	18.1	5	45.6	5	39.0	7	31.9	20	32.5	25	32+/-2.7	23
Wyoming	n/a	–	35.0	36	32.3	35-T	29.5	30	30.1+/-2.7	38	31.4+/-2.9	27

SOURCE: TFAH analysis of Behavioral Risk Factor Surveillance System data

NOTE: For rankings, 1 = Highest Rate, and 51 = Lowest Rate; T= Tie.

* For race/ethnicity data, three years of data are needed for sufficient sample size; 2018–2020 data were used here. Some data are not available due to an insufficient sample size. Because data from 2019 are not available for New Jersey, race/ethnicity data is not available for the state.

Adult Obesity Rates by Age, 2020

	Ages 18-24		Ages 25-44		Ages 45-64		Ages 65+	
States	Percent With Obesity	Rank	Percent With Obesity	Rank	Percent With Obesity	Rank	Percent With Obesity	Rank
Alabama	27.1	2-T	40.5	3	44.9	3	34.9+/-3.1	4
Alaska	21.0	19	31.8+/-4.5	33	35.9+/-4	32	32.7+/-4.6	9
Arizona	20.5	20	34.4	22	35.4+/-2.4	35	25.8+/-2.3	44
Arkansas	27.1+/-7.8	2-T	39.2+/-4	9	41.7+/-3.1	10	30.5+/-2.4	23
California	18.7	30-T	31.7+/-3.3	34	35.2	36	26.1+/-3.8	41-T
Colorado	14.4	46	24.8	49	27.3	51	23.9	49
Connecticut	18.2	32-T	31.2	36	32.6+/-2.5	42	27.6+/-2.7	35
Delaware	18.2	32-T	37.7	13	40.9+/-3.5	15	37.6+/-3.9	1
D.C.	23.8+/-9.3	9-T	20.3+/-3.2	51	31.8+/-3.4	45	24.2+/-3.3	47
Florida	15.0	44	29.3	42	32.9	40	27.4	36-T
Georgia	24.2	7	34.3	23-T	39.3	19	32.6	10-T
Hawaii	15.8	41-T	27.2	45-T	29.3+/-2.4	49	18.7+/-2.2	51
Idaho	21.1	18	31.4	35	36.8+/-3.3	27	28.9+/-3	28-T
Illinois	20.1	22	32.9+/-4.1	31-T	37+/-3.9	26	31.6+/-3.8	17
Indiana	23.8	9-T	39.4	6-T	41.4+/-2.1	12	34.3+/-2.1	5
Iowa	23.1	11	39.3+/-2.3	8	43.1	7	31.8	15-T
Kansas	21.4	13-T	38.2	11-T	41.3	13	31.2+/-1.9	19
Kentucky	26.4	4	38.2	11-T	44.4	4	28.4	31-T
Louisiana	25.8	5	39.7	5	42.3	9	36.2	2
Maine	18.7	30-T	33.5	28	35.5+/-2.4	34	27.4+/-1.9	36-T
Maryland	14.8	45	33.1+/-2.4	30	36.1+/-1.8	29	28.5+/-1.8	30
Massachusetts	12.7	50	25.0	48	27.9	50	24.9+/-2.7	46
Michigan	19.1	29	36.5	14	39.7	18	35.6	3
Minnesota	16.9	36	30.7	39-T	36+/-1.5	30-T	30.6+/-1.7	21-T
Mississippi	27.5	1	41.3	2	46.4	1	33.6	7
Missouri	19.2	28	36.0	15-T	39.8	17	31.1+/-2.3	20
Montana	14.3+/-3.7	47	31.1	37	32.7+/-2.4	41	27.2+/-2.3	38
Nebraska	19.6	26-T	33.4	29	41.2	14	33.5	8
Nevada	19.8	23-T	24.2	50	36.3+/-4.7	28	28.9+/-5	28-T
New Hampshire	10.9	51	34.9	18-T	35+/-2.6	37	25.9+/-2.3	43
New Jersey	13.6+/-3.41	49	29.2+/-2.3	43	32+/-2.1	44	26.2+/-2.34	40
New Mexico	15.8	41-T	34.0	25	39.2+/-3.3	20-T	24.1+/-2.8	48
New York	16.7	37-T	27.2	45-T	30.8	47	23.6+/-2	50
North Carolina	21.3	15-T	33.9	26	39.2	20-T	31.3+/-3	18
North Dakota	21.4+/-6.1	13-T	34.5	20-T	37.8+/-3.2	24	32.1+/-2.7	14
Ohio	21.3	15-T	38.3	10	40.2+/-1.9	16	32.6+/-1.9	10-T
Oklahoma	24.1	8	39.4	6-T	43.2+/-2.9	6	29.9+/-2.7	25
Oregon	13.9+/-4	48	30.8+/-2.7	38	32.3+/-2.7	43	25.5+/-2.7	45
Pennsylvania	16.7	37-T	32.9	31-T	37.1	25	29.4	27
Rhode Island	16.7	37-T	34.9	18-T	33.4+/-2.9	39	26.4+/-2.8	39
South Carolina	21.2	17	39.8	4	41.5	11	31.8	15-T
South Dakota	18.2	32-T	34.3	23-T	39.1	22	32.4	13
Tennessee	25.3	6	36.0	15-T	42.5	8	30.3	24
Texas	22.5	12	35.2	17	43.9	5	32.6	10-T
Utah	16.3	40	30.1	41	33.7	38	28.4+/-2.2	31-T
Vermont	15.2	43	26.9	47	30.2+/-2.4	48	26.1+/-2.8	41-T
Virginia	19.7	25	33.8	27	38.0	23	28.2	33
Washington	17.3	35	28.7	44	31.2	46	27.9	34
West Virginia	20.4+/-5.8	21	43.7+/-3.3	1	45.4+/-2.6	2	33.9+/-2.4	6
Wisconsin	19.8	23-T	34.5	20-T	36.0	30-T	30.6	21-T
Wyoming	19.6+/-7.1	26-T	30.7+/-3.9	39-T	35.7+/-3.3	33	29.6+/-2.8	26

SOURCE: TFAH analysis of Behavioral Risk Factor Surveillance System data

NOTE: For rankings, 1 = Highest Rate, and 51 = Lowest Rate; T= Tie.

B. TRENDS IN CHILDHOOD OBESITY (95TH PERCENTILE AND GREATER)

As with adults, obesity has been rising among children for decades. Between the 1976–1980 NHANES survey and the 2017–2018 survey, obesity rates for children ages 2 to 19 more than tripled, from 5.5 to 19.3 percent.[105,106,107,108]

This section includes the latest data available on childhood obesity. As with adults, this report relies on multiple surveys to better understand the full picture of childhood obesity.

DATA SOURCES FOR CHILDHOOD OBESITY MEASURES

1) **The National Health and Nutrition Examination Survey** is the primary source for national obesity data on adults and on children ages 2 to 19 in this report. NHANES is particularly valuable in that it combines interviews with physical examinations, including measured heights and weights, while also covering a wide age range of Americans. The downsides of the survey include a time delay from collection to reporting and samples that do not break out local data. The most recent NHANES data are from the 2017–2018 survey.

2) **The WIC Participant and Program Characteristics Report** is a biennial census of families that WIC serves. The USDA collects the data, and CDC analyzes the obesity data. Because the program only includes low-income mothers and young children (under the age of 5), these data are limited.[109] Nevertheless, because obesity disproportionately affects individuals with low incomes, early childhood is a critical time for obesity prevention, and the data provide valuable information for evaluating the effectiveness of programs aimed at reducing obesity rates and health disparities. The most recent public WIC data are from 2018.

3) **The National Survey of Children's Health** surveys parents of children ages 0 to 17 about aspects of their children's health, including height and weight for children ages 6 and over. An advantage of this survey is that it includes state-level data. A disadvantage is that height and weight data are parent-reported, not directly measured. The most recent data are from its 2017–2018 iteration.

4) **The Youth Risk Behavior Survey (YRBS)** measures health behaviors, including eating habits and physical-activity behaviors, as well as body weight status (determined from self-reported height and weight), among students in grades 9 to 12. As in other surveys that use self-reported data to measure obesity, this survey likely underreports the true rates.[110] YRBS officials conduct the survey in odd-numbered years; 2019 is the most recent dataset available. The 2019 survey includes state-level samples for 44 states plus three U.S. territories, two tribal areas, and select large urban school districts, as well as a separate national sample.[111]

i. National Youth Obesity Rates

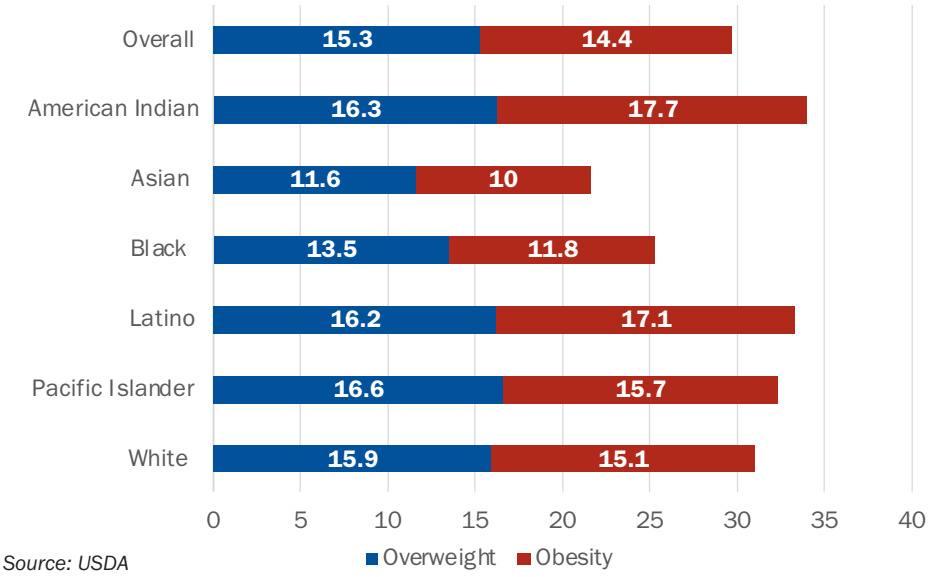
The most recent national data, the 2017–2018 NHANES survey, found that 19.3 percent of youth ages 2 through 19 had obesity. Demographic data show important variation:

- **Race/ethnicity: Black and Latino youth have substantially higher rates of obesity than their Asian and white peers.** Obesity prevalence for Asian youth was 8.7 percent, Black youth 24.2 percent, Latino youth 25.6 percent, and white youth 16.1 percent in 2017-2018.
- **Sex: Boys are slightly more likely to have obesity than girls.** In 2017-2018, 20.5 percent of boys had obesity, and 18.0 percent of girls had obesity.
- **Age: The prevalence of obesity increases with age.** In 2017–2018, 13.4 percent of children ages 2 to 5, 20.3 percent of children ages 6 to 11, and 21.2 percent of children ages 12 to 19 had obesity. Between the 1976–1980 NHANES survey and the 2017–2018 survey, the percentage of children ages 2 to 19 with obesity overall tripled, with the obesity rates of teens ages 12 to 19 quadrupling.[112,113]

ii. Young WIC Participants Ages 2 to 4

In 2018, 14.4 percent of children ages 2 to 4 in the WIC program had obesity and 15.3 percent were overweight. The percentage of children who were overweight or had obesity increased between 1992 and 2008, then decreased between 2010 and 2018 after a 2009 change in the food package provided (see page 32 for more on WIC). The decline was statistically significant among all racial and ethnic groups studied: American Indian/Alaska Native, Asian/Pacific Islander, Black, Latino, and white. As of 2018, American Indian and Latino children were the most likely to be overweight or have obesity compared than other races/ethnicities.[114] See chart on page 28 for state data.

Percent of Children Ages 2–4 in WIC Program Who Are Overweight or Have Obesity, by Race/Ethnicity, 2018



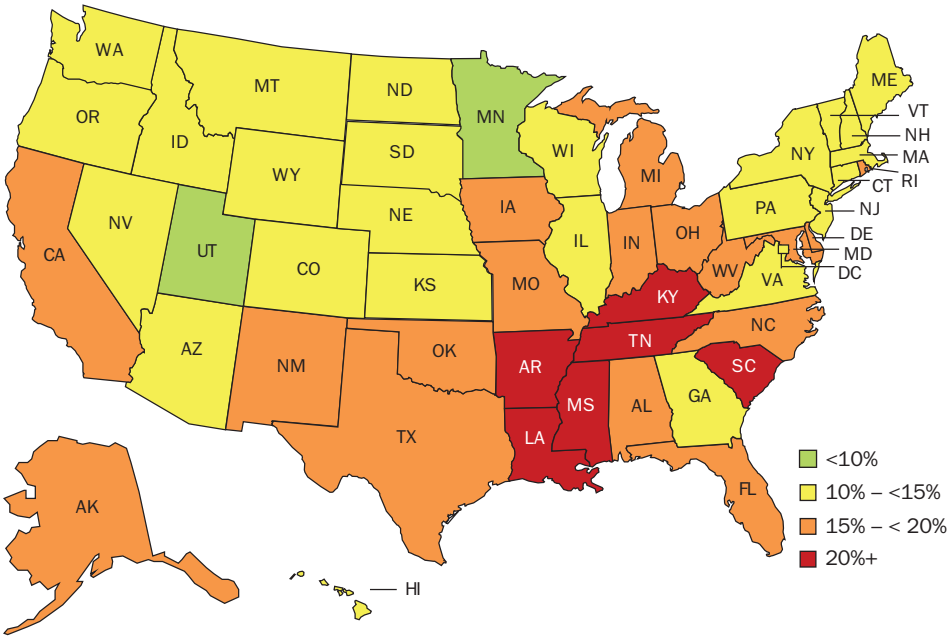
Source: USDA

iii. Obesity Rates in Children and Teenagers, Ages 10 to 17

The National Survey of Children's Health 2018–2019 survey reported that, nationwide, 15.5 percent of children ages 10 to 17 had obesity and another 15.5 percent were overweight. In 2018–2019, Asian children had the lowest obesity rate (5.9 percent) followed by white children (11.7 percent), while obesity rates were significantly higher for Latino (20.7 percent), Black (22.9 percent), American Indian/Alaska Native (28.5 percent), and Native Hawaiian/Other Pacific Islander (39.8 percent) children. The states with the highest rates of obesity for children ages 10 to 17 were Kentucky (23.8 percent), Mississippi (22.3 percent), and South Carolina (22.1 percent); the states with the lowest rates of obesity were Utah (9.6 percent) and Minnesota (9.9 percent).[115]

See chart on page 28 for more state data.

Percent of Children Ages 10–17 with Obesity by State, 2018–2019



Source: National Survey of Children's Health, HRSA

iv. High School Obesity Rates

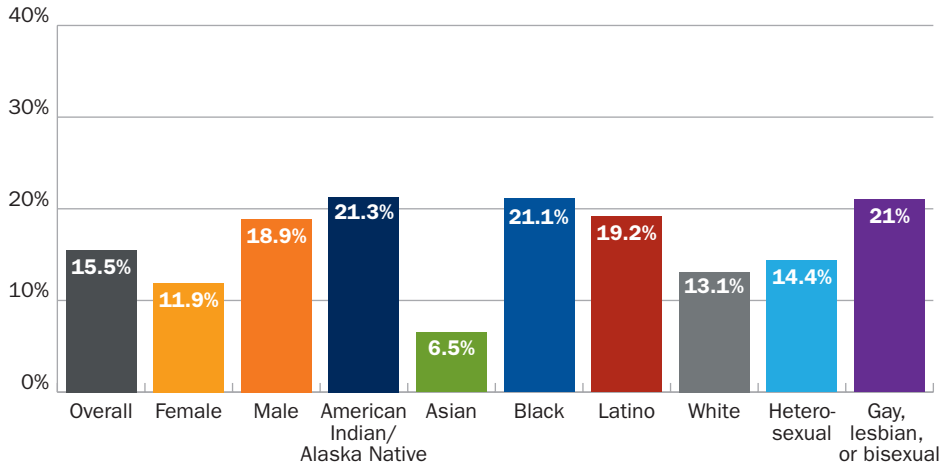
According to 2019 YRBS data, 15.5 percent of high school students (grades 9 to 12) nationwide had obesity and 16.1 percent were overweight. Obesity levels among high school students show an increase in the long-term; in 1999, obesity rates among high schoolers participating in the survey were at 10.6 percent.[116]

Other takeaways:

- The prevalence of obesity among high school students in different states varied considerably, from 9.8 percent in Utah to 23.4 percent in Mississippi.
- There were also stark differences in obesity rates across demographic groups. Male students (18.9 percent) had higher obesity rates than female students (11.9 percent); gay, lesbian, and bisexual students (21.0 percent) had higher obesity rates than heterosexual students (14.4 percent); and American Indians/Alaska Natives, Black, and Latino students (all above 19.0 percent) had higher obesity rates than white (13.1 percent) and Asian (6.5 percent) students.

See page 28 for state-by-state data on obesity, overweight, and physical activity levels among high school students.

