

The State of Obesity:

BETTER POLICIES FOR A HEALTHIER AMERICA 2022

Special Feature: Food and Nutrition Insecurity Among Youth and Families



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.

TFAH BOARD OF DIRECTORS

Gail Christopher, D.N.

Chair of the Board
Trust for America's Health
Executive Director
National Collaborative for Health Equity
Former Senior Advisor and Vice President
W.K. Kellogg Foundation

David Fleming, M.D.

Vice Chair of the Board
Distinguished Visiting Fellow
Trust for America's Health

Robert T. Harris, M.D., FACP

Treasurer of the Board
Trust for America's Health
Senior Medical Director
General Dynamics Information Technology

Theodore Spencer, M.J.

Secretary of the Board
Co-Founder
Trust for America's Health

Stephanie Mayfield Gibson, M.D.

Director, U.S. COVID-19 Response Initiative
Resolve to Save Lives

Cynthia M. Harris, Ph.D., DABT

Associate Dean for Public Health, Director, and Professor
Institute of Public Health,
Florida A&M University

David Lakey, M.D.

Chief Medical Officer and Vice Chancellor for Health Affairs
The University of Texas System

Octavio Martinez Jr., M.D., MPH, MBA, FAPA

Executive Director
Hogg Foundation for Mental Health,
The University of Texas at Austin

John A. Rich, M.D., MPH

Director
RUSH BMO Institute for Health Equity,
Rush University System for Health

Eduardo Sanchez, M.D., MPH

Chief Medical Officer for Prevention
American Heart Association

Umair A. Shah, M.D., MPH

Secretary of Health
Washington State

Vince Ventimiglia, J.D.

President, Collaborative Advocates
Leavitt Partners

TFAH LEADERSHIP STAFF

J. Nadine Gracia, M.D., MSCE

President and CEO

Tekisha Dwan Everette, Ph.D., MPA

Executive Vice President

Stacy Molander

Chief Operating Officer

REPORT AUTHORS

Molly Warren, S.M.

Senior Health Policy Researcher and Analyst
Trust for America's Health

Stacy Beck, J.D.

Consultant

Madison West

Associate Government Relations Manager
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
Principal Investigator
The Healthy Minds Network

REVIEWERS

Elizabeth Campbell, M.A., RDN

Senior Director of Legislative and Government Affairs
Academy of Nutrition and Dietetics

Brian Dittmeier, Esq.

Senior Director of Public Policy
National WIC Association

Jessica Garay, Ph.D., RDN, CSCS, FAND

Assistant Professor, Department of Nutrition and Food Studies
Syracuse University

The State of Obesity

Table of Contents

ACKNOWLEDGMENTS	2
INTRODUCTION	4
SECTION 1. SPECIAL FEATURE: FOOD AND NUTRITION INSECURITY AMONG YOUTH AND FAMILIES	9
A. Childhood Obesity and Food Insecurity	10
B. Food Insecurity and Food Assistance Programs During COVID-19	11
C. Related Federal and State Policies and Programs	14
i. Federal Hunger and Nutrition Assistance: Special Supplemental Nutrition Program for Women, Infants, and Children, School/Child Nutrition Programs, Supplemental Nutrition Assistance Program, and Nutrition Incentive Programs	14
ii. Childcare and Education Settings: Head Start, Early Childhood Education State Requirements, K-12 Local Wellness Programs, and Smart Snacks	18
iii. Centers for Disease Control and Prevention Childhood Obesity Research, Data, and Education Programs	20
Q&A with Dr. Seligman: Improving Americans' Nutrition Security Requires Legislative Action	22
SECTION 2. OBESITY-RELATED DATA AND TRENDS	24
A. Trends in Adult Obesity	24
i. State Obesity Rates	25
ii. Demographic Trends	26
B. Trends in Childhood Obesity	31
i. National Youth Obesity Rates	32
ii. Young WIC Participants, Ages 2 to 4	32
iii. Obesity Rates in Children and Teenagers, Ages 10 to 17	33
iv. High School Obesity Rates	33
SECTION 3. OBESITY-RELATED POLICIES AND PROGRAMS	35
A. Economics of What We Eat and Drink	35
i. Fiscal and Tax Policies that Promote Healthy Eating: Beverage Taxes, Healthy Food Financing Initiative and the New Markets Tax Credit	35
ii. Food and Beverage Marketing	37
B. Community Policies and Programs	39
i. Built Environment: Community Design and Land Use, Housing, Safe Routes	39
ii. CDC Community Initiatives	41
C. Nutrition Standards, Dietary Guidelines, and Nutrition and Menu Labels	44
i. Nutrition Standards	44
ii. Dietary Guidelines for Americans	45
iii. Nutrition and Menu Labels	45
D. Healthcare Coverage and Programs	48
i. Medicare and Medicaid	48
ii. Healthcare and Hospital Programs	49
SECTION 4. RECOMMENDATIONS	52
APPENDIX: OBESITY-RELATED INDICATORS AND POLICIES BY STATE	63
ENDNOTES	69

View this report online at <https://www.tfah.org/report-details/state-of-obesity-2022/>.

For more data on childhood obesity prevalence, policies and programs, visit StateofChildhoodObesity.org.

The State of Obesity

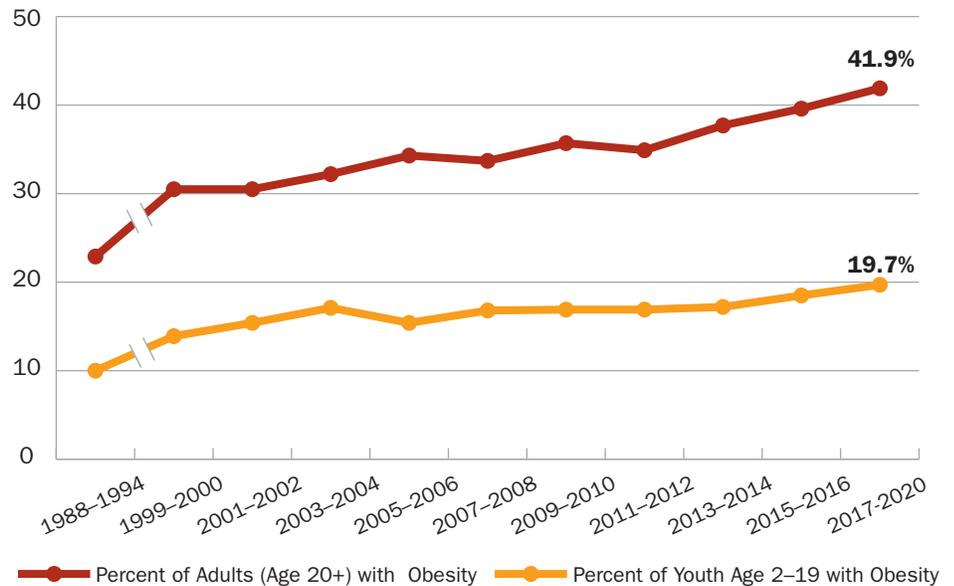
Introduction

Obesity rates have been rising for decades across states, ages, sexes, and racial/ethnic groups, with continued increases during the COVID-19 pandemic.^{1,2,3,4,5,6} These long-term, cross-population trends underscore the nature of the crisis as a population-level problem tied to social, economic, and environmental factors in the United States, most of which are outside of an individual’s control. Some of these factors affect available choices and habits directly related to diet, nutrition, and physical activity—for example, the availability, cost, marketing, taste, and accessibility of nutrient-rich foods like fruits and vegetables versus calorie-rich foods like junk food and soda, and the availability, safety, and convenience of active transportation, parks, playgrounds, and facilities for exercise and physical activity. It is also important to consider the role other factors—like stress, discrimination, poverty, economic opportunity, and food insecurity—play in determining the health and well-being of every American.