Percent of High School Students with Obesity by Select Demographics, 2019



SOURCE: YRBS

Youth Obesity Rates and Related Health Indicators

States	Young Children: Obesity, 2018	Children and Teenagers: Obesity and Physical Activity, 2018–2019			High School (HS) Students: Obesity, Overweight, Physical Activity, 2019		
	Percent of Low-Income Children Ages 2-4 Who Have Obesity	Percent of Children Ages 10-17 Who Have Obesity	Ranking	Percent of Children Ages 6–17 Who Participate in 60 Minutes of Physical Activity Every Day	Percent of HS Students Who Have Obesity	Percent of HS Students Who Are Overweight	Percent of HS Students Who Are Physically Active 60 Minutes Every Day of the Week
Alabama	16.2	17.3	38-T	22.8	17.2	20.1	23.2
Alaska	20.2	15.4	31	32.0	14.8	15	17.9
Arizona	12.5	12.1	12-T	16.8	13.3	17.4	22
Arkansas	13.1	20.2	47	24.8	22.1	19.8	22.7
California	15.8	17.1	37	21.9	15.9	15.2	20.5
Colorado	8.6	10.9	6	27.3	10.3	11.7	25.4
Connecticut	14.5	13.3	20	23.9	14.4	14.9	23.2
Delaware	16.3	16.0	33	22.3	n/a	n/a	n/a
D.C.	12.8	12.5	14	22.6	n/a	n/a	n/a
Florida	13.3	17.8	43	22.8	14	16.1	22.7
Georgia	13.6	14.9	27-T	23.6	18.3	18.1	24
Hawaii	10.7	11.1	7	16.8	16.4	14.4	17.1
Idaho	12.0	12.1	12-T	22.0	12.1	12.4	22.2
Illinois	15.2	14.9	27-T	24.7	15.2	15.5	26
Indiana	13.5	16.7	36	21.2	n/a	n/a	n/a
Iowa	15.6	15.3	30	26.2	17	15.9	25.7
Kansas	13.7	10.6	3-T	27.1	15.1	15.7	26.5
Kentucky	16.3	23.8	51	25.9	18.4	17.8	19
Louisiana	13.1	20.1	46	22.4	16.5	17.8	21
Maine	14.6	13.2	19	29.8	14.9	14.8	20.4
Maryland	16.4	17.6	42	22.9	12.8	15.7	19.4
Massachusetts	16.3	11.8	10	19.0	14.2	14.8	21.7
Michigan	13.7	17.3	38-T	24.4	15.3	16.1	21.8
Minnesota	12.4	9.9	2	22.2	n/a	n/a	n/a
Mississippi	14.8	22.3	50	24.7	23.4	18	23.4
Missouri	13.0	16.3	35	24.5	18.4	16.1	25.3
Montana	11.9	10.6	3-T	24.7	11.5	13	25.3
Nebraska	14.7	11.5	8	22.3	13.3	12.8	27.9
Nevada	11.7	12.9	15-T	15.4	12.3	16.7	21.7
New Hampshire	17.2	13.7	21-T	22.5	12.7	14	22.5
New Jersey	14.8	14.0	23-T	20.8	11.9	14.7	22.7
New Mexico	13.0	15.2	29	24.6	15.2	15.8	26.8
New York	14.0	10.7	5	23.5	13.4	16.3	19.2
North Carolina	15.0	16.1	34	21.8	15.4	16	19.9
North Dakota	15.4	13.1	18	32.4	14	16.5	25.2
Ohio	12.6	15.7	32	23.6	16.8	12.2	23.5
Oklahoma	13.6	18.8	44	21.9	17.6	18.1	29.2
Oregon	14.6	12.9	15-T	22.6	n/a	n/a	n/a
Pennsylvania	12.8	14.5	26	24.9	15.4	14.5	25.4
Rhode Island	17.1	17.5	41	25.0	14.3	14.6	21.1
South Carolina	12.7	22.1	49	22.3	16.6	16.3	19.5
South Dakota	16.0	11.7	9	25.5	14.1	15.6	29.7
Tennessee	15.2	20.4	48	24.1	20.9	18.3	21.6
Texas	15.9	17.3	38-T	17.8	16.9	17.8	22.9
Utah	8.5	9.6	1	16.3	9.8	12.3	21
Vermont	12.9	14.0	23-T	24.0	13.1	13.7	22.1
Virginia	15.8	13.0	17	20.0	14.8	15.8	22
Washington	13.8	11.9	11	22.0	n/a	n/a	n/a
West Virginia	16.5	19.6	45	28.6	22.9	16.5	26.3
Wisconsin	14.4	14.2	25	25.2	14.5	14.6	21.5
Wyoming	10.5	13.7	21-T	30.2	n/a	n/a	n/a

SOURCE: WIC Participants and Program Characteristics Survey, USDA

SOURCE: National Survey of Children's Health, HRSA

NOTE: For rankings, 1 = Highest Rate, and 51 = Lowest Rate. T= Tie.

SOURCE: Youth Risk Behavior Survey, CDC

NOTE: For rankings, 1 = Highest Rate, and 51 = Lowest Rate, T= Tie.

Obesity-Related Policies and Programs

This section serves as a reference on important federal, state, and local policies and programs related to obesity. It includes background context as well as the latest developments, budgetary information, and available research across four subsections: (A) Economics of What We Eat and Drink, (B) Nutrition Education, (C) Community Policies and Programs, and (D) Healthcare Coverage and Programs.

A. ECONOMICS OF WHAT WE EAT AND DRINK

i. Fiscal and Tax Policies that Promote Healthy Eating: Beverage Taxes, Healthy Food Financing Initiative, and the New Markets Tax Credit

The economics of the U.S. food system plays a role in the obesity crisis. Whether nutritious food is accessible, available and affordable, whether taxes incentivize consumers to make healthier choices, whether developers are rewarded for investing in underserved communities —all of these factors contribute to a food environment that shapes Americans' eating habits. These types of SDOH are increasingly recognized as having a significant influence on the health and well-being of Americans.

Beverage Taxes

From taxing cigarettes to subsidizing healthy food, price interventions have historically proved to be effective instruments in the public health toolbox.[117,118] These policies may be particularly effective at narrowing health inequities, as low-income individuals tend to be both less healthy and more price-sensitive.[119]

An increasingly prevalent popular economic intervention aimed at reducing obesity is taxing sugary drinks to discourage their consumption. The World Health Organization (WHO) recommends such taxes,[120] and more than 40 nations have imposed this tax.[121] A national beverage tax has been estimated to be the most cost-effective of leading obesity-prevention interventions, with researchers estimating it could prevent more than half a million cases of childhood obesity in the United States over the course of a decade.[122]

Eight U.S. cities have enacted beverage taxes in recent years and studies of the short-term impacts found that consumption of sugary drinks decreased afterward.[123,124,125,126] While evidence about the long-term effects of these specific city taxes is mixed,[127,128] the weight of the research

on beverage taxes suggest they can be a highly effective tool in reducing the consumption of sugary drinks.[129] Lobbying by the beverage industry has made the widespread adoption of beverage taxes in the United States difficult.[130,131] Four states have even barred their local governments from implementing beverage taxes.[132,133,134,135]

In addition to reducing consumption, beverage taxes have the additional benefit of generating revenue, which can then be used for policy priorities that promote the public's health. For example, the San Francisco and Seattle beverage taxes both helped fund emergency food relief during the COVID-19 pandemic,[136,137] and Philadelphia is using revenue from its sugary drinks tax to direct $2 million to early care and education programs.[138]

Healthy Food Financing Initiative

The Healthy Food Financing Initiative (HFFI) provides grants and technical assistance to retailers and wholesalers working to improve access to healthy food in underserved areas.[139] The program is a public-private partnership established by the 2014 Farm Bill and administered by the Reinvestment Fund, a nonprofit financial institution, on behalf of U.S. Department of Agriculture (USDA) Rural Development.[140] Since its creation in 2014, HFFI has supported nearly 1,000 retail projects in more than 35 states and leveraged an estimated $1 billion in private investment and tax credits.[141]

HFFI's work is more important than ever, as the pandemic has increased food insecurity and disrupted the ability of many people to access healthy food. Job losses, challenges in safely using public transportation, and the shuttering of many small food businesses have all been felt acutely by the same populations that often lack healthy food outlets in their communities.[142]

In 2020, HFFI funded $3 million in grants to support 20 different organizations.[143] For example, HFFI funds are helping:

- Expand a food cooperative in St. Paul, Minnesota, that helps preserve access to cultural foods for low-income African immigrants;
- Develop a mobile market to reach isolated residents in rural Albany County, Wyoming; and
- Sustain a curbside pickup program of locally sourced healthy food in Charles Town, West Virginia, which began during the pandemic to meet local food challenges.[144]

For FY 2021, Congress appropriated $23 million for the HFFI program, a significant increase from the FY 2020 funding level of $5 million.[145,146]

New Markets Tax Credit

The New Markets Tax Credit (NMTC) incentivizes development in underserved communities. While not all NMTC investments relate directly to obesity prevention, all of them aim to revitalize low-income communities, improving a key social determinant of health. Examples of NMTC investments include the building of facilities like supermarkets, gyms, and other places that make it easier for residents to eat a healthy diet, get regular exercise, and obtain medical care.[147]

In 2020, the NMTC supported projects such as:

- The redevelopment of a Brownfield site into a 60,000-square-foot food hub by the nonprofit Farm Fresh Rhode Island;[148]
- The expansion of the Boys and Girls Club of Cabarrus County in Concord, North Carolina, allowing it to serve more children with its programming and build a cafeteria to expand its food service;[149] and
- The construction of a 6,675-square-foot addition for the Monadnock Food Co-op in Keene, New Hampshire, allowing it to increase purchases from local farmers in this rural food desert.[150]

The NMTC has been set to expire several times since it was established in 2000, but Congress has repeatedly extended it.[151] In the FY 2021 appropriations bill, Congress extended the program again—through 2025—and held its funding stable at $5 billion.[152]

ii. Food and Beverage Marketing

One major challenge in addressing the obesity crisis is that the food, beverage, and restaurant industry spends nearly $14 billion annually on advertising, 80 percent of which promotes unhealthy choices such as fast food, sugary drinks, and candy.[153] Studies have shown exposure and receptivity to this marketing is associated with increased consumption and obesity.[154,155]

Unfortunately, the racial disparities that exist in other health contexts also apply to the food marketing environment. Black and Latino youth are exposed to more total food advertising than their white counterparts. Even when accounting for differences in television viewing time, Black children saw 40 percent more candy ads than white children, a 2019 report found.[156] Food ads airing on Spanish-language television were almost exclusively promoting fast food and other unhealthy food and beverages.[157] The Latino community has also been a particular target of the industry marketing of "toddler milk," products that have added sugars and are not recommended by the American Academy of Pediatrics or the 2020-2025 U.S. Dietary Guidelines.[158,159] In addition, these drinks are often cross-promoted with infant formula, resulting in consumer confusion and the dangerous practice of feeding these drinks to infants, even though they cannot meet infants' unique nutritional needs.[160]

Public health advocates have recommended a number of proposals aimed at reducing the marketing of unhealthy food and beverages, including changing the tax code to disallow deductions for the cost of advertising unhealthy products to children;[161] and providing the Food and Drug Administration (FDA) regulatory authority over toddler milk to ensure consumers are not confused about the products' purpose.[162]

Digital marketing is also an ever-growing concern, particularly as they are often able to directly reach and engage children. Many large food and beverage companies advertise on many social media and digital spaces that can be accessed by a variety of handheld devices. In particular, these companies are using branded videos and games (called "advergames") to engage children.[163] A meta-analysis of research looking at advergames and food consumption found that "advergames promoting unhealthy foods induced unhealthy eating behavior among children."[164]

B. NUTRITION ASSISTANCE AND EDUCATION

i. Federal Hunger and Nutrition Assistance: WIC, School/Child Nutrition Programs, SNAP, and Nutrition Incentive Programs

Special Supplemental Nutrition Program for Women, Infants, and Children

hapabapa

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides nutritious food, education, and other support to low-income pregnant, postpartum, and breastfeeding women and their children up to age 5. The $6 billion program is federally funded and administered by USDA's Food and Nutrition Service (FNS) and local agencies. WIC helps address some SDOH by providing its participants with greater food security, educating them about nutrition, assisting them with breastfeeding, and referring participants to social-service agencies that may help them with housing and other needs.[165]

As part of its mission to improve the health of its participants, the WIC program explicitly promotes breastfeeding,[166] which reduces the risk of childhood obesity and provides a number of other health benefits for babies and mothers.[167,168] The program provides breastfeeding education, support, and counseling, and breastfeeding mothers are eligible to participate in the program longer than women who do not breastfeed.[169] Between 2010 and 2019, WIC increased breastfeeding rates among its participants by 23 percent (from 27 percent to 33 percent).[170,171]

In 2009, USDA revised the WIC food packages to more closely align them with the Dietary Guidelines for Americans by increasing fruits and vegetables, reducing fat levels in milk, adding whole grains, and decreasing juice.[172] Program data show a decline in obesity rates for children ages 2 to 4 enrolled in the program between 2010 and 2018 (from 15.9 percent to 14.4 percent).[173] Two 2019 studies also found declines in obesity levels among WIC-enrolled children.[174,175]

WIC is one of the nation's largest nutrition assistance programs and serves more than half of American infants.[176] In January 2021, WIC served 6.3 million people, a slight (2.3 percent) increase from the January 2020 level.[177,178] In November 2020, FNS awarded a $2.5 million grant to the Gretchen Swanson Center for Nutrition in Nebraska to develop and test an online ordering system for WIC, one example of an effort to increase the program's accessibility.[179] The Biden administration has also announced its plans for an outreach campaign to eligible participants and its support for innovative programs to improve the delivery of benefits and increase program participation.[180]

Recognizing that the pandemic would pose challenges to participants applying for and accessing WIC benefits, the Families First Coronavirus Response Act (FFCRA), which became law on March 18, 2020, provided USDA with the authority to relax WIC program requirements during the public health emergency.[181] States can allow participants to re-enroll in the program without visiting a clinic and to postpone certain medical tests. The FFCRA also permits states to issue benefits remotely and substitute certain foods when availability is limited. These flexibilities have since been extended for the duration of the pandemic.[182]

The FY 2021 Consolidated Appropriations bill included $6 billion for WIC, including $90 million for its breastfeeding peer-counselor program and $14 million for infrastructure.[183] The American Rescue Plan (ARP) Act, which President Biden signed into law on March 11, 2021, provided an additional $880 million funding for WIC: $490 million to temporarily increase the amount of the food vouchers and $390 million to modernize the program.[184] ARP also temporarily increased the amount of the cash voucher that WIC recipients can use to purchase fruits and vegetables through September 30, 2021.[185,186]

KEY CHANGES TO SAFETY NET PROGRAMS DURING THE COVID-19 PANDEMIC

Supplemental Nutrition Assistance Program (SNAP)

- In spring 2020, USDA approved flexibilities to the program, including: providing additional allotments to families who did not qualify for the maximum SNAP benefit, extending SNAP certification periods, and suspending work-requirement time limits.[187]
- In spring 2020, USDA expanded its pilot program that allows participants to use their SNAP benefits to purchase groceries online.[188,189]
- The 2021 appropriations bill increased the maximum monthly SNAP benefit by 15 percent (about $28 per person) starting in January 2021,[190] and the American Rescue Plan (ARP) Act extended the increase through September 30, 2021.[191]
- ARP provided an additional $1.1 billion for administrative support for SNAP and $25 million to expand SNAP online purchasing.[192]
- Beginning October 1, 2021, USDA will institute an increase of SNAP benefits based on findings from an evaluation of 2021 prices, dietary guidance and food nutrients, and typical diets in the United States. The increase averages $36 per person per month. (U.S. Department of Agriculture. "USDA Modernizes the Thrifty Food Plan, Updates SNAP Benefits." Press Release No. 0179.21, August 16, 2021. https://www.usda.gov/media/press-releases/2021/08/16/usda-modernizes-thrifty-food-plan-updates-snap-benefits (accessed August 30, 2021)).

Child Nutrition Programs

- The Families First Coronavirus Response Act (FFCRA), signed into law on March 18, 2020, created the Pandemic Electronic Benefit Transfer (P-EBT) program, which provided $5.70 in benefits per school day to children missing school meals.[193] In January 2021, USDA increased the benefit to $6.82, and ARP extended the program for the duration of the pandemic.[194,195,196]
- In spring 2020, USDA relaxed some of the child nutrition program requirements, including: permitting the summer meal programs to operate during the school year, allowing meals to be served outside traditional times and for parents/guardians to pick up meals for their children; permitting meals to be served in non-group settings; and allowing schools to serve meals to all students free of charge.[197] These waivers were subsequently extended through the end of the 2021–2022 school year.[198]

Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)

- In spring 2020, USDA relaxed some program requirements, allowing WIC participants to receive benefits remotely, to re-enroll without visiting a clinic, and to postpone certain medical tests.[199]
- ARP provided $390 million to modernize the program and $490 million to temporarily increased the amount of WIC benefits that participants can spend on fruits and vegetables.[200]

The Emergency Food Assistance Program (TEFAP)

- FFCRA provided $400 million in additional TEFAP funding, a program that helps supplement the diets of low-income Americans by providing emergency food assistance.[201]
- The Coronavirus Aid, Relief, and Economic Security (CARES) Act provided $450 million in additional TEFAP funding.[202]
- The FY 2021 Consolidated Appropriations Act provided $400 million in additional TEFAP funding.[203]

The Commodity Supplemental Food Program (CSFP)

- CSFP provides boxes of nutritious food to low-income seniors.
- The FY 2021 Appropriations Act provided $13 million in additional CSFP funding.[204]
- ARP provided $37 million in additional CSFP funding.[205]

Income Assistance Efforts

- Many Americans received three rounds of stimulus payments: $1,200 for adults and $500 for dependent children under the CARES Act;[206] $600 for adults and dependent children under the 2021 Appropriations Act;[207] and $1,400 for adults and dependent children under ARP.[208]
- Three pandemic unemployment programs created by the CARES Act provided extra relief for the jobless and these programs have now been extended through September 2021.[209,210]
- ARP temporarily expanded the Child Tax Credit, the Earned Income Tax Credit, and the Child and Dependent Care Tax Credit.[211]

THE PARADOX OF HUNGER, FOOD INSECURITY, AND OBESITY

One of the most vexing challenges in addressing the obesity epidemic is understanding the complex relationship between hunger, food insecurity, and obesity. (While connected, food insecurity and hunger are not the same thing. Food insecurity is "the disruption of food intake or eating patterns because of lack of money and other resources," while hunger is "the discomfort, illness, weakness or pain caused by prolonged involuntary lack of food," and can result from food insecurity.[212]) Although the proposition is counterintuitive, food insecurity in higher-income countries is often associated with obesity, particularly in women and some children.[213,214,215,216,217] This raises particular concern today, given the dramatic increases in food insecurity since the start of the COVID-19 pandemic. Feeding America estimates that 42 million Americans—one in eight—may experience food insecurity in 2021, up from 35 million in 2019.[218]

What accounts for the link between food insecurity and obesity—sometimes termed the "hunger-obesity paradox"?[219] Several theories exist, most revolving around the fact that many of the same social, economic, and environmental conditions are underlying drivers of both food insecurity and obesity:

(1) The "insurance hypothesis" posits that the bodies of food insecure people store up extra fat as an insurance policy in the event of famine, based on an evolutionary response to previous episodes of food scarcity;[220]

(2) A SDOH theory attributes obesity among low-incomd household (who are disproportionately likely to be food-insecure) to their financial and physical environments, positing that individuals who lack money to purchase healthy foods and sports equipment, have few safe spaces for physical exercise, and have limited access to supermarkets with affordable, healthy foods—but easy access to inexpensive high calorie processed food—are more likely to have obesity; [221,222]

(3) A similar set of theories assigns responsibility for obesity to a person's social environment, noting that dietary habits are learned behaviors and attributable to local traditions, cultural factors, and one's social network;[223,224]

(4) Another theory connects the high levels of stress, anxiety, and depression stemming from poverty-related financial and emotional pressures to higher levels of obesity via hormonal and metabolic changes as well as unhealthy coping habits around eating and physical activity.[225]

(5) Several studies have suggested that nutrition policy—specifically the SNAP program and its monthly cycle—may encourage participants into a "feast or famine" cycle where they overeat during the first three weeks of the month but then face food insecurity during the month's final week, as cyclical food restriction has been linked to body fat increases.[226,227]

Of course, these theories are not mutually exclusive, and the causes of obesity are likely both numerous and complex. As one group of scholars notes, there are "many individual, socioeconomic, nutritional, and environmental factors that determine the risk of obesity and overweight and shape the [social, ethnic, and environmental] disparities."[228]

Child Nutrition Programs

Federal child nutrition programs—including the National School Lunch Program, the School Breakfast Program, and the summer meals programs—together form the nation's second-largest nutrition-assistance effort. These programs ensure that millions of American schoolchildren are eating healthy meals on a regular basis.[229,230] In fact, a 2021 study that analyzed the diets of more than 50,000 Americans found that meals served at schools were higher in nutritional quality than food from any other source.[231]

The child nutrition programs are federally funded, administered by FNS and state agencies, and operate in public and private schools, daycare centers, after-school programs, and residential child-care centers.[232] Even with many schools closed, the School Lunch Program alone served 3.2 billion meals in FY 2020, with an average of 22.4 million children participating in the program.[233]

For millions of children, the child nutrition programs help address food insecurity, an important SDOH.[234] With school closures limiting access to these programs, many families were at increased risk of lacking consistent access to nutritious food. A new federal program called Pandemic Electronic Benefits Transfer (P-EBT) and temporary changes to the existing child nutrition programs helped address this challenge.

In March 2020, Congress created P-EBT, which provides food benefits to children who qualify for free or reduced-price meals via a debit card that can be used to purchase food at stores that accept SNAP benefits.[235] The benefit levels track school meal program reimbursement rates: $3.50 for lunch and $2.20 for breakfast, for a total of $5.70 per day in the lower 48 states and Washington, DC (Hawaii, Guam, and the Virgin Islands are $6.66 and Alaska is $9.16).[236] In January 2021, USDA increased the program to also include the cost of an after-school snack, bringing the daily total for each participant to $6.82.[237] ARP extended access to the program through the end of the public health emergency, including during summer vacation from school.[238] USDA expects more than 30 million children to benefit from the program during summer 2021.[239]

FNS also introduced a number of temporary flexibilities into the child nutrition programs in 2020 to address pandemic-related challenges. These changes include:

- Allowing meals served through the summer meals programs to be made available to participants during the school year at no cost;[240]
- Allowing parents and guardians to pick up meals for their children, and permitting meal service outside normal school times to make it easier for families to pick up meals; [241,242]
- Allowing meals service in non-group settings to permit social distancing;[243]
- Permitting states to serve meals that do not meet meal-pattern requirements, including permitting them to serve flavored milk and fewer whole grains, in recognition of supply-chain challenges;[244] and
- Delaying many reporting requirements.[245]

Many of these waivers have been extended through September 30, 2021, and some through June 30, 2022.[246,247]

In addition to providing much needed flexibility during the pandemic, these waivers have also allowed states to test new ways to help feed children outside of school settings, which may have applicability even when the public health emergency has ended. While FNS has long had a summer meal program, it has always served only a fraction of eligible participants. Permanently waiving the requirement that meals only be served in a group setting (the "congregate meal requirement"), for example, may be one way to reach many more children during out-of-school times.[248] Some have also suggested that USDA permanently allow the summer programs to operate during the school year and provide meals at no cost to students, though FNS has said that making meals free on a permanent basis would require a legislative change.[249]

Despite these programmatic changes aimed at feeding children in need, surveys have nevertheless revealed high levels of food insecurity during the pandemic, with families of color disproportionately likely to be impacted. One survey found that, in September 2020, 25 percent of families with school-age children had experienced food insecurity within the previous 30 days, and that number increased to 41 percent for Black and Latino families.[250] In addition, despite the flexibilities aimed at increasing participation, nearly two-thirds of families (64 percent) reported in December 2020 that their children were not receiving any school-based meals and only one in three reported familiarity with the P-EBT program.[251]

When children are in school, the meals they receive there are of high nutritional value, as they are required to meet federal standards, which were strengthened after passage of the Healthy, Hunger-Free Kids Act of 2010.[252,253] Following these improvements, program participants ate more fruits, vegetables, whole grains, and milk than nonparticipants, while consuming fewer calories and saturated fat than nonparticipants.[254] A 2020 study found that the risk of obesity among children ages 10 to 17 living in poverty declined substantially following the Healthy, Hunger-Free Kids Act's implementation and that obesity prevalence would have been 47 percent higher in 2018 without its nutrition requirements.[255]

In 2018, the Trump administration attempted to reverse a number of the Healthy, Hunger-Free Kids Act improvements, allowing schools to once again serve chocolate milk, refined grains, and foods with higher sodium levels.[256] While this rule was struck down in federal court in 2020,[257] the pandemic-specific waivers to the meal-pattern requirements that had passed in the meantime, aimed at providing flexibility to program operators in light of pandemic-related food distribution challenges, allowed the same changes.[258] Those waivers have now been extended through June 30, 2022, for the National School Lunch Program and School Breakfast Program.[259] For the Summer Food Service Program, however, the waivers expire on June 30, 2021 and the healthier requirements were back in effect starting July 1, 2021.[260]

For FY 2021, the child nutrition programs were funded at $25 billion,[261] with $13.5 billion for the School Lunch Program, $5 billion for the School Breakfast Program, $4 billion for the Child and Adult Care Food Program, $1.5 billion for the Summer Food Service Program, $203 million for the Fresh Fruit and Vegetable Program, and $7 million for the Special Milk Program.[262]

MAJOR CHILD NUTRITION PROGRAMS

Like so many other aspects of life, these programs were disrupted by the COVID-19 pandemic, resulting in huge changes in the number of meals and food served. Most programs saw large declines—the Summer Food Service Program being the exception.

- The **National School Lunch Program** provides low-cost or free nutritious meals and snacks to more than 22 million students in public and private schools and in residential child-care facilities.[263] In FY 2020, because of school closures, the program served about 3.2 billion lunches, 76.9 percent for free or reduced price, compared with 4.9 billion lunches served in FY 2019.[264]
- The **School Breakfast Program** provides a healthy breakfast to more than 12 million students each school year. In FY 2020, the program served 1.8 billion meals, 87.7 percent for free or reduced price, compared with 2.5 billion breakfasts served in FY 2019.[265]
- The **Summer Food Service Program** provides nutritious daily meals to millions of low-income schoolchildren during summer vacation from school. Pandemic waivers permitting the program to operate during the school year resulted in a nine-fold increase in the program during FY 2020, when it served 1.3 billion meals. In FY 2019, the program served 142 million meals.[266]
- The **Child and Adult Care Food Program** funded 1.6 million healthy meals and snacks for adults in adult daycare centers and children in daycare, preschool, and aftercare programs in FY 2020, compared with 2.1 million meals served in FY 2019.[267]
- The **Special Milk Program for Children** provides free low-fat or skim milk to students who do not participate in the meal programs, such as half-day kindergarten students. It served 17.3 million half-pints of milk in FY 2020, compared with the 35.1 million half-pints it served in FY 2019.[268]
- The **Fresh Fruit and Vegetable Program** provides fresh fruits and vegetables as a healthy snack option in select schools in low-income communities and also promotes nutrition education.[269]
- The **Farm to School Grant Program** helps incorporate fresh, local food into the National School Lunch and School Breakfast Programs, and it facilitates hands-on learning activities, including school gardens, farm visits, and cooking classes. During the 2020–2021 school year, the program funded 159 grants serving 7,610 schools.[270]

SCHOOL MEALS FOR ALL IN CALIFORNIA

In July 2021, California Governor Gavin Newsom signed SB129 into law, a new, universal meal program for all 6.2 million public school students in the state. For the school year 2021-2022, the state will provide free school lunches to all students regardless of family income, and for 2022-2023 will additionally offer free breakfasts. The cost is $54 million for the first year on top of federal funding, and $650 million for the second year.[271]

Lawmakers point to reducing hunger and food insecurity among kids, and eliminating stigma for students getting free meals. In particular in California, there was concern about families failing to apply to prior school meal programs due to immigration concerns, and, in areas with high cost of living, students were ineligible for the previous free meal programs but families still struggled to pay for food.[272,273]

Supplemental Nutrition Assistance Program

The Supplemental Nutrition Assistance Program (SNAP), formerly known as "food stamps," is the nation's largest nutrition assistance program and helps feed 40 million Americans each year.[274] The federal government funds SNAP benefits and shares the cost of administering the program with the states.[275] SNAP recipients receive funds monthly, which are loaded on an electronic benefit transfer card that they can use to purchase food from participating retailers.[276] SNAP serves as a critical piece of the social safety net and has helped ensure that millions of Americans have had food to eat during the pandemic.

With a few exceptions, such as prepared food, households can use SNAP to purchase any food or beverage regardless of its nutritional value.[277] A 2016 study by FNS found that SNAP households spend 20 cents of every SNAP dollar on sweetened drinks, salty snacks, candy, and desserts, with more money spent on soft drinks than any other item. These spending patterns are largely consistent with those of non-SNAP households.[278] Some public health advocates have suggested changes that would incentivize participants to make healthier food choices, such as by prohibiting the purchase of sugary drinks, while others have raised concerns that such changes would be inequitable and could stigmatize participants and reduce participation.[279,280,281] USDA has historically denied requests by states to pilot such strategies, and Congress has resisted similar legislative proposals.[282,283]

SNAP had 39.9 million participants in FY 2020, down from a record high of 45.8 million in FY 2015, but up from 35.7 million in FY 2019.[284] The average monthly benefit in FY 2020 was about $155, an increase from about $130 in FY 2019,[285] reflecting the emergency allotments authorized by FFCRA to help Americans weather the pandemic.[286]

In response to the increased food insecurity during the pandemic, the FY 2021 appropriations bill, which was signed into law on December 27, 2020, increased the maximum SNAP allotment by 15 percent (an average of about $27 per person each month) through June 30, 2021, which was then extended through September 30, 2021.[287,288] In addition, recognizing that many households receiving at or near the maximum SNAP allotment were ineligible for the emergency allotments authorized by the FFCRA, USDA announced in April 2021 that it was changing the formula to permit such households to receive emergency allotments of $95 per month.[289] In August 2021, USDA released a re-evaluation of SNAP benefits based on current food prices, what Americans typically eat, dietary guidance, and the nutrients in food items and found that "the cost of a nutritious, practical, cost effective diet is 21 percent higher than the current [allocation]." As a result, the average SNAP benefit will increase on October 1, 2021 by $36.24 per person, per month, or $1.19 per day.[290] The benefit expansion will be the largest permanent increase in SNAP's history (DeParle J. "Biden Administration Prompts Largest Permanent Increase in Food Stamps." *New York Times,* August 15, 2021. https://www.nytimes.com/2021/08/15/us/politics/biden-food-stamps.html (accessed August 30, 2021)).

Census Bureau data demonstrates the need for these increases: in late March 2021, 18 million Americans reported that their households had not had enough to eat within the past seven days, compared with 8.5 million whose households did not get enough to eat in all of 2019.[291] Families of color in particular had a difficult time affording food, with Black and Latino adults twice as likely to report that their families had not had enough to eat.[292] Families with children were also disproportionately affected, with more than 8 million children living in a home lacking enough food, risking lifetime deleterious effects on their health.[293]

When the pandemic hit and many Americans pivoted to online grocery shopping to avoid COVID-19 exposure, only six states were part of a USDA pilot program that allowed SNAP participants to spend their benefits online.[294] In April 2020, USDA announced it would fast-track interested states for approval,[295] and 47 states and the District of Columbia now participate. SNAP recipients in those states can use their benefits to buy groceries at retailers, including ALDI, Amazon, Food Lion, Price Chopper, Publix, ShopRite and Walmart.[296] In many states, customers can also use their SNAP benefits when shopping at these retailers using the Instacart grocery delivery platform.[297] SNAP benefits can only be used to pay for food, however, and not for delivery fees.[298]

SNAP has an educational sister program called SNAP-Ed that provides grants in all 50 states to bring evidence-based programs on healthy eating and active living to low-income populations.[299] When the pandemic hit, many SNAP-Ed programs pivoted to offer relevant programming. For example:

- 600 teachers in Riverside County California used lessons developed by California's SNAP-Ed program, CalFresh Healthy Living, to give their students "brain breaks"—short physical activity sessions during virtual school.[300]

- Cooking lessons taught by Massachusetts SNAP-Ed partner Share Our Strength moved online in April 2020 and reached even more participants, some of whom had faced barriers to attending in-person classes. More than 400 families joined the classes between April and December 2020, and 93 percent said they would regularly use the food-preparation skills they used in class.[301]
- In Nevada, the SNAP-Ed Healthy Aging team reached out to seniors during the pandemic and encouraged them to attend online exercise classes and distributed grow-your-own herb gardens to provide an alternative to community gardening.

More than 2,700 farmers markets nationwide are authorized by USDA to accept SNAP benefits, increasing opportunities for participants to purchase fresh fruits and vegetables. In 2020, Americans spent nearly $19 million in SNAP benefits at farmers markets and another $14 million at direct-marketing farmers, a 44 percent increase over FY 2019.[302,303]

The FY 2021 appropriations bill provided $114 billion for SNAP,[304,305] an increase of $30 billion over FY 2020,[306,307] including $101 billion for benefits and $448 million for SNAP-Ed.[308,309] The program is an appropriated entitlement, which means Congress is obligated to provide enough funds to cover benefits for all who meet the eligibility criteria, and the appropriated funding level is based on anticipated spending needs and adjusted when necessary.[310] ARP's extension of the 15 percent increase in SNAP benefits provided an additional $3.5 billion in benefits. ARP also included an additional $1.1 billion in administrative resources for SNAP, $1 billion to enhance the

block grants provided to Puerto Rico, the Commonwealth of the Northern Mariana Islands, and American Samoa, and $25 million to improve and expand SNAP online purchasing.[311]

Nutrition Incentive Programs

The Gus Schumacher Nutrition Incentive Program (GusNIP) funds projects that encourage SNAP recipients to purchase more fruits and vegetables,[312] which are consumed less by low-income Americans than those in higher-income groups.[313] Created by the 2018 Farm Bill, GusNIP is the successor to the Food Insecurity Nutrition Incentive grant program, and FNS and the National Institute of Food and Agriculture administrate it collaboratively.[314,315]

In FY 2020, the Food Insecurity Nutrition Incentive (FINI) awarded $41.6 million to support programs in 21 states and the District of Columbia, all of which promote some type of produce matching program to encourage the purchase and consumption of fruits and vegetables.[316,317] In December 2020, FINI requested grant applications for FY 2021, 2022, and 2023, announcing it would have approximately $41.6 million available in FY 2021, $48.7 million in FY 2022, and $51.5 million in FY 2023.[318]

The Emergency Food Assistance Program

The Emergency Food Assistance Program (TEFAP) provides food at no cost to low-income Americans during times of emergency.[319] FNS administers the program and makes food available to states, which provide it to local agencies that in turn distribute it to organizations such as food pantries, soup kitchens, and homeless shelters. These organizations either provide TEFAP food packages for home use directly to recipients or serve it in group settings for low-income communities.[320] States are provided food in proportion to their unemployment rate and the number of residents below the poverty level.