New state-level data from the Behavioral Risk Factor Surveillance System (BRFSS) confirm the trend that adult obesity rates continued to climb in 2021, as they have been for decades. Between 2020 and 2021,

17 states had statistically significant increases in the adult obesity rates with only one state (California) seeing a statistically significant decline, and a total of 19 states now have adult obesity rates at 35 percent or higher.^{7,8}

Percent of U.S. Adults and Youth with Obesity, 1988–2020

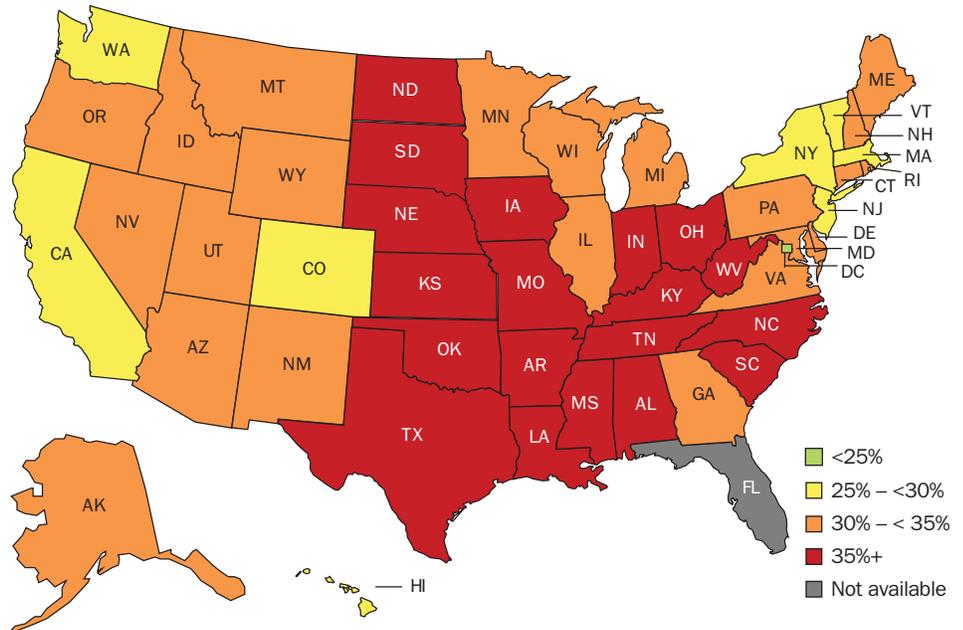


Source: NHANES

In response to long-term increases in obesity plus added complications from COVID-19, the United States needs to invest in long-term, evidence-based programs that reduce obesity, increase collaboration across public and private sectors, build bolder and better innovations and solutions, and devote more attention and action to addressing the underlying conditions and structural and systemic inequities that undermine many Americans' health.

This is the 19th annual report by Trust for America's Health on the obesity crisis in the United States. This year, our special feature highlights food and nutrition insecurity among youth and families. This report, as in previous years, also includes a section that reviews the latest data available on adult and childhood obesity rates (see page 24), a section that examines key current and emerging policies (page 35), and, finally, a section that outlines recommended policy actions (page 52).

Adult Obesity Rates by State, 2021



Source: TFAH analysis of BRFSS data

FAST FACTS ABOUT OBESITY IN THE UNITED STATES

National Adult Obesity Rate, 2017–2020: **41.9 percent**

Change in Adult Obesity Rate from 1999–2000 to 2017–2020: **37 percent increase**

National Youth Obesity Rate, 2017–2020: **19.7 percent**

Change in Youth Obesity Rate from 1999–2000 to 2017–2020: **42 percent increase**

Source: NHANES

Number of States with Adult Obesity Rates Above 35 Percent, 2021: **19**

Number of States with Adult Obesity Rates Above 35 Percent, 2011: **0**

Source: BRFSS

WHY DO WE FOCUS ON OBESITY?

Obesity is associated with a range of physical and mental conditions at the population level and is linked with higher healthcare costs and productivity losses.