In December 2020, Congress passed an omnibus appropriations bill that contained $342 million for TEFAP food purchases as regular appropriations along with an additional $400 million as a COVID relief effort.[321] States are also permitted to carryover FY 2020 TEFAP funds but must spend them before the end of FY 2021.[322]

ii. Child Care and Education Settings: Head Start, Early Childhood Education State Requirements, K-12 Local Wellness Programs, and Smart Snacks

Head Start

Head Start is a federally funded program that promotes school readiness by providing education, health, and social services to children ages 0 to 5 in families with low income.[323] It includes Early Head Start, which serves infants and toddlers under the age of 3. The Administration for Children and Families, part of the U.S. Department of Health and Human Services (HHS), manages the program on the federal level and provides oversight to local agencies. In FY 2019, Head Start served more than 870,000 children in all 50 states.[324]

Head Start programs provide healthy food to their participants via either the Child and Adult Care Food Program or the National School Lunch Program. Children who participate in Head Start are healthier on a number of scores, and one study found that children who entered Head Start with an unhealthy weight status were significantly more likely to have a healthier BMI when they started kindergarten than a comparison group.[325,326] In addition, a 2019 study of predominantly Black and Latino Head Start students in Harlem found that the 4-year-olds significantly improved their knowledge and attitude of a healthy lifestyle after learning about a healthy diet and physical activity in Head Start.[327]

Head Start directors have identified obesity as one of the major health challenges facing the children and families in the program, and many Head Start programs focus on nutrition, physical activity, and weight-management services.[328] Since 2016, federal standards have required programs to actively engage in obesity prevention both in the classroom and through its family-partnership process.[329]

The vast majority of Head Start centers closed in March 2020 in the wake of COVID-19.[330] As of May 2021, Head Start was serving one-third fewer families than before the pandemic.[331] Even with centers closed, the program continued to support its families by delivering food, connecting them with services, and offering virtual programming. Yet, the program also faced challenges supporting participants, as many Head Start families lack technology to connect virtually. In addition, the devastating impacts felt by all Americans during the pandemic—including illness, job loss, and isolation—fell particularly hard on the low-income families that Head Start serves.[332]

The FY 2021 appropriations bill included $10.7 billion for Head Start, plus an additional $25 million in COVID-relief funds.[333] ARP added an additional $1 billion for the program,[334] and HHS encouraged its grantees to use these extra funds to extend the program a year or to offer summer programs and to help recruit more eligible children and their families to join or rejoin the program.[335]

CDC'S HEALTHY SCHOOLS INITIATIVE

Healthy Schools, an initiative in CDC's National Center for Chronic Disease Prevention and Health Promotion, aims to prevent chronic disease and promote the health and well-being of children and adolescents in schools by promoting:

- Healthy nutrition options and education;
- Physical-activity programs and physical education;
- Improved processes and better training to help students manage chronic conditions;
- Health education that instills life-long healthy habits and health literacy; and
- School health services and links to clinical and community resources.

Healthy Schools uses the Whole School Whole Community Whole Child framework to center student needs and to emphasize the importance of community and policies that support the school and students.[336]

The initiative funds 16 state education agencies via the Improving Student Health and Academic Achievement Through Nutrition, Physical Activity and the Management of Chronic Conditions in Schools (DP18-1801) grants. The grants support implementation and evaluation of evidenced-based strategies and activities with two aims: (1) preventing obesity and reducing the risk of children and adolescents developing chronic disease in adulthood; and (2) managing chronic health conditions prevalent in student populations, including poor health, asthma, food allergies, seizure disorders, diabetes, other diseases, and disabilities or conditions.

Early Childhood Education State Requirements

The Child Care and Development Fund is a block-grant program funded by the federal government and administered by the states that assists low-income families with the cost of high-quality child care.[337] To receive federal funding, child-care providers must meet state-mandated early childhood education health and safety requirements, which often include nutrition and physical-activity benchmarks.[338] In FY 2021, Congress appropriated $5.9 billion for the program, an increase of $85 million over FY 2020,[339] and approved another $14.9 billion in ARP.[340]

Local School Wellness Policies

The federal government requires that every school district that participates in a federal child nutrition program develop and implement a local school wellness policy that promotes the health of students and addresses childhood obesity.[341] These policies, at a minimum, must:

- Establish nutrition-education, nutrition-promotion and physical-activity goals;
- Include nutrition guidelines for all foods and beverages available on campus; and
- Limit food marketing to those products that meet the Smart Snacks in Schools nutrition standards.[342]

A review of school-district wellness policies during the 2014–2015 school year, however, found that only 57 percent of policies included all federally required topics.[343]

School districts are required to assess their local wellness policies every three years: they must review compliance with the policy, analyze how the policy compares with model policies, and measure progress made attaining the policy's goals.[344] Since wellness policies were required to be updated during the 2016-2017 school year, the triennial assessment due date fell in June 2020. USDA waived the requirement, however, due to pandemic-related school closures.[345]

Smart Snacks

All food sold at schools—including food sold in vending machines, at school stores, and at school fundraisers—must meet the Smart Snacks federal nutrition standards, which are similar to the National School Lunch Program requirements.[346] Snacks sold after school hours, food intended for consumption off school property, or food provided for free—for example, cupcakes brought in for a student's birthday—do not have to comply. States can also exempt infrequent school fundraisers from the standards, although 21 states have policies in place that do not permit such exemptions.[347]

iii. Dietary Guidelines, Nutrition Facts, and Menu Labels

Dietary Guidelines for Americans

The *Dietary Guidelines for Americans,* which are issued jointly by USDA and HHS, provide evidence-based guidance about healthy eating, serve as a resource for policymakers and health professionals, and provide the foundation for the federal government's nutrition programs. The guidelines are revised every five years to keep pace with the latest scientific research about nutrition.[348]

MyPlate is a consumer-friendly graphical nutrition guide based on the Dietary Guidelines. It serves as a reminder for Americans to eat healthfully and has a suite of interactive online tools, including the Start Simple with MyPlate app and the myplate.gov website.[349] The app allows users to choose healthy food goals, track their progress, and earn badges, while the website provides recipes, tip sheets on healthy eating, and inspiring videos.[350,351]

The most recent edition, the *2020–2025 Dietary Guidelines for Americans,* was published in December 2020.[352] For the first time, they focus on healthy eating for all life stages, including children ages 0 to 2 and pregnant and breastfeeding women.[353] The guidelines also recognize the influence of social determinants on eating patterns and health: "Although individuals ultimately decide what and how much to consume, their personal relationships; the settings in which they live, learn, work, play, and gather; and other contextual factors—including their ability to consistently access healthy and affordable food—strongly influence their choices."[354]

Nutrition Labels

Since 1993, food manufacturers have been required to include the Nutrition Facts label on most packaged foods revealing their nutritional content.[355] In 2016, HHS and FDA finalized a rule updating the label requirements to better reflect the latest nutritional science. Manufacturers are now required to: (1) print "calories" and "number of servings" in larger and bolder type; (2) report "added sugars"; and (3) include serving sizes that more accurately reflect Americans' eating habits.[356]

Research demonstrates that mandatory food labels can alter consumer and industry behavior. A meta-analysis of 60 studies across 11 countries found that consumers ate fewer calories, less total fat, and more vegetables due to the effect of food labels. The study found that the labeling requirements also spurred manufacturers to decrease sodium levels and artificial trans fats in their products.[357]

Recognizing that restaurants shuttered by the COVID-19 pandemic may want to sell packaged food—food that was meant for restaurant use and lacked nutrition labels directly to the public, the FDA passed guidance in March 2020 permitting such sales during the public health emergency, provided the package does not make any nutrition claims and contains other required information, such as the ingredients.[358]

Calorie Labels on Menus

Menu labels provide information about the calorie information of restaurant food and allow consumers to make more informed choices when they eat out. This is particularly important given that food prepared outside the home tends to have more calories—as well as lower nutritional quality—than food prepared at home, yet consumers tend to underestimate the number of calories and levels of sodium in out-of-home meals.[359,360,361] Beginning in May 2018, chain restaurants with 20 or more locations and vending-machine companies must now provide nutritional information.[362] In April 2020, noting the challenges facing the restaurant industry as many establishments pivoted to take-out only service and dealt with pandemic-related supply chain issues, FDA issued guidance noting that the agency did "not intend to object" if restaurants failed to meet the menu label requirements during the public health emergency.[363]

Several studies have demonstrated that posting calorie information at the point of purchase can result in healthier menu choices, and a 2016 study found that the average BMI fell in jurisdictions in New York that implemented calorie-count laws.[364,365,366,367] Other studies have found that menu labeling leads to significant results only at specific establishments or in certain populations, while other studies have found no changes in consumer behavior.[368,369,370] There is some evidence that the transparency required by menu labeling may lead restaurants to improve the nutritional content of their food.[371]

C. COMMUNITY POLICIES AND PROGRAMS

i. Built Environment: Community Design and Land Use, Housing, and Safe Routes

Public health experts understand that the environments where people are born, live, work, and play have an important impact on their health and well-being. A community's "built environment"—the name for its collective group of buildings and structures including streets, sidewalks parks, stores, and housing—ranks among the major social determinants of health.[372]

With respect to obesity, important aspects of a neighborhood's built environment include the accessibility of outlets where residents can obtain healthy and affordable foods (such as supermarkets and farmers markets) and the number of safe spaces that provide opportunities for physical activity (such as safe sidewalks, parks, recreation centers and facilities, and gyms). Transportation is also a key aspect of the built environment, including whether there are sidewalks, bike lanes, and easily accessible public transportation. Research has found that children who live in neighborhoods with conditions such as unsafe surroundings and limited access to parks, sidewalks, and recreation centers were up to 60 percent more likely to have obesity or be overweight.[373] Even when parks are available, safety issues like traffic and gun violence can undermine access and use.[374]

Many of these positive aspects are not available in all neighborhoods, often depending on the racial/ethnic makeup and income levels of communities. For example, access to parks and green space are unequal across lines of race and class, with fewer and smaller parks available in communities of color than in majority-white communities; it is the result of practices like residential segregation, exclusionary zoning policies, and redlining.[375]

Differences in the built environment may account for some variations in physical-activity levels across the United States and between racial and ethnic groups. In 2020, CDC published state maps of physical-inactivity rates among adults, defined as not participating in any leisure-time physical activities (such as walking, running, or gardening) in the past month. Rates ranged from 17 percent in Colorado to 48 percent in Puerto Rico.[376] There are also racial variations, with 32 percent of Latino adults physically inactive compared with 30 percent of Black and 23 percent of white adults.[377]

Community Design and Land Use

Research demonstrates that thoughtful community design and land-use decisions can encourage physical activity:

- Changing comprehensive plans and zoning laws to encourage mixed-use neighborhoods, which incorporate places to work, shop, learn, and play into residential areas, and an increase in supply and diversity of types housing;[378,379]
- Using Complete Streets policies and design to improve conditions for walking and rolling by installing crosswalks and building sidewalks;[380] and add physically protected bike lanes and other bike-friendly measures;[381]
- Implementing Safe Routes to schools, parks, and other community destinations; and
- Expanding public transportation (which is a type of active transportation because walking or rolling is often needed at the ends of a trip).[382,383]

While it is difficult to accurately predict the long-term effect of the pandemic on community design and land use, early data suggests an "altered future for transit," with many more workers telecommuting even after offices reopen.[384] Even after vaccines had been widely available for months, public transportation use remained significantly lower than pre-pandemic levels. These changes may result in reduced physical activity levels, as a certain number of workers who actively commuted in the past may now commute infrequently or not at all. Indeed, as early data emerge on the pandemic's effect on public health, they show decreases in physical-activity levels and increases in sedentary behavior.[385,386,387] While these patterns will hopefully reverse as the world reopens, it is reasonable to surmise a similar—if less pronounced—effect as more workers telecommute in the future.

In the face of commuting declines, policies that promote active transportation take on added importance. Some places, like the Slow Streets Program in Oakland, California, have shifted more street space to active transportation to create safter spaces and less crowding by discouraging through traffic on certain local streets.[388] Such policies can also stimulate the economy by increasing retail accessibility, promoting tourism, and increasing sales for cycling-related businesses, while saving healthcare costs by reducing traffic accidents and obesity.[389,390,391,392]

All major federal transportation programs can fund walking and biking infrastructure but many focus on highways and major roads. Federal programs that provide funding for active transportation projects include:

- Fixing America's Surface Transportation (FAST) Act funding, which has a specific funding stream for projects that expand travel choices, and it provides most of the federal funding for walking, biking, and trails.
- Formula grant funding, such as the Congestion Mitigation and Air Quality Improvement program, which funds transportation projects that contribute to clean air, and the Surface Transportation Block Grant (STBG) program, which provides flexible funds for different transportation projects, including walking and biking infrastructure.
- Discretionary grant funding, including the U.S. Treasury Department's Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grants, which support road, rail, port, and transit projects.[393] Since 2009, this program (formerly called BUILD and TIGER) has provided $8.9 billion in grants in all 50 states, including projects focused on improving pedestrian or biking infrastructure.[394]

Safe Routes to Schools

Walking or biking to school is one way for a child to incorporate regular exercise into his or her daily routine, though low income, Black, and Latino students face greater dangers while doing so from threats that include traffic, racial profiling, and over-policing.[395] Safe Routes to Schools (SRTS) programs promote active transportation to school and help with infrastructure improvements to ensure that children can walk or bike there safely.[396] Research has found that SRTS initiatives are cost-effective and associated with a significant increase in active transportation to and from school.[397,398]

To implement an SRTS initiative, states, localities, and school districts can compete for Transportation Alternatives Program (TAP) funding, made available to all states under the FAST Act.[399] Each year, $850 million of STBG funding is set aside to fund TAP projects.[400] However, unless Congress reauthorizes the FAST Act, the funding is set to expire in September 2021.[401]

ii. CDC Community Initiatives

CDC supports a number of grant programs that fund community efforts to prevent and reduce obesity. For FY 2021, Congress appropriated $56.9 million for CDC's Division of Nutrition, Physical Activity, and Obesity, consistent with FY 2020 levels.[402,403] CDC's major grant programs that fund obesity prevention are laid out in the following chart and discussed in more detail below.

SELECT OBESITY-RELATED FUNDING OPPORTUNITIES FROM CDC

Grant/Program Name	Grant Number	Grant Goal	Length of Grant	Number of Available Grants	Annual Grant Size	Total Program Funding
State Physical Activity and Nutrition (SPAN) Program	1807	Improve nutrition and physical activity at state and local level	5 years starting in September 2018	16 states	$880,543 average annual award[404]	$70 million over 5 years[405]
High Obesity Program (HOP)	1809	Increase access to healthy foods and safe places for physical activity in high-obesity areas	5 years starting in September 2018	15 land-grant universities	$724,909 average annual award[406]	$56 million over 5 years[407]
Preventive Health and Health Services (PHHS) Block Grant	2102	Provide each state with flexible support to address its most important health needs	Annual	61 including 50 states, DC, two American Indian tribes, five U.S. territories, and three freely associated states	$9.4 million on nutrition and $3.3 million on physical activity in FY 2019[408]	$145 million in FY 2021[409]
Racial and Ethnic Approaches to Community Health (REACH)	1813	Reduce racial and ethnic health disparities in chronic disease	5 years starting in September 2018	40 grants in 25 states and DC[410]	$713,840 average annual award[411]	$63.95 million in FY 2021, including $22 million for Good Health and Wellness in Indian Country[412]
Improving Student Health and Academic Achievement through Nutrition, Physical Activity and the Management of Chronic Conditions in Schools (Healthy Schools)	1801	Increase number of students who consume nutritious food and beverages, who participate in daily physical activity, and who can effectively manage their chronic health conditions	5 years starting in June 2018	State education agencies in 16 states[413]	$350,000 average for Priority 1 awards and $450,000 average for Priority 2 awards during the 2018–2022 funding period[414]	$35 million over 5 years[415]

The FY 2021 appropriations bill also authorized the CDC to develop a guide on evidence-based obesity-control and -reduction strategies for use by state, local, and tribal health departments, a TFAH recommendation from the *2020 State of Obesity*.[416,417]

State Physical Activity and Nutrition Program

CDC's State Physical Activity and Nutrition (SPAN) program supports state and local efforts to improve nutrition and physical activity. Due to budget constraints, it currently funds five-year grants in 16 states to implement evidence-based strategies that:

- Improve food-service guidelines;
- Support breastfeeding;
- Connect activity-friendly routes to everyday destinations through community planning and transportation interventions; and
- Strengthen physical-activity and nutrition standards for early childhood education.[418]

For example, with SPAN funding, California is assisting jurisdictions to implement Safe Routes to Schools programs, Missouri is promoting healthier choices via its Eat Smart in Parks effort, Alaska is helping increase physical activity through Vision Zero and Complete Streets planning, and Ohio is training employers to adopt breastfeeding policies at their worksites.[419]

Annual funding for the SPAN program is $14 million.[420]

High Obesity Program

The High Obesity Program (HOP) funds 15 land-grant universities to work with their local communities to implement policy, systems, and environmental changes that improve access to healthier foods and encourage physical activity in counties where the adult obesity rate exceeds 40 percent.[421]

Funded activities run the gamut of obesity prevention and reduction initiatives, including:

- Working with counties in Kentucky on master plans to support active living and trail development to connect residents to everyday destinations and recreation
- Improving nutrition standards in Oklahoma counties at food banks, recreation programs and other settings while strengthening the food system through farmers markets and farm to school programs.
- Engaging Louisiana parishes in Complete Streets planning and implementation and assessing transportation options to improve accessibility to both healthier food and physical activity options.[422]

The FY 2021 appropriations bill provided $15 million for HOP program.[423]

Preventive Health and Health Services Block Grant

The Preventive Health and Health Services (PHHS) block grant provides states with flexible funding to address important local public health needs. In FY 2019, the most recent year for which CDC has published data, states spent $147 million in PHHS funds, including $9.4 million on nutrition and $3.3 million on physical activity.[424] PHHS funds have helped support a worksite wellness program in Guam,[425] develop walking paths in New Mexico,[426] and create a mobile farmers market in Michigan.[427] For FY 2021, CDC has announced it expects to award a total of $145 million in PHHS funding.[428]

Racial and Ethnic Approaches to Community Health

Racial and Ethnic Approaches to Community Health (REACH) is a $64 million grant program that works to reduce racial and ethnic health disparities by funding culturally relevant interventions to prevent chronic disease, including obesity. The program currently funds 36 grant recipients in 23 states and the District of Columbia.[429] REACH funding supports programs such as:

- The Leadership Council for Healthy Communities, which helps improve access to healthy food for African Americans in Washington, DC;
- The Alaska Native Tribal Health Consortium, which helps train community health workers in breastfeeding support and helps improve food procurement, including traditional and locally sourced items, in Alaska Native communities; and
- The Healthy Corner Store Initiative, which helps provide access to healthier food for Hispanic Americans in Lebanon and Reading, Pennsylvania.[430]

More than one-third of REACH funding ($22 million) is dedicated to Good Health and Wellness in Indian Country, which funds programs to improve health and prevent chronic disease—including obesity—in American Indian and Alaskan Native communities. GHWIC funds 27 recipients: 23 tribes and four Urban Indian Organizations.[431]

CDC Childhood Obesity Research Demonstration

The Childhood Obesity Research Demonstration (CORD) project is a CDC-funded whole-community approach to obesity prevention, now in its third grant cycle. Building on learning from its first two cycles, CORD 3.0 produces consumer-friendly intervention materials that address childhood obesity and can be used by hospitals, community health centers, and healthcare providers that serve low-income families.

COMMIT!

The Childhood Obesity Management with MEND Implementation Teams (COMMIT!) is a joint project of the CDC and the National Association of Community Health Centers to implement the evidence-based childhood weight-management program MEND (Mind, Exercise, Nutrition, Do It!) in community health centers. The program is now in its second year and funds organizations in eight states. Along with CORD, COMMIT! is part of CDC's effort to adapt proven obesity-prevention programs for low-income communities.[432]

Childhood Obesity Data Initiative

CDC leads the Childhood Obesity Data Initiative (CODI), which collects critical data about obesity-prevention programs and how well they work. Using innovative information-technology tools, the effort links the individual health records of children across various systems that collect data—such as healthcare systems, insurers, and the U.S. Census—thereby improving research and evaluation capabilities. The information collected includes clinical health outcomes, weight-management intervention results, and individual and community demographic information. To protect patient privacy, CODI uses privacy-preserving record linkage, which encodes personally identifiable information before it leaves an individual organization's firewall. Between 2018 and 2020, CODI was pilot tested in Denver and will next expand to other locations.[433]

Early Care and Education

Recognizing the unique window that early childhood provides to teach children healthy habits, CDC provides funding, including $4 million in FY 2021, and technical assistance to states, localities, and organizations to support obesity-prevention work in early care and education (ECE) centers, including by promoting breastfeeding, healthy eating, and physical activity for children in these facilities.[434] Many of the programs highlighted above—including SPAN, HOP, and REACH—also fund activities in the ECE sector. Additional ECE-focused obesity-prevention efforts by the CDC include:

- **The Healthy Kids, Healthy Future Technical Assistance Program**, where CDC partners with the Nemours Foundation to fund efforts in 11 states to promote health nutrition and physical activity in ECE facilities.
- **The Physical Activity Learning Session (PALS) Project**, another joint effort with Nemours, to help build capacity among ECE teachers to incorporate physical activity into their programming.
- **The Farm to Early Care and Education Implementation Grant Program**, which funds programs in 10 states and the District of Columbia to strengthen their Farm to ECE programs, in partnership with the Association of State Public Health Nutritionists.[435]

National Diabetes Prevention Program

Obesity is the largest risk factor for developing type 2 diabetes.[436] The National Diabetes Prevention Program (National DPP) is a partnership of public and private organizations working to build a nationwide delivery system for a lifestyle change program proven to prevent or delay onset of type 2 diabetes in the 88 million U.S. adults with prediabetes. The National DPP lifestyle change program is founded on the science of the Diabetes Prevention Program research study, and subsequent translation studies, which showed that making modest behavior changes helped people with prediabetes lose 5 to 7 percent of their body weight and reduce their risk of developing type 2 diabetes by 58 percent (71 percent for people over 60 years old).[437]

The National DPP lifestyle change program is a health benefit covered by many employers and reimbursement by some private insurers. CDC has developed a toolkit that helps employers and other health care payors understand the benefits and cost savings of offering coverage.[438] Medicare offers the Medicare Diabetes Prevention Program (MDPP), a covered benefit for eligible Medicare Part B beneficiaries with prediabetes.[439] Eighteen states have made the decision to include the National DPP lifestyle change program as a covered benefit for Medicaid beneficiaries with prediabetes and are in various stages of implementing the benefit.[440] Congress funded the National DPP at $29.3 million for FY 2021, an increase of $2 million over FY 2020 funding.[441]

Physical-Activity Guidelines

Physical activity helps maintain a healthy weight and is important for overall health. The Physical Activity Guidelines for Americans, published by HHS, provide evidence for the benefits of physical activity, recommendations for the levels of physical activity needed to receive benefits, and suggestions for promoting physical activity. The guidelines serve as a resource for health professionals and policymakers, and The Move Your Way campaign helps raise awareness of the guidelines among the public.[442]

Highlights from the most recent edition of the guidelines include:

- Children ages 3 to 5 should be physically active throughout the day;
- Children ages 6 to 17 need 60 minutes of moderate-to-vigorous physical activity daily; and
- Adults need 150 to 300 minutes of at least moderate-intensity aerobic activity each week and muscle-strengthening activity twice weekly.[443]

As of 2018, however, fewer than one-quarter of American adults or children, were meeting the physical-activity guidelines.[444,445] Early evidence suggests these numbers likely dropped further during the pandemic, as stay-at-home orders and virtual schooling resulted in increased sedentary behaviors.[446,447,448]

Active People, Healthy Nation

Active People, Healthy Nation is a nationwide initiative that was launched by CDC's Division of Nutrition, Physical Activity, and Obesity in 2020 and aims to help 27 million Americans become more physically active by 2027. Active People, Healthy Nation provides a comprehensive approach to improving equitable and inclusive access to physical activity for all people regardless of age, race, education, socioeconomic status, disability status, sexual orientation, or geographic location by promoting strategies that work at the local, tribal, state, and national level in partnership with other federal agencies and national organizations.

Increased physical activity can improve health, quality of life, immunity, and reduce healthcare costs. These improvements can help reduce the risk of at least 20 chronic diseases and conditions and provide effective treatment for many of these conditions. Building active and walkable communities can help support local economies, result in less air pollution, and create more cohesive communities.

Active People, Healthy Nation provides news and resources to partners, including a sample proclamation, supports education and training through a range of national partners to provide technical support to community change-agents and publishes research on the benefits of physical activity and the importance of the built environment to make physical activity safe and enjoyable for people of all ages and abilities.[449]

BENEFITS OF PHYSICAL ACTIVITY

Physical activity—any movement produced by skeletal muscles that expends energy—provides a myriad of short and long-term benefits to the human body. It improves a person's physical health, lowering the risk of heart disease, high blood pressure, type 2 diabetes, dementia, obesity, and many types of cancer.[450,451] Physical activity also provides cognitive benefits, improves sleep, and is associated with lower rates of anxiety and depression.[452,453,454]

Physical activity provides these benefits and is recommended for people of all body weights,[455] including as an intervention for obesity.[456] As a 2019 article in the official clinical journal for the American College of Sports Medicine explains: "There is no doubt that people who are overweight or obese accrue irrefutable and substantial benefits of regular physical activity, and adults who are overweight or obese gain similar benefits from physical activity as do those of healthy weight."[457]

In fact, a particular type of exercise—high-intensity interval training—may provide greater cardiovascular benefits to adults who are overweight or have obesity than adults of normal weight.[458]

Adults who are less physically fit, which puts them at a higher risk of injury, are advised to slowly increase their activity level over time.[459]

Physical activity is recommended at every stage of the lifecycle.[460] The elderly may be concerned that physical activity could result in falls or other injury, but the evidence demonstrates that physical activity reduces physical limitations and the risk of falls.[461,462] For pregnant women who are overweight or have obesity, physical activity lowers the risk of gestational diabetes.[463] Even for people living with a disability or chronic illness—such as cancer, HIV, or type 2 diabetes—the benefits of physical activity generally outweigh the risks.[464,465]

Ideally, all Americans would meet the Physical Activity Guidelines developed by HHS and engage in both aerobic and strength-training activity on a regular basis. However, even small amounts of physical activity are better than none, as physical activity of any duration improves a person's health.[466,467] A recent study of adults in Taiwan found that those who exercised an average of only 15 minutes per day had a three-year longer life expectancy than those who were inactive.[468]

D. HEALTHCARE COVERAGE AND PROGRAMS

i. Medicare and Medicaid

High obesity rates increase costs for both Medicare, which provides healthcare coverage for Americans ages 65 and older and those who receive Social Security Disability benefits, and Medicaid, which provides healthcare coverage for many people with low incomes or who have disabilities. These two programs shoulder approximately half the medical costs of obesity in the United States, with one study projecting that 8.5 percent of Medicare spending and 11.8 percent of Medicaid spending is attributable to obesity.[469]

Medicare

Medicare covers obesity screenings and behavioral counseling for recipients with a BMI of 30 or higher. Few beneficiaries, however, take advantage of this benefit. Between 2012 and 2015, fewer than 1 percent of Medicare beneficiaries with obesity used the service.[470,471]

Medicare covers bariatric surgery in certain circumstances for those with a BMI of 40 or higher.[472,473] One analysis found that 73 percent of beneficiaries who received bariatric surgery between 2011 and 2015 were eligible for Medicare by virtue of disability rather than age.[474] In general, utilization of bariatric surgery among the eligible population of Americans remains fairly low, with an 0.5 percent utilization rate in 2016,[475] despite it being the most efficacious treatment for obesity.[476] A study of bariatric surgery patients in southeastern Pennsylvania, however, found that a patient's type of insurance coverage may affect uptake. Medicare patients had 22 percent smaller odds of undergoing the surgery than patients with private health insurance.[477]

Medicare also covers diabetes self-management training and the MDPP, but not weight-loss medications.[478] In its FY 2021 appropriations bill, Congress urged the Centers for Medicare & Medicaid Services (CMS) to "ensure beneficiary access to the full continuum of care for obesity," including medication and behavioral therapy.[479]

Medicaid

Most state Medicaid programs offer some form of obesity coverage. For children, states must provide coverage for all medically necessary obesity services. For adults, states can choose whether to provide Medicaid coverage for obesity treatment, and most states offer coverage for at least one obesity-related treatment.[480] A 2018 study found that 42 states covered nutritional counseling, 23 states covered pharmacotherapy, and 49 states covered bariatric surgery.[481] As of 2021, 18 states have made the decision to include the National DPP lifestyle change program as a covered benefit for Medicaid beneficiaries with prediabetes and are in various stages of implementing the benefit.[482]

Medicaid offers a higher federal match for states that cover all preventive treatments rated A or B by the U.S. Preventive Services Task Force (USPSTF).[483] For obesity, this requires that adults with obesity be referred to intensive, multicomponent behavioral interventions and that children be screened for obesity and, if necessary, referred for behavioral interventions.[484,485] The USPSTF recently issued two new obesity-related grade B recommendations:

(1) Adults with cardiovascular-disease risk factors, which include being overweight or having obesity, should be referred to behavioral-counseling interventions to promote a healthy diet and physical activity.[486]

(2) Pregnant women should be offered behavioral counseling on healthy weight gain.[487]

ii. Healthcare and Hospital Programs

During the pandemic, hospitals and healthcare providers witnessed firsthand the devastating impact of obesity on our nation's health. COVID-19 patients with obesity—particularly those over the age of 65—were more likely to be hospitalized, more likely to be put on a ventilator, and more likely to die.[488] This serves as a tragic reminder of the cost of obesity and hopefully will spur hospitals and other healthcare providers to take measures to improve their obesity-prevention and treatment practices. Specific actions that can be taken by the healthcare sector include training providers, following best practices, sponsoring obesity-prevention community-benefit programs, serving healthy food, and encouraging breast feeding.

Training

Healthcare providers do not receive enough training about nutrition or treating obesity, and physicians themselves desire more obesity training.[489,490,491] For example, a survey of physicians at Massachusetts General Hospital found that 41 percent had received not even one hour of obesity training.[492] In a survey of more than 500 physicians in Wisconsin, more than half reported wanting additional training in obesity management.[493]

One example of the need for more training is physicians' attitudes about bariatric surgery. Many referring practitioners overestimate its risks and underestimate its benefits. The surgery is the most effective available medical treatment for obesity and is now performed almost exclusively laparoscopically and has a 0.04 percent mortality rate.[494]

The Association of American Medical Colleges recommends that medical schools provide obesity education; yet, in practice, many medical schools fail to provide sufficient training in this area. About half of medical students in a 2017 study reported that they did not feel knowledgeable about recommending weight-loss treatments.[495]

Best Practices for Adoption of Science-Based Recommendations

Hospitals and healthcare institutions should ensure their providers are following practices supported by the latest scientific research. These include:

- **Clinical guidelines on obesity treatment** developed by the American College of Cardiology and the American Heart Association in collaboration with the National Heart, Lung and Blood Institute and other stakeholders. The guidelines can help health practitioners decide which patients they should recommend for weight loss, the best diets and lifestyle changes to help patients lose weight and maintain weight loss, and the benefits and risks of bariatric surgery.[496]
- **Clinical preventive-service recommendations** related to obesity issued by USPSTF. As discussed above, USPSTF has issued several grade B recommendations aimed at preventing and treating obesity.[497,498,499,500] The Affordable Care Act requires most health plans to cover preventive services that have received an A or B grade from USPSTF.[501]
- **Screening recommendations** from the American Association of Pediatrics, which recommends that pediatricians assess their patients for obesity risk and provide tiers of care to patients with BMIs exceeding the 85th percentile.[502] The American Association of Pediatrics also recommends that pediatricians screen their patients for food insecurity and connect at-risk patients with nutrition-assistance programs.[503]

Community-Benefit Programs and Addressing Patients' Social Needs

Nonprofit hospitals, which constitute the majority of community hospitals in the United States,[504] must provide benefits to their local communities to qualify for tax-exempt status.[505] The Affordable Care Act built on this longstanding requirement by calling for nonprofit hospitals to assess, implement, and evaluate strategies to address their local community's specific health needs. In 2017, 78 percent of these Community Health Needs Assessments identified obesity.[506] As a result, many hospitals now sponsor programs to encourage healthy eating and physical activity. Examples include:

- Providence St. Vincent Medical Center in Portland, Oregon, which started a summer food program;[507]
- Hegg Health Center in Rock Valley, Iowa, which runs a community health center and sponsors Rock Your Ride, a summer biking program for kids;[508] and
- Connecticut Children's Hospital in Hartford, which sponsors the Kohl's Start Childhood Off Right (SCOR) program promoting healthy nutrition and physical activity.[509,510]

In addition to improving conditions at the population level through community benefits programs, hospitals can help patients at an individual-level by creating systems within the hospital to connect patients who have social needs with community resources to improve their conditions. Currently, the Innovation Center at CMS is testing whether its Accountable Health Communities healthcare payment and service delivery model—which addresses health-related social needs through enhanced clinical-community linkages—can improve health outcomes and reduce costs. The Accountable Health Communities model takes a holistic approach to improving patients' conditions, like resolving housing instability, food insecurity, utility needs, and interpersonal violence. While still a pilot program being tested for efficacy, it may be a useful model for hospitals to consider.

Supporting Breastfeeding

Breastfed children are at a significantly lower risk for childhood obesity,[511] and hospitals are uniquely positioned to support breastfeeding during the critical postpartum period. In 2020, CDC analyzed hospital practices for establishing breastfeeding and, while most U.S. hospitals scored well, it found that institutional support for breastfeeding policies could be improved.[512]

The Baby-Friendly Hospital Initiative, a joint program of the WHO and the United Nations Children's Fund, is a global program to support the implementation of the Ten Steps to Successful Breastfeeding and the International Code of Marketing Breast milk Substitutes. In the U.S., Baby Friendly USA is the accredited body that designates as "Baby Friendly" when they offer the optimal level of care for lactation. Today, nearly 28 percent of children in the United States are born at one of the 590 facilities designated as Baby Friendly, compared with fewer than 3 percent in 2007.[513]

FOOD AS MEDICINE

The burgeoning "food as medicine" movement stresses the importance of a healthy diet in preventive health and is part of a paradigm shift focusing on disease prevention rather than symptom treatment. It is epitomized by a new medical subspecialty: Lifestyle Medicine, which prioritizes lifestyle changes—including improving diet, sleep, and exercise habits; prioritizing relationships; stress reduction; and avoiding risky substance use—as a first course of treatment for chronic disease. The American College of Lifestyle Medicine has a formal stance that "food is medicine" and recommends eating mostly unprocessed and plant-based foods.[514]

Many healthcare providers sponsor programs that exemplify the notion of food as medicine. For example, hospitals are increasingly opening on-site "food pharmacies," where patients can be sent home with prescribed foods, ranging from high-calorie food for cancer patients who need to gain weight to fresh produce for patients who cannot otherwise afford it.[515] In Southern California, a diabetes clinic sponsors a "Shop with Your Doc" program that stations clinicians in grocery stores to help consumers make healthier choices.[516] Produce prescription programs, offered by many states as part of their SNAP-Ed programs, also fit into this model.