(1) 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.^{9,10,11,12,13 14,15,16,17,18,19,20}

(2) Children with obesity are also at greater risk for certain diseases, like type 2 diabetes, high blood pressure,

and depression, and they are more likely to have obesity as an adult.^{21,22,23,24,25}

Children with obesity also have a higher risk of hospitalization and severe illness from COVID-19.²⁶

(3) Individuals with obesity had higher medical costs than lower-weight individuals. A 2021 study found that obesity accounted for \$170 billion in higher medical costs annually in the United States.²⁷ This includes billions in extra costs to the Medicare and Medicaid programs.^{28,29} 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.³⁰

WEIGHT-BASED STIGMA AND DISCRIMINATION

People with obesity not only live with additional health burdens, they are far too often victims of stigma and discrimination. Research has demonstrated that weight-based discrimination is pervasive in educational, workplace, and healthcare settings, and even among friends and family.^{31,32,33} It can include ridicule, bullying, and fewer social, educational, and employment opportunities, and a lower quality of healthcare.³⁴

Weight-based discrimination can result in measurable and often devastating consequences, including social isolation, mental health disorders, reduced wages, and poorer educational, employment, and healthcare outcomes.^{35,36,37} Evidence shows that on an annual basis less than three percent of eligible U.S. adults with obesity are prescribed anti-obesity medications or undergo bariatric surgery, demonstrating lower quality healthcare and barriers to treatment options for these individuals.^{38,39} Weight-based bias is also more significant for women than for men, often compounding the disadvantages women already face in the workplace and other areas.^{40,41} What's more, experiencing weight-based stigma actually increases the risk of unhealthy eating and the avoidance of exercise and healthcare.⁴² Even though it is one of the most common forms of discrimination in society today, most people experiencing weight-based discrimination lack legal protection.⁴³

One reason behind weight-based discrimination is the unproven—but widespread—belief that people with obesity simply lack the self-discipline to eat less and exercise more. Science, however, is increasingly demonstrating that obesity is a chronic disease and its causes are complex and include societal, biological, genetic, and

environmental factors, most of which are not under an individual's control.^{44,45}

Despite the fact that in 2013 the American Medical Association adopted a policy resolution recognizing obesity as a chronic disease requiring treatment and prevention interventions, healthcare providers unfortunately often contribute to weight-based stigma by assuming their patients can reverse obesity simply via lifestyle changes.⁴⁶ A recent study of healthcare professionals in 77 countries found that a large majority believe that obesity can be entirely prevented (57 percent) or cured (62 percent) simply by adopting a “healthy lifestyle.”⁴⁷ Medical professionals need better education about the latest science on obesity and training on the most effective treatments to treat it, including addressing social needs, behavioral therapy and nutrition counseling from professionals like registered dietitians, anti-obesity medication, and bariatric surgery. Likewise, both public and private health insurers should cover evidence-based comprehensive weight-management programs and services.

Public health advocates also need to consider their own role in contributing to weight-based stigma, as public health interventions that stigmatize obesity may have the opposite of their intended effect.⁴⁸ This organization is no exception. This report, for example, was formerly called *F as in Fat: How Obesity Threatens Our Future*. Recognizing those words could stigmatize individuals living with obesity, TFAH changed the report's name in 2014. In addition to changing the title, the focus of the report has increasingly broadened to include the many social determinants of health and underlying systemic inequities associated with obesity.

2022 STATE OF OBESITY RECOMMENDATIONS

Trust for America's Health offers the following recommendations for federal, state, and local policymakers and other stakeholders. 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 52.

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

- Increase funding for Centers for Disease Control and Prevention (CDC)'s National Center for Chronic Disease Prevention and obesity-prevention programs, including the State Physical Activity and Nutrition program, the Racial and Ethnic Approaches to Community Health program, and the Healthy Tribes program;
- Expanding the Social Determinants of Health program at CDC to support multisector collaborations to address upstream drivers of chronic disease;
- 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 can navigate federal funding mechanisms.