Food as medicine also makes abundant sense when considering that food security is a critical SDOH. As noted earlier, the American Academy of Pediatrics and other physician groups recommend screening patients for food insecurity and connecting those in need with services.[517] Having a food pantry on site makes it that much easier to ensure patients have access to healthy food.

Recommendations

Obesity-prevention efforts have been insufficient for decades. Public health infrastructure is under-resourced, and spending for obesity prevention does not align with the size of the problem: a mere 31 cents per person is allocated for CDC obesity-prevention efforts, though obesity accounts for nearly 21 percent of all healthcare spending.[518,519] Longstanding inequities in nutrition and obesity contributed to the disproportionate risk for severe outcomes from COVID-19.[520] In addition, the pandemic has heightened the risk factors for obesity as children and adults had less access to safe physical activity and physical education;[521] job losses increased rates of food insecurity for many; and the social isolation of the pandemic exacerbated mental health concerns and unhealthy eating.[522] Preexisting disparities in obesity rates by race, ethnicity, or socioeconomic status of children also worsened during the pandemic.[523]

Policymakers cannot address obesity without tackling the social, economic, and environmental conditions underlying the crisis. People living in U.S. counties with the most poverty are also most prone to obesity.[524] Historically under-resourced neighborhoods, racially segregated neighborhoods, and rural communities tend to have a greater number of features that promote obesity and fewer resources that support health and wellness.[525, 526] A 2019 study found that racial inequality in income, unemployment, and homeownership—indicators of structural racism—were associated with obesity.[527] The results of that study suggested that structural racism indicators tracked with obesity through factors like the number of grocery stores and fast-food restaurants in the community, as well as through social contexts, like stress, which are predictors of poorer health.[528,529,530,531,532] Food insecurity has also been associated with overweight and obesity, due a lack of access to healthy, affordable foods; cycles of food deprivation and overeating; and higher levels of stress and anxiety.[533] An estimated 42 million people, including 13 million children, are projected to experience food insecurity in 2021, with higher rates of food insecurity among Black, Latino, and Native American individuals compared with white individuals.[534]

Obesity needs a systems approach—because it is a chronic disease with multifaceted causes that are often enmeshed in culture, policy, and society—including public policy changes across key sectors to ensure healthy choices are available and easy for everyone. A systems approach includes reducing longstanding structural and historic inequities that have been intensified by the pandemic; targeting obesity-prevention programs in communities with the highest needs; and scaling and spreading evidence-based initiatives that promote healthy behaviors and outcomes (e.g., within healthcare, transportation, and education sectors).

The remainder of this section focuses on recommendations for federal, state, and local governments in five areas: (1) increase health equity by strategically focusing on efforts that reduce obesity-related disparities; (2) decrease food insecurity while improving nutritional quality of available foods; (3) update marketing and pricing strategies that lead to health disparities; (4) make physical activity and the built environment safer and more accessible for all; and (5) strengthen obesity prevention throughout the healthcare system.

1. Increase Health Equity by Strategically Dedicating Federal Resources to Efforts that Reduce Obesity-Related Disparities and Related Conditions.

Obesity prevention strategies must have an intentional focus on equity. As the main funder of community-based obesity-prevention activities, the federal government is very influential in reinforcing or undoing policies that contribute to obesity. In any policymaking, including the recommendations below, equity should be prioritized by:

1. Empowering communities by providing a foundation of flexible support, funding, and technical assistance tailored to a community's specific needs; and
2. Focusing on communities with the highest rates of obesity first, particularly those with low historic investment and structural inequities related to poverty, racism, adverse childhood experiences, disability, and other social and economic factors.

Recommendations for the federal government:

- **Increase capacity to prevent obesity and related chronic diseases.** Congress should significantly increase funding for CDC's National Center for Chronic Disease Prevention and Health Promotion to improve the nation's prevention of obesity and related chronic diseases. This investment should include at least $125 million in FY2022 for CDC's Division of Nutrition, Physical Activity and Obesity to ensure its SPAN grants have sufficient and equitable funding to reach all 50 states as well as territories and tribal communities. State health departments use SPAN to implement effective multisector campaigns based on the latest research on combating obesity, including breastfeeding support, food service guidelines, physical-activity access strategies, and

integration of nutrition and physical activity into early care and education systems. Yet, CDC's current funding level can only support 16 states (out of 50 approved but unfunded applications) and no territories. Likewise, increased funding for national surveillance systems that collect obesity data should be included to ensure collection and disaggregation by race, ethnicity, and other demographic factors.

- **Increase funding for equitable obesity-related initiatives.** Congress should increase funding for initiatives that center equity, such as CDC's REACH program, which delivers effective, local, culturally appropriate, obesity-related programs to those who bear a disproportionate burden of chronic disease and which only has enough funding to support up to 40 grantees (out of a total 261 approved but unfunded applications), among other CDC initiatives and programs. The Good Health and Wellness in Indian Country program, which is funded out of the REACH funding line, supports tribal organizations to reduce chronic disease health disparities and promote health in American Indian and Alaska Native populations. TFAH recommends $102.5 million for REACH and Good Health and Wellness in Indian Country in FY 2022 to expand these effective approaches to additional communities.

- **Support multisector collaborations that address the social determinants of health.** Research shows a strong connection between the SDOH—such as economic opportunity, housing, transportation, and access to nutritious foods—and risk of

obesity and other health conditions, yet there has been little federal funding for public health approaches to address SDOH .[535,536] Congress should expand funding for the SDOH program at CDC to fund states, local agencies, and nonprofits to promote meaningful partnerships between public health and other sectors, such as healthcare, transportation, housing, business, and education to address upstream factors. Such a program would create community conditions that foster optimal health, including access to healthy foods, safe places to be physically active, and other initiatives that reduce poverty and discrimination. The Improving Social Determinants of Health Act of 2021 (H.R. 379/S. 104) would authorize the creation of such a program at CDC, and the president proposed $153 million for CDC's SDOH work in the FY 2022 budget request.

- **Address economic factors that contribute to obesity.** Poverty is a significant contributor to obesity and chronic disease. Congress and state policymakers should support programs that both reduce poverty and improve health. Multifaceted approaches, including minimum wages, expanding the Earned Income Tax Credit, and access to affordable housing can reduce poverty and improve population health.[537,538,539] For further discussion of TFAH's policy recommendations on economic well-being, see the report *Promoting Health and Cost Control in States*.[540]

- **Prioritize health equity in goals planning.** All relevant divisions at HHS, the U.S. Department of Transportation (DOT), and USDA should establish goals, develop annual related strategies and actions, and publicly report on efforts and progress toward achieving health-equity goals. HHS, DOT, and USDA agencies that work toward obesity and chronic disease prevention should assess and heighten the impact of decisions about policies, programs, and resources to reduce health disparities and advance health equity.

- **Adapt federal grantmaking practices to account for differential needs, resources, and capacity.** Federal agencies that support obesity and chronic disease prevention efforts should consider health impact assessments, disease burden, and social context when determining grantmaking eligibility criteria, so that communities with the greatest health-related needs can benefit from competitive grant mechanisms. Community-based organizations may be well-situated to implement obesity-prevention activities in impacted communities but need technical assistance or flexibility to meet procedural requirements of federal grants.

2. Decrease Food Insecurity While Improving Nutritional Quality of Available Foods.

Food and nutrition insecurity are root causes, or social determinants, of obesity. Before the pandemic, the overall food insecurity rate had reached its lowest point in decades, but COVID-19 related job losses and school closures caused millions to experience food insecurity.[541] Families need support to make the necessary changes in their eating habits. In 2020, SNAP helped 41 million people every month,[542] while WIC served over 1.5 million American infants on average each month between October 2019 and September 2020.[543] The money the federal government spends on food security programs (like SNAP) and nutrition-assistance programs (like WIC) make critical differences in the health of millions of Americans. Special attention is necessary for those communities with the greatest barriers to healthy food access, such as limited incomes and a lack of local stores with healthy food, particularly produce.

Recommendations for the federal government:

- **Make healthy school meals for all permanent.** During the COVID-19 pandemic, USDA extended a series of waivers to provide free, nutritious meals to millions of children through the 2021–2022 school year, regardless of their school setting or household income. USDA estimates up to 12 million children are living in households that may be food insecure, and school meals are one of the healthiest sources of food for children.[544,545] Congress should extend healthy school meals for all students at no cost as a step to ending child hunger and ensure access to healthy foods. Doing so would provide free meals to children regardless of income, eliminate school meal debt and lunch shaming, reduce program financial loss,[546] and incentivize local food procurement. Congress should also improve children's nutrition during summer months by expanding access and eligibility for the Seamless Summer Option, Summer Food Service Program, and Summer EBT, and align the nutrition standards of summer programs with the Dietary Guidelines for Americans and school meals.
- **In the interim, encourage Community Eligibility Provision enrollment and expand eligibility.** The Community Eligibility Provision (CEP) has allowed over 30,000 schools, about one in three of the schools that participate in school meals, to offer them at no charge to all students. CEP provides meals for all enrolled students if 40 percent or more of students are directly certified for free school meals, and schools are reimbursed according to the percentage of directly certified children. Participating schools report that CEP improves children's access to healthy meals, cuts paperwork for parents and schools, and makes school-meal programs more efficient.[547] However, not all eligible schools participate (see Appendix for state data). If the transition to Healthy School Meals must be incremental, Congress and USDA should improve uptake of the CEP. USDA should ease the administrative burden for school food-service programs by making participation in CEP as easy as possible, including by educating schools about CEP and providing technical assistance. Congress should enhance CEP by (1) ensuring schools with highest rates of poverty receive higher school-meals

reimbursement, and (2) lowering the threshold for CEP eligibility for elementary schools to 25 percent of students participating in SNAP.

- **Strengthen school nutrition standards.** USDA should maintain high nutrition standards for school meals and snacks and prevent rules that would weaken school nutrition standards. USDA and schools should strengthen the nutrition of school meals, including lowering sodium to healthy, safe levels, creating an added-sugars standard, and increasing access to nutrient-rich foods. Congress should provide USDA the resources needed to give technical assistance and training, consider performance-based incentives, and work with industry to provide foods that meet the standards.

- **Protect benefits and access to the Supplemental Nutrition Assistance Program.** Congress should oppose any legislative or regulatory efforts that would effectively limit SNAP eligibility, reduce the value of benefits, or create any other barriers to participating, such as imposing additional work requirements or time limits or eliminating broad-based categorical eligibility.

  Note: The USDA announced a change in effect as of October 2021, extending average benefits in SNAP by more than 25 percent from pre-pandemic levels.[548]

- **Improve diet quality in the Supplemental Nutrition Assistance Program.** Without decreasing access or benefit levels in SNAP, USDA and Congress should identify opportunities to improve diet quality, such as piloting voluntary programs that test healthier eating strategies. With its expressed authority, USDA should expand projects to evaluate innovative approaches to optimizing SNAP purchases and disincentivize the purchase of sugary beverages with SNAP benefits. Additionally, Congress should double investments in SNAP-Ed, and USDA should continue to strengthen the highly effective GusNIP, which supports projects that increase fruit and vegetable purchases among SNAP beneficiaries.

- **Enhance benefits and access to the Special Supplemental Nutrition Program for Women, Infants and Children.** WIC has proved effective at reducing obesity and promoting good health,[549,550] in part due to the 2009 changes to the food package to align the nutritional quality of WIC foods with independent scientific recommendations from the National Academies.[551,552] Congress should extend the American Rescue Plan Act's increase in WIC's fruit and vegetable benefit through FY 2022, and Congress and USDA should make permanent reforms that increase the overall value of the WIC benefit. Congress should expand access to WIC for young children up to age 6 (or the beginning of kindergarten) and postpartum women up to two years postpartum, extend certification periods to streamline clinic processes, partner more closely with Head Start to enhance child retention, and implement an online purchasing solution to simplify the shopping experience. These steps will enhance access to WIC's effective interventions by addressing existing nutrition gaps and reducing duplicative paperwork requirements on both participants and service providers.

- **Expand access to the Child and Adult Care Food Program.** Congress should expand the Child and Adult Care Food Program (CACFP) by allowing a third meal-service option, increasing reimbursements to support healthier standards, streamlining administrative operations, and continuing funding for CACFP nutrition and wellness education. CACFP provides reimbursement for nutritious meals and snacks served to children and seniors to Head Start programs, child care centers, afterschool programs, homeless shelters, domestic-violence shelters, and senior day-care centers. Low-income preschoolers attending CACFP-participating child-care centers are less likely to have obesity than similar children attending nonparticipating centers.[553] CACFP providers have been affected exceptionally hard by the pandemic, and while providers are eligible for the child nutrition waivers that USDA has enacted in response to the pandemic, they have not received the same level of financial support as schools and other providers in legislative efforts.

- **Expand support for maternal and child health, including breastfeeding.** Congress should increase funding and access for programs that promote maternal and child health and breastfeeding support, such as CDC's Hospitals Promoting Breastfeeding program, Maternal, Infant, and Early Childhood Home Visiting, and the WIC Breastfeeding Peer Counseling Program.[554] Breastfeeding has been shown to contribute to multiple positive health outcomes, including the prevention of childhood obesity.[555] Congress should increase funding for the Health Resources and Services Administration's Title V Block Grant, which supports state maternal and child health priorities, including breastfeeding, nutrition, and physical activity.[556,557]

Recommendations for state/local government:

- **Support access to healthy school meals.** If a national universal school meals program is not enacted, states should extend healthy school meals for all students and should ensure schools are participating in CEP. States and localities should continue strengthening school nutrition standards by, at minimum, meeting the 2012 federal government standards. Additionally, states and school districts should prepare for alternative schedules by encouraging partnerships with out-of-school time providers, community partners, and food banks to ensure children have access to food and critical enrichment opportunities. For the 2021–2022 school year, schools should prepare to offer nutritious school-meal programs and to expand flexible school breakfast programs, such as second-chance breakfasts, breakfast on-the-go, and breakfasts in classrooms, while following CDC's Whole School, Whole Community, Whole Child framework, which provides information on the components of a school nutrition environment.
- **Community design should encourage healthy food options.** Local communities should incentivize—through land use planning, zoning, and property-tax credits—grocery stores, healthy corner stores, community gardens, food marts and farmers markets to locate or renovate in areas with limited access to nutritious foods and meet certain requirements for the amount of healthy food they provide. Local communities and schools should be incentivized to partner with local farms, as these food producers have been hit especially hard during the pandemic: local farms are expected to experience an estimated $613 million revenue loss due to the pandemic.[558]
- **Allocate resources to increase outreach and awareness.** Schools that do not participate in CEP should distribute school meal applications and actively encourage parents to apply for the National School Lunch Program. Additionally, state agencies responsible for providing other benefits to families, such as Unemployment Insurance, Temporary Assistance for Needy Families, or SNAP, should ensure that parents or guardians are aware of all of the child nutrition programs administered by USDA and available to families in their jurisdiction.

3. Change the Marketing and Pricing Strategies That Lead to Health Disparities.

From infancy through adulthood, Americans are exposed to effective advertising via television, radio, new media, online, and retail ads encouraging the consumption of fast food, soda, and calorie-dense low-nutrient food products. While these messages reach virtually all populations, companies disproportionately market to children of color.[559,560] While the industry has made some modest adjustments to its practices, companies still spent $9.3 billion in 2017 on the marketing of soda, fast food, candy, and unhealthy snacks to children.[561]

Lastly, there is now a substantive and growing body of evidence showing that

increasing the price, through excise taxes, of unhealthy items like sugary drinks reduces consumption (similar to pricing strategies that helped decrease the smoking rates), especially when that revenue goes to programs and services that improve population health.[562,563] Policies in several communities show clear evidence that this approach works to reduce the consumption of sugary drinks.[564,565]

Recommendations for the federal government:

- **End unhealthy food marketing to children.** Congress should close tax loopholes and eliminate business-cost deductions related to the advertising of unhealthy food and beverages to children on television, the internet, social media, and places frequented by children, like movie theaters and youth sporting events. Researchers project that eliminating advertising subsidies for unhealthy foods and beverages would prevent approximately 129,000 cases of obesity over a decade while generating approximately $80 million annually in tax revenue.[566] FDA should establish clear and consistent labeling for "toddler milks," which can confuse parents into buying nutritionally inferior products for their young children.

- **Discourage overconsumption of sugar.** Federal, state, and local governments should increase the price of sugary drinks, through an excise tax, with tax revenue allocated to efforts to reduce health and socioeconomic disparities and obesity prevention programs. A sugary-drink tax to address childhood obesity is a cost-effective strategy, leading to the potential prevention of 575,000 cases of childhood obesity and a healthcare savings of $31 per dollar spent over 10 years.[567] Another strategy to lower sugar consumption is making the tax amount proportional to the sugar amount in drinks, thereby incentivizing companies to reformulate and reduce the sugar content in their products.

Recommendations for state/local governments:

- **Promote healthy food options through procurement policies.** When government agencies establish policies to improve the nutrition of the food they purchase and provide, they can improve public health and serve as an example for the private sector to provide healthy food as well.[568]

- **Reduce unhealthy food marketing to children.** Local education agencies should consider incorporating strategies in their local wellness policies that further reduce unhealthy food and beverage marketing and advertising to children and adolescents, like by prohibiting coupons, sales, and advertising around schools and school buses, as well as by banning sugary drinks as branded sponsors of youth sporting events.[569]

4. Make Physical Activity and the Built Environment Safer and More Accessible for All.

While many individuals can take measures to be active, there are often larger social, economic, and environmental barriers that communities should address, such as modifying community design so it is easier and safer for people to walk, bike, or roll; strengthening public-transportation options; ensuring that children have daily opportunities for physical activity inside and outside of school; and creating accessible recreational options for people of all ages, racial and ethnic backgrounds, abilities, and incomes. While some communities have made progress, obstacles to physical activity are disproportionately greater in those communities where social and economic conditions have resulted in a lack of safe space for physical activity due to a variety of barriers, such as fewer recreational facilities, underfunded school systems, car-dependent transportation, and both overt discrimination and institutionalized racism. The pandemic made physical activity inaccessible for many, with the closure of schools, parks, playgrounds, gyms, and community centers.

What constitutes safe public space for physical activity for someone can vary based on their gender, race, and/or ethnicity. Safety from traffic and crime are vitally important to overcome perceived and real barriers to physical activity. However, systemic racism causes some people of color to face additional, unique challenges to being physically active in public spaces.

All physical-activity recommendations below should prioritize adaptations for the COVID-19 pandemic during the length of the public health emergency in order to ensure that individuals (especially in congregate settings, like schools) can safely be physically active.

Recommendations for the federal government:

- **Fund programs that support physical education and healthier schools.** Congress should increase funding for the Student Support and Academic Enrichment grant program (under Every Student Succeeds Act Title IV, Part A) to $2 billion in FY 2022. The Student Support and Academic Enrichment grant recipients can use the funding to support health and physical education, among other activities. Also, given the interconnectedness of social, emotional, and mental well-being, along with the physical health of children, a positive school climate can promote physical activity, healthy eating, and emotional health as well as academic performance. Congress should expand funding for programs that promote social-emotional learning and improve health outcomes for children, such as CDC's Healthy Schools program.

- **Prioritize evidence-based physical-activity guidelines.** Congress should codify and appropriate funds for HHS to publish Physical Activity Guidelines for Americans at least every 10 years based on the most current scientific and medical knowledge, including information for population subgroups, as needed. Appropriations should also fund communication, dissemination, and support for the guidelines. Since the release of the first Physical Activity Guidelines for

Americans in 2008, the percentage of adults meeting the guidelines increased from 18 percent to 24 percent by 2017.[570] The Guidelines were last updated in 2018.

- **Fund active transportation in all communities, with a focus on equity.** As Congress looks to reauthorize a multiyear transportation package, funding for active transportation projects like pedestrian and biking infrastructure, recreational trails, and Safe Routes to Schools projects should be prioritized. Congress should require that at least 10 percent of the Surface Transportation Block Grant program is set aside for active transportation policies through the Transportation Alternatives Program. Local matching requirements for active transportation projects should be made more flexible to ensure that all communities, regardless of their resource level, are given a fair shot to receive funding. Congress should pass legislation such as the Transportation Alternatives Enhancement Act (H.R. 2991/S. 684), Complete Streets Act (H.R. 1289/S. 425) and Connecting America's Active Transportation System Act, which all include important provisions funding active transportation and assuring that appropriate safety measures are put in place to protect walkers and bikers across communities. Congress should ensure that all federal infrastructure bills mandate state adoption of Complete Streets principles as a condition for the receipt of federal funding for major transportation projects.
- **Make physical activity safer.** The U.S. Department of Transportation should add Safe Routes to Schools, Vision Zero, Complete Streets, and non-infrastructure projects as eligible initiatives of the Highway Safety Improvement Program. The Department of Transportation should conduct national road-safety audits to identify high-risk intersections and other hazards, and states and large cities with higher rates of pedestrian deaths should implement safety-improvement projects.

Recommendations for state/local governments:

- **Prioritize schooltime physical activity.** States and local education agencies should identify innovative methods to deliver physical activity everyday while students are physically distancing, such as partnering with out-of-school time providers for before/after-school activity, providing virtual options for physical education, implementing active recess or class-based activities, and more. States should consider using the Every Student Succeeds Act Title I and/or IV funding for physical education and other physical-activity opportunities.[571]
- **Make local spaces more conducive to physical activity.** Local school districts and states should evaluate schoolyard suitability and enhance schoolyard spaces to account for active play, outdoor classroom space, school gardens, access to nature, and mitigation of urban heat islands. Shared-use agreement should allow for schoolyards and other school recreation facilities to be open to communities outside of school hours.
- **Make communities safer for physical activity and active transportation.** States and cities should enact Complete Streets and other complementary streetscape-design policies to improve active transportation and to increase outdoor physical-activity opportunities.
- **Encourage outdoor play.** States should build on the successful federal Every Kid Outdoors program—which provides fifth graders with a free-entry park pass for themselves and their families to visit federal public lands—to include state-managed lands and/or to expand to other age groups, and the federal government should extend the program to more ages. State and local policymakers and funders should support park development in high-need areas, prioritizing equity and community engagement.[572] The American Academy of Pediatrics states that outdoor play "can serve as a counterbalance to sedentary time and contribute to the recommended 60 minutes of moderate to vigorous activity per day."[573]

5. Strengthen Obesity Prevention Throughout the Healthcare System

While the Affordable Care Act has granted health-insurance coverage to an additional 31 million adults, millions of individuals in the United States still lack coverage, and there are significant disparities in access to care by sex, age, race, ethnicity, education, and family income.[574] After several years of reductions in the numbers of people without health insurance, rates of uninsurance ticked upward in recent years, especially among adults under age 65.[575] Health insurance and access to care are foundational to obesity prevention and treatment as well as to overall health. Any recommendations below are in addition to the assumption that all individuals in the United States, regardless of race, income, immigration status, or any other factor, deserve and should have access to quality healthcare.

All healthcare payors should establish quality measures that prioritize screening and counseling to prevent obesity and, when necessary, to cover obesity-related services that meet the National Academy of Medicine health-equity definition of "providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status."[576]

Recommendations for the federal government:

- **Expand access to healthcare coverage.** Congress, the administration, and state lawmakers should continue to expand access to health insurance, including extending incentives for expansion of Medicaid in remaining states and making marketplace coverage more affordable.[577]
- **Enforce U.S. Preventive Services Task Force recommendations for obesity prevention.** By law, most insurance plans must cover, with no cost-sharing, preventive services with a grade of A or B that the U.S. Preventive Services Task Force (USPSTF) recommends. While there are several grade A or B obesity-related USPSTF recommendations, including referrals to intensive behavioral interventions for adults and children, there is a wide variety of actual implementation or uptake of these recommendations across insurers.[578] HHS, the U.S. Department of Labor, and the U.S. Treasury Department should jointly communicate to insurers that they require coverage of grade A and B recommendations by publishing FAQs, something the departments have previously done on other USPSTF recommendations. Insurance plans should also incorporate quality measures that incentivize screening and counseling for overweight and obesity, with an emphasis on prevention.
- **Expand opportunities for public health and healthcare coordination.** Agencies and Congress should explore opportunities to expand the capacity of healthcare providers and payers to screen and refer individuals to social services by leveraging existing billing-code options, coordinating care delivered by health and social-service programs, sufficiently reimbursing social-services providers, and more fully integrating social needs data into Electronic Medical Record systems. The Social Determinants Accelerator Act of 2021 (H.R. 2503) would expand opportunities for coordination of health and social-service programs by funding acceleration planning grants

to state, local, and tribal governments to create innovative, evidence-based approaches to coordinate services across sectors and improve outcomes and cost-effectiveness.

- **Address root causes of health disparities.** Congress should pass the Health Equity and Accountability Act, a comprehensive bill that broadly addresses healthcare disparities and improves the health and well-being of communities of color, rural communities, and other underserved populations across the United States.[579]

Recommendations for state/local governments:

- **Expand Medicaid eligibility to provide insurance coverage to more people.** States that have not yet expanded Medicaid should leverage the newly established incentives in the American Rescue Plan Act to ensure coverage of as many individuals as possible.
- **Prioritize SDOH strategies.** Public health departments should partner with social-service agencies, healthcare and community entities to address SDOH, including increasing the availability of and participation in obesity-prevention or -control initiatives and connections to nutrition program, with a particular emphasis on communities with high levels of obesity. Such efforts could include promoting evidence-based policies that improve community conditions; supporting processes that center community members' views when setting goals and strategies; providing counsel and referral strategies to better use electronic health records; establishing referrals to and funding for the National Diabetes Prevention Program, ParkRx, and other community-based programming; employing community health workers and promotoras—in low-resourced areas to provide culturally competent health education and to connect residents with relevant safety-net and social-support resources; and aligning state and local efforts to national initiatives (such as CDC's Million Hearts).

- **Cover adult and pediatric weight-management and obesity-related services.** Medicaid should reimburse providers for evidence-based comprehensive pediatric weight-management programs and services, such as Family-Based Behavioral Treatment programs and Integrated Chronic Care Models.[580] State Medicaid programs should also expand coverage of obesity-related services, such as obesity and nutritional counseling, anti-obesity medications, and bariatric surgery.
- **Build and support capacity of community-based partners.** State Medicaid agencies can provide accommodations to Medicaid managed care organizations, such as by waiving requirements of a Medicaid provider agreement between the managed-care organization and community-based organization, to further incentivize cross-sector collaboration. State Medicaid agencies can also provide targeted technical assistance to further build the capacity of community-based organizations to engage with healthcare entities.

Obesity-Related Indicators and Policies by State

The appendix covers 25 indicators spanning state-level conditions, policies, and performance measures across four themes: COVID-19, Community Conditions, Nutrition Assistance Programs, and K-12 School Nutrition and Physical Activity. Some of the indicators are updated annually and are regularly included in the State of Obesity report, while others are based on one-time reports or were included this year since they particularly relate to the report's special feature (i.e. COVID-19). The data included are the most recently available, although some items have a substantial delay before release.

COVID-19						
	COVID-19 Vulnerability (Jan 2021)	**COVID-19 Food Insecurity (Oct 2020)**	**SNAP Flexibilities During COVID-19 (June 2021)**		**COVID-19 Deaths (Aug 2021)**	**COVID-19 Surveillance Reporting (Feb 2021)**
	What is the state's COVID-19 Community Vulnerability Index score (scores range from lowest to highest vulnerability, 0-1)?[1]	Which states had the most food insecurity during COVID-19 (scores range from least to most food insecurity, 0-50)?[2]	Did the state provide Pandemic EBT in the 2020-2021 school year?[3]	Is the state using new flexibilities in SNAP to pilot an online purchasing program, as of June 2021?[3]	How many COVID-19 deaths per 1,000,000 population has the state experienced as of August 2021?[4]	How well did the state do with respect to reporting COVID-19 cases and deaths by demographics as of June 26, 2020 (scores range 0-10)?[5]
Alabama	0.92	27.0	√[a,b]	√	2,352	8
Alaska	0.60	22.1			538	6
Arizona	0.54	23.3	√[a,b]	√	2,466	7
Arkansas	0.96	23.7		√	2,056	6
California	0.14	25.4	√[c]	√	1,643	8
Colorado	0.10	16.8	√[a]	√	1,199	6
Connecticut	0.30	22.4	√[a,b]	√	2,331	6
Delaware	0.58	31.1	√[b]	√	1,858	6
D.C.	0.64	24.4	√[b]	√	1,612	7
Florida	0.34	28.1	√[a]	√	1,798	7
Georgia	0.68	23.0		√	2,029	10
Hawaii	0.78	21.7	√[b]	√	382	2
Idaho	0.44	15.1	√[a]	√	1,210	6
Illinois	0.52	26.3	√	√	2,058	8
Indiana	0.70	23.3	√[b]	√	2,079	7
Iowa	0.50	12.3	√[a,b]	√	1,958	10
Kansas	0.72	21.1	√[a,b]	√	1,807	6
Kentucky	0.80	26.6	√[b]	√	1,644	6
Louisiana	0.98	30.2	√[a]		2,396	6
Maine	0.04	22.6	√[a,b]	√	667	6
Maryland	0.42	18.2	√[b]	√	1,625	6
Massachusetts	0.38	26.5	√[b]	√	2,624	7
Michigan	0.56	24.2	√[a,b]	√	2,129	8
Minnesota	0.12	17.1	√[a,b]	√	1,375	7
Mississippi	1.00	33.5		√	2,566	9
Missouri	0.74	18.7		√	1,665	6
Montana	0.26	18.3	√		1,592	5
Nebraska	0.36	17.2	√	√	1,179	4
Nevada	0.86	30.8	√[a,b]	√	1,897	6
New Hampshire	0.00	14.6		√	1,017	6
New Jersey	0.46	22.8	√[b]	√	2,998	7
New Mexico	0.88	28.2	√	√	2,097	3
New York	0.62	30.2	√[a]	√	2,776	6
North Carolina	0.84	27.6	√[b]	√	1,295	6
North Dakota	0.06	15.7	√[a]	√	2,037	3
Ohio	0.40	25.1	√[b]	√	1,756	8
Oklahoma	0.94	24.0		√	1,892	7
Oregon	0.66	23.8	√[b]	√	678	6
Pennsylvania	0.28	26.1	√[a,b]	√	2,182	7
Rhode Island	0.24	22.2	√[b]	√	2,595	7
South Carolina	0.82	22.5	√[a]	√	1,903	6
South Dakota	0.20	15.7	√[a]	√	2,299	7
Tennessee	0.76	27.7	√	√	1,855	6
Texas	0.48	22.4	√[a,b]	√	1,821	6
Utah	0.18	14.4	√[a]	√	763	8
Vermont	0.02	14.4	√[a,b]	√	417	6
Virginia	0.22	17.7	√	√	1,344	6
Washington	0.32	19.6	√[a]	√	799	6
West Virginia	0.90	23.4	√[a,b]	√	1,656	4
Wisconsin	0.08	18.9	√[a,b]	√	1,423	6
Wyoming	0.16	19.4		√	1,350	8
Total	**N/A**	**N/A**	**42 states and D.C.**	**47 states and D.C.**	**1,866**	**N/A**

Sources and Notes:

1. Surgo Ventures. "COVID-19 Community Vulnerability Index," 2021. https://docs.google.com/spreadsheets/d/1bPdZz1YCY-ai1l35XL2CWdASOgCjpss0FMiDGWERYPmA/edit#gid=978504636

*The COVID-19 Community Vulnerability Index builds on CDC's Social Vulnerability Index and includes indicators within seven themes. Each theme has its own score, ranging from 0 (lowest vulnerability) to 1 (highest vulnerability), and these scores are aggregated to a single score. CCVI is computed at the census tract level; state level socres are population-weighted averages of their census tract CCVI

2. United Way of the National Capital Area, "Mapping the Effects of COVID-19 on Food Insecurity Across the Country," October 2020. https://unitedwayncа.org/stories/food-insecurity-statistics/

Food insecurity scores were calculated based on eight factors capturing immediate and indirect factors affecting access and ability to receive food, such as SNAP eligibility and funding, supermarket access, unemployment, degree to which public schools were open, and percent of students eligible for free and reduced-price lunches. Each factor was weighted based on importance and scores compiled to create an overall score on a 50 point scale.

3. Center on Budget and Policy Priorities, "State USDA-Approved SNAP Waivers and Options," May 2021. https://www.cbpp.org/research/food-assistance/most-states-are-using-new-flexibility-in-snap-to-respond-to-covid-19

a. These states were approved for P-EBT for the entire 2020-2021 school year after the October 2020 extension of the program, including retroactive benefits for August and/or September 2020.

b. These states were approved to issue P-EBT benefits for children under age 6 in SNAP households in areas where schools or child care centers are closed or operating with reduced hours or capacity due to the pandemic.

c. California was approved to issue benefits for children under age 6 in SNAP households but has not yet been approved to issue P-EBT to school-aged children in the 2020-2021 school year.

4. Kaiser Family Foundation, "Cumulative COVID-19 Cases and Deaths, "August 2021. https://www.kff.org/other/state-indicator/cumulative-covid-19-cases-and-deaths/

5. GenderSci Lab, "US State COVID-19 Report Card," January 2021. https://www.genderscilab.org/blog/us-state-covid-19-data-report-card.

State surveillance reporting of COVID-19 is scored from 0-10. For case reporting, a state can earn 1 point for each category of age, sex/gender, race/ethnicity, and comorbidities reported. Any reporting on the interactions of these first four variables also earned 1 point. Similarly, a state earned 1 point for each of these variables in their reporting of deaths, plus 1 point for reporting any interactions.