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

- Making healthy school meals for all permanent and, in the interim, encouraging Community Eligibility Program participation,

and make permanent COVID-19 flexibilities that expand nutrition access;

- Strengthening nutrition standards for school meals and snacks;
- Maintaining eligibility, increasing value of benefit, and ensuring there are no new participation barriers 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 the Gus Schumacher Nutrition Incentive Program (GusNIP);
- Expanding access to the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) for young children and postpartum women and continuing the increase in benefits through FY 2023;
- Bolstering the Child and Adult Care Food Program by allowing a third meal-service option, increasing reimbursements, simplifying administration, and continuing funding for nutrition and wellness education;
- Expanding support for programs that promote maternal and child health, including breastfeeding support;
- Incentivizing healthy food options, like adding healthful corner stores, community gardens, and farmers' markets; and
- Increasing outreach to eligible families to apply for school meals 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 for advertising of unhealthy food and beverages to children on television, online, and places frequented by children;

- Discouraging unhealthy food and drink options by enacting drink taxes—and using the revenue to reduce health and socioeconomic disparities;
- Improving the nutrition quality of the food that government agencies procure to better serve public health and set an example for the private sector; and
- Incorporating local wellness policies that reduce unhealthy food and beverage marketing and advertising to children and adolescents 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 the update of the Physical Activity Guidelines for Americans every 10 years;
- Boosting funding for active transportation projects like pedestrian and biking infrastructure and recreational trails in addition to 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 conducting physical education and prioritizing physical activity during schooltime;
- Working locally to make community spaces more conducive and safer for physical activity and active transport and encouraging of outdoor play.

- Adopting Complete Streets principles;
- Encouraging outdoor play and activity for children via state and federal programs and additional park development for communities most in need.

5. Work with the healthcare system to close disparities and gaps from clinic to community settings by:

- Increasing access to health insurance coverage by expanding Medicaid and making marketplace coverage more affordable;
- Clarifying to health insurers that obesity-related preventive healthcare 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 healthcare providers and payers to screen and refer individuals to social service needs and care coordination, sufficiently reimburse social services providers, and better integrate social needs data into medical records;
- Addressing social determinants of health in communities with high levels of obesity, through community-directed goals and strategies, and evidence-based programs;
- Requiring Medicare to cover obesity-related services such as obesity and nutritional counseling and anti-obesity medications;
- Requiring and providing additional funding for each states' Medicaid program to cover evidence-based, comprehensive pediatric weight-management programs;
- Enabling Medicaid waivers to allow community-based organizations to be reimbursed for chronic disease prevention activities, to further incentivize cross-sector collaboration.

WHAT IS OBESITY AND BMI?

“Obesity” means that an individual’s body fat and body-fat distribution exceed the level considered healthy.^{49,50} Body-mass index (BMI) is a method often used as a proxy for body fat and cardiometabolic risk since it is simple and inexpensive to determine—no invasive tests, specialized equipment, or prior diagnoses required—and thus more universally available.

It has several important limitations, however. First, while useful to estimate levels of body fat across populations, the relationship does not hold for all individuals. For example, muscular individuals often have lower body fat than their BMI would suggest.⁵¹ The relationship of BMI to cardiometabolic risk is also imperfect. For individuals, a more holistic understanding of family/personal history, lifestyle factors, body fat, and body-fat distribution are important to assessing cardiometabolic risk. On a population level, the risks at different BMIs systematically varies by sex and race/ethnicity. For example, certain populations of Asian Americans have higher risks of cardiometabolic diseases at lower BMIs, and Black Americans have lower risks at higher BMIs. Some researchers have suggested adjusting BMI thresholds to more accurately estimate cardiometabolic risks in different populations.⁵²

BMI is calculated by dividing a person’s weight (in kilograms) by his or her height (in meters) squared. The BMI formula for measurements in pounds and inches is:

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

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 1994.⁵³

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

The State of Obesity

SPECIAL FEATURE: Food and Nutrition Insecurity Among Youth and Families

Food and nutrition insecurity among youth and families is a critical issue that underscores the importance of social, economic, and environmental factors, as well as the role that safety-net programs play in ensuring the health and well-being of young Americans. This section explores the intersection of childhood obesity and food and nutrition insecurity, food-assistance programs during COVID-19, and related federal and state policies and programs.

WHAT IS FOOD AND NUTRITION SECURITY?

The U.S. Department of Agriculture (USDA) defines food security as “access by all people [in a household] at all times to enough food for an active, healthy life.”⁵⁴ Households with food insecurity report “being worried food would run out,” that “the food bought did not last,” and that they “could not afford a balanced meal.” Households with very low food security additionally report they “cut the size of meal or skipped meal,” “ate less food than felt [they] should,” and “were hungry but did not eat.”⁵⁵ There are four levels of food security:

- 1. High food security:** No reported indications of food-access problems or limitations.
- 2. Marginal food security:** One or two reported indications—typically, anxiety over food sufficiency or a

shortage of food in the house. Little or no indication of changes in diets or food intake.

- 3. Low food security:** Reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake.
- 4. Very low food security:** Reports of multiple indications of disrupted eating patterns and reduced food intake.

Nutrition security includes food access as well as the nutritional quality of the foods available, including whether it meets the Dietary Guidelines for Americans. As defined by USDA, nutrition security is “consistent access to nutritious foods that promote optimal health and well-being for all Americans, throughout all stages of life.”⁵⁶

WHAT IS NUTRITION SECURITY?

Consistent access to nutritious foods that promote optimal health and well-being for all Americans, throughout all stages of life.



HOW DOES NUTRITION SECURITY BUILD ON FOOD SECURITY?

Food security is having *enough* calories. Nutrition security is having the *right* calories.

Source: USDA

CHILDHOOD OBESITY AND FOOD INSECURITY

For children and adolescents, food insecurity is associated with a lower-quality diet and a range of poor physical and mental health outcomes—including higher odds of having asthma, anemia, and fair or poor health and a higher risk of cognitive issues, aggression, anxiety, depression, behavior problems, suicide, ideation, and hospitalization.^{57,58} It is hard to separate the effects of food insecurity from poverty and other socioeconomic factors, since they overlap closely, and both influence diet habits and quality, as well as overall stress and well-being of families.⁵⁹ Several recent studies have found that food insecurity is associated with childhood obesity independent from poverty and other socioeconomic factors, although earlier research findings have been mixed.^{60,61,62,63}

Several theories explain the link between food insecurity and obesity; many are related to the social, economic, political, and environmental conditions that are

the 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.⁶⁴

(2) A social determinants of health theory attributes obesity among low-income households (who are disproportionately likely to be food-insecure) to their financial and physical environments. The theory posits that individuals who lack money to purchase fresh fruits and vegetables have few safe spaces for physical exercise and have limited access to supermarkets with affordable and nutritious food items—but easy access to inexpensive, high-calorie processed foods—are more likely to have obesity.^{65,66}

(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.^{67,68}

(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.⁶⁹

(5) Several studies have suggested that nutrition policy—specifically the Supplemental Nutrition Assistance Program (SNAP) and its monthly rotation—may encourage participants into a “feast-or-famine” cycle in which 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.^{70,71}

FIRST 1,000 DAYS OF LIFE

Childhood exposures in the first days—from gestation to 2 years old—can have lifelong protective or negative effects on health and wellness.⁷² Early experiences affect neurological function, social skills, as well as development throughout the body, due to the extra adaptive ability of brains in their first years.⁷³ This can be disrupted by negative exposures like stress, toxins, malnutrition, and disease.⁷⁴

In terms of obesity, certain processes like weight pattern, metabolism, and number of fat cells also develop early in life.⁷⁵ Additionally, there are prenatal and postnatal influences like maternal weight and gestational weight gain, gestational diabetes, breastfeeding, gut microbiome, toxin exposure,

maternal stress, and birth weight and infant weight gain that can influence child weight in the first years.⁷⁶ A promising intervention is to start prevention for childhood obesity early—since maternal health affects pregnancy and child health outcomes—and think holistically about the health and well-being of mother and child before, during, and after pregnancy.⁷⁷ These include individual-level measures, like monitoring maternal risk factors and education on dietary patterns early in life, as well as community- and system-level measures like strengthening infrastructure and support systems around maternal care, postnatal care, breastfeeding support, and early childhood care.⁷⁸

FOOD INSECURITY AND FOOD ASSISTANCE PROGRAMS DURING COVID-19

The COVID-19 pandemic added new obstacles and exacerbated existing barriers to healthy eating and physical activity in 2020 and 2021, including disrupting food and nutrition