Community Conditions

	Social Determinants of Health Index (2019)	Household Food Insecurity (Average 2017-2019)	Poverty (2019)		Health Insurance Coverage (2019)		Neighborhood Sidewalks and Parks (2018-2019)	
	How does the state rank on the Social Determinants of Health Index (SDOHi)?[1]*	What percentage of households experience low or very low food security?[2]	What percentage of residents live below the poverty level?[3]	How much higher is the poverty rate for Black residents as compared with White residents?[3]	What percentage of residents age 0-64 are uninsured?[4]	How much higher are uninsured rates for Black residents (age 0-64) as compared with White residents (age 0-64)?[4]	What percentage of children live in neighborhoods with sidewalks/ walking paths?[5]	What percentage of children live in neighborhoods with parks/ playgrounds?[5]
Alabama	46	14%[a]	16%	105%	12%	24%	50%	52%
Alaska	24	11%	11%	n/a	13%	n/a	66%	74%
Arizona	28	12%	13%	90%	13%	29%	86%	81%
Arkansas	48	14%[a]	17%	116%	11%	-2%	53%	53%
California	6	10%[a]	12%	130%	9%	25%	92%	86%
Colorado	9	10%	9%	181%	9%	26%	90%	87%
Connecticut	7	13%	10%	217%	7%	46%	67%	79%
Delaware	21	10%	11%	137%	8%	25%	73%	69%
D.C.	N/A	10%	14%	359%	4%	293%	98%	88%
Florida	23	11%	13%	115%	16%	30%	76%	73%
Georgia	39	10%	13%	110%	16%	19%	59%	61%
Hawaii	5	8%[a]	10%	n/a	5%	n/a	81%	88%
Idaho	36	10%	11%	n/a	12%	n/a	76%	73%
Illinois	12	10%[a]	11%	205%	9%	73%	88%	89%
Indiana	42	12%	12%	150%	10%	24%	70%	65%
Iowa	33	8%[a]	11%	208%	6%	76%	81%	77%
Kansas	27	13%	12%	134%	11%	124%	73%	75%
Kentucky	47	14%[a]	16%	57%	8%	25%	57%	53%
Louisiana	37	15%[a]	19%	135%	10%	14%	51%	56%
Maine	35	12%	11%	185%	10%	7%	59%	66%
Maryland	4	10%	9%	106%	7%	63%	81%	81%
Massachusetts	1	8%[a]	9%	174%	4%	83%	85%	83%
Michigan	40	12%	13%	170%	7%	11%	71%	74%
Minnesota	17	8%[a]	9%	308%	6%	144%	80%	87%
Mississippi	50	16%[a]	20%	161%	15%	10%	40%	48%
Missouri	32	12%	13%	82%	12%	16%	65%	69%
Montana	29	10%	13%	n/a	10%	n/a	69%	68%
Nebraska	15	11%	10%	80%	9%	195%	88%	80%
Nevada	20	13%	13%	114%	14%	-8%	90%	80%
New Hampshire	22	7%[a]	8%	n/a	8%	126%	61%	74%
New Jersey	3	8%[a]	9%	191%	9%	112%	81%	87%
New Mexico	44	15%[a]	18%	94%	12%	n/a	79%	76%
New York	2	11%	13%	110%	6%	67%	80%	86%
North Carolina	38	13%[a]	14%	122%	14%	30%	55%	58%
North Dakota	19	8%[a]	11%	n/a	9%	n/a	78%	81%
Ohio	34	13%[a]	13%	170%	8%	30%	75%	77%
Oklahoma	45	15%[a]	16%	127%	18%	22%	53%	61%
Oregon	14	10%	12%	170%	9%	29%	82%	81%
Pennsylvania	18	10%	12%	183%	7%	16%	71%	79%
Rhode Island	8	9%[a]	11%	242%	5%	79%	78%	84%
South Carolina	43	11%	14%	152%	13%	21%	52%	55%
South Dakota	30	11%	11%	n/a	12%	n/a	81%	76%
Tennessee	41	13%	14%	90%	12%	23%	52%	57%
Texas	31	13%[a]	14%	133%	21%	26%	74%	73%
Utah	10	11%	9%	492%	11%	239%	91%	89%
Vermont	16	10%[a]	10%	269%	6%	n/a	61%	75%
Virginia	13	9%[a]	10%	109%	9%	43%	74%	73%
Washington	11	10%	10%	94%	8%	64%	79%	78%
West Virginia	49	15%[a]	16%	83%	8%	25%	51%	58%
Wisconsin	26	10%	10%	227%	7%	75%	68%	80%
Wyoming	25	12%	10%	n/a	15%	n/a	79%	81%
Total	**N/A**	**11%**	**12%**	**136%**	**11%**	**46%**	**74%**	**75%**

Sources and Notes:
1. Sharecare and Boston University, "Social Determinants of Health Index," August 2020. https://wellbeingindex.sharecare.com/wp-content/uploads/2020/08/Sharecare-CWBI_2019_State_Rankings_vF.pdf

*The Social Determinants of Health Index includes 17 items across five interrelated domains: healthcare access, food access, resource access, housing and transportation, and economic security. State-level SDOHi scores were created by aggregating county-level SDOHi scores with weights proportional to county population sizes.

2. Coleman-Jensen A, Rabbitt MP, Gregory CA, and Singh A. "Household Food Security in the United States in 2019, ERR-275," U.S. Department of Agriculture, Economic Research Service, 2020. https://www.ers.usda.gov/webdocs/publications/99282/err-275.pdf?v=7082.3.United States Department of Agriculture (USDA)9

a. Difference from U.S. average was statistically significant with 90% confidence.

3. Kaiser Family Foundation, "Poverty Rate by Race/Ethnicity," 2019. https://www.kff.org/state-category/demographics-and-the-economy/

* Kaiser Family Foundation estimates based on U.S. Census Bureau's American Community Survey.

4. Kaiser Family Foundation, "Uninsured Rates for the Nonelderly by Race/Ethnicity," 2019. https://www.kff.org/state-category/demographics-and-the-economy/

* Kaiser Family Foundation estimates based on U.S. Census Bureau's American Community Survey.

5. HRSA Maternal and Child Health Bureau, "2018-2019 National Survey of Children's Health", 2021. www.childhealthdata.org

Nutrition Assistance Programs			
	Special Nutrition Assistance Program Participation (2017)	**Special Supplemental Nutrition Program for Women, Infant, and Children Participation**	**Women, Infant, and Children Breastfeeding Performance Measurements (FY 2019)**
	What percentage of people eligible participate in SNAP?[1]	What percentage of people eligible participate in WIC?[2]	What is the percentage of breastfed infants (fully or partially breastfed) among WIC participants in the state?[3]
Alabama	84%	59%	12%
Alaska	76%	57%	46%
Arizona	76%	52%[a]	31%
Arkansas	69%	52%[a]	14%
California	71%	67%[a]	38%
Colorado	80%	50%[a]	35%
Connecticut	92%	50%[a]	35%
Delaware	100%	49%[a]	29%
D.C.	96%	45%[a]	44%
Florida	90%	57%	36%
Georgia	86%	49%[a]	28%
Hawaii	84%	57%	47%
Idaho	79%	47%[a]	46%
Illinois	100%	48%[a]	29%
Indiana	74%	59%	28%
Iowa	92%	60%	27%
Kansas	71%	47%[a]	30%
Kentucky	75%	58%	21%
Louisiana	85%	50%[a]	12%
Maine	97%	63%	31%
Maryland	89%	66%[a]	41%
Massachusetts	92%	64%[a]	36%
Michigan	94%	64%[a]	23%
Minnesota	81%	66%[a]	37%
Mississippi	77%	62%[a]	14%
Missouri	85%	54%[a]	23%
Montana	90%	46%[a]	33%
Nebraska	78%	54%	34%
Nevada	86%	53%[a]	30%
New Hampshire	76%	44%[a]	33%
New Jersey	81%	57%	42%
New Mexico	100%	44%[a]	36%
New York	93%	61%[a]	45%
North Carolina	77%	57%	31%
North Dakota	63%	52%	29%
Ohio	81%	53%[a]	17%
Oklahoma	84%	59%	18%
Oregon	100%	63%[a]	39%
Pennsylvania	99%	55%	19%
Rhode Island	100%	57%	24%
South Carolina	80%	47%[a]	21%
South Dakota	82%	59%	28%
Tennessee	92%	46%[a]	22%
Texas	75%	55%	54%
Utah	70%	45%[a]	40%
Vermont	100%	75%[a]	47%
Virginia	76%	47%[a]	22%
Washington	96%	56%	41%
West Virginia	92%	54%	16%
Wisconsin	95%	57%	23%
Wyoming	52%	55%	33%
Total	**84%**	**57%**	**33%**

Sources and Notes:

1. USDA Food and Nutrition Service, "Estimates of State Supplemental Nutrition Assistance Program Participation Rates in 2017, " August 2020. https://fns-prod.azureedge.net/sites/default/files/resource-files/Reaching2017-1.pdf.

*Estimated SNAP participation rates are based on samples of households in each state. While there is substantial uncertainty associated with the estimates and comparisons across states, the estimates do show whether a state's participation rate was probably at the top, at the bottom, or in the middle of states. Estimated participation rates of 100 percent stem from differences of the data used to estimate the number of eligible people and those used to estimate participants, and do not mean that every eligible person participated.

2. USDA Food and Nutrition Service, "National- and State-Level Estimates of WIC Eligibility and WIC Program Reach in 2018 with Updated Estimates for 2016 and 2017," May 2021. https://fns-prod.azureedge.net/sites/default/files/resource-files/WICEligibles2018-VolumeI.pdf.

a. Difference from national coverage rate was statistically significant at the 95 percent confidence level.

*These values capture eligibility and participation across all WIC participant categories (infants, children up to age 5, pregnant women, and postpartum women). Note that eligibility can vary across states and localities based on income unit, income period, and income limits. This data excludes territories for states and includes territories in "total".

3. USDA Food and Nutrition Service, "WIC Breastfeeding Data Local Agency Report," August 2020. https://fns-prod.azureedge.net/sites/default/files/resource-files/FY2019-BFDLA-Report.pdf.

K-12 School Nutrition and Physical Activity

	Smart Snacks Standards (2019-2020)	Food Marketing (2019-2020)	School Breakfast Program (2019-2020)		Community Eligibility Provision (2020-2021)
	Do state laws meet Smart Snacks Standards for all grade levels?[1]	Does the state restrict marketing of unhealthy foods/beverages in schools?[1]	What percentage of the children in the School Lunch Program are in the School Breakfast Program?[2]	What percentage of schools in the School Lunch Program are in the School Breakast Program?[2]	What percentage of eligible districts have adopted the community eligibility provision?[3]*
Alabama			61%	98%	62%
Alaska			55%	93%	83%
Arizona			56%	96%	39%
Arkansas	√		68%	99%	44%
California		√[b]	58%	91%	42%
Colorado			57%	86%	33%
Connecticut			52%	88%	71%
Delaware			63%	100%	83%
D.C.	√	√[b]	68%	99%	90%
Florida	√		52%	99%	68%
Georgia	√		62%	100%	82%
Hawaii			40%	97%	92%
Idaho			53%	96%	41%
Illinois	√		53%	85%	41%
Indiana	√		52%	92%	44%
Iowa	√		44%	94%	19%
Kansas			54%	95%	9%
Kentucky	√		68%	98%	95%
Louisiana	√		61%	96%	94%
Maine		√[a]	64%	98%	28%
Maryland			62%	99%	73%
Massachusetts			57%	88%	74%
Michigan			60%	93%	56%
Minnesota			55%	90%	44%
Mississippi	√		61%	96%	47%
Missouri			64%	95%	46%
Montana			63%	93%	86%
Nebraska			45%	85%	22%
Nevada			62%	93%	84%
New Hampshire	√		46%	94%	33%
New Jersey	√	√[a]	58%	84%	52%
New Mexico	√		69%	97%	88%
New York			53%	95%	79%
North Carolina			61%	99%	74%
North Dakota			52%	92%	89%
Ohio			59%	90%	69%
Oklahoma	√		59%	98%	58%
Oregon			55%	97%	66%
Pennsylvania			54%	94%	60%
Rhode Island	√	√[b]	54%	98%	41%
South Carolina	√		63%	100%	76%
South Dakota			46%	87%	63%
Tennessee	√		66%	99%	51%
Texas			64%	100%	54%
Utah	√		40%	90%	93%
Vermont			71%	98%	61%
Virginia		√[b]	63%	99%	74%
Washington			50%	94%	63%
West Virginia	√	√[b]	84%	99%	98%
Wisconsin			54%	86%	48%
Wyoming			52%	96%	89%
Total	**18 states and D.C.**	**6 states and D.C.**	**58%**	**94%**	**56%**

K-12 School Nutrition and Physical Activity (continued)			
	National Physical Education Standards (2019-2020)	**Physical Activity Throughout the Day (2019-2020)**	**Recess (2019-2020)**
	Does the state address or refer to the National Physical Education Standards within state PE curriculum laws?[4]	Does the state have laws that address providing physical activity throughout the day (e.g., during classroom breaks)?[4]	Does the state have laws that address providing physical activity through recess?[4]
Alabama	√		√[c]
Alaska	√	√[a]	√[c]
Arizona	√	√[b]	
Arkansas		√[a]	√[d]
California			√[c]
Colorado	√	√[a]	√[c]
Connecticut		√[a]	√[d]
Delaware	√		
D.C.	√	√[a]	√[c]
Florida	√		√[d]
Georgia			
Hawaii			
Idaho	√		
Illinois			
Indiana		√[a]	√[c]
Iowa		√[b]	
Kansas			
Kentucky	√	√[a]	
Louisiana	√	√[a]	
Maine			
Maryland	√		
Massachusetts	√		
Michigan			
Minnesota	√	√[a]	√[c]
Mississippi	√	√[a]	√[c]
Missouri		√[a]	√[d]
Montana	√		
Nebraska			
Nevada			
New Hampshire	√	√[a]	√[c]
New Jersey			√[d]
New Mexico	√	√[a]	
New York			
North Carolina			
North Dakota			
Ohio	√		
Oklahoma	√	√[a]	√[c]
Oregon	√		
Pennsylvania			
Rhode Island	√	√[b]	√[d]
South Carolina	√	√[a]	√[c]
South Dakota	√		
Tennessee		√[b]	
Texas	√		√[c]
Utah			
Vermont	√	√[a]	√[c]
Virginia		√[a]	√[d]
Washington	√	√[a]	
West Virginia		√[a]	√[d]
Wisconsin			
Wyoming	√		
Total	**26 states and D.C.**	**23 states and D.C.**	**20 states and D.C.**

Sources and Notes:

1 Temkin D et al." State Polices that Support Healthy Schools, School Year 2019-2020," Child Trends, February 2021. https://www.childtrends.org/wp-content/uploads/2021/01/StatePolicyReport_ChildTrends_February2021.pdf.

a. Recommend marketing be consistent with Smart Snacks standards b. Require marketing be consistent with Smart Snacks standards

2 Food Research and Action Center, "School Breakfast Scorecard, School Year 2019-2020," February 2021. https://frac.org/wp-content/uploads/FRAC_BreakfastScorecard_2021.pdf

3 Food Research and Action Center, "Community Eligibility: The Key to Hunger-Free Schools, School Year 2020-2021," June 2021. https://frac.org/wp-content/uploads/CEP-Report-2021.pdf

*Community eligibility allows high-poverty schools and school districts to offer free meals to all students, and it eliminates the need for household school meal applications.

4 Temkin D et al. "State Polices that Support Healthy Schools, School Year 2019-2020", Child Trends, February 2021. https://www.childtrends.org/wp-content/uploads/2021/01/StatePolicyReport_ChildTrends_February2021.pdf

a. Encourages providing physical activity throughout the day

b. Requires providing physical activity throughout the day

c. Addresses or requires recess less than daily

d. Requires daily recess

Endnotes

1 Fryar CD, Carroll MD, and Ogden CL. *Prevalence of Overweight, Obesity, and Extreme Obesity Among Adults: United States, Trends 1960–1962 Through 2009–2010.* Hyattsville, MD: National Center for Health Statistics, September 2012. https://www.cdc.gov/nchs/data/hestat/obesity_adult_09_10/obesity_adult_09_10.htm (accessed July 18, 2021).

2 Hales CM, Carroll MD, Fryar CD, and Ogden CL. *Prevalence of Obesity and Severe Obesity Among Adults: United States, 2017–2018.* NCHS Data Brief, no. 360. Hyattsville, MD: National Center for Health Statistics, February 2020. https://www.cdc.gov/nchs/products/databriefs/db360.htm (accessed July 18, 2021).

3 National Center for Chronic Disease Prevention and Health Promotion. "2020 BRFSS Survey Data and Documentation." *Centers for Disease Control and Prevention,* updated August 31, 2021. https://www.cdc.gov/brfss/annual_data/annual_2020.html (accessed September 1, 2021).

4 Kompaniyets L, Goodman AB, Belay B, et al. "Body Mass Index and Risk for COVID-19–Related Hospitalization, Intensive Care Unit Admission, Invasive Mechanical Ventilation, and Death — United States, March–December 2020." *Morbidity and Mortality Weekly Report,* 70(10): 355-361, 2021. https://www.cdc.gov/mmwr/volumes/70/wr/mm7010e4.htm (accessed July 18, 2021).

5 The Global BMI Mortality Collaboration. "Body-Mass Index and All-Cause Mortality: Individual Participant-Data Meta-Analysis of 239 Prospective Studies in Four Continents." *The Lancet,* 388(10046): 776-786, 2016. https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(16)30175-1/fulltext (accessed July 18, 2021).

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1730 M Street, NW, Suite 900
Washington, DC 20036
(t) 202-223-9870
(f) 202-223-9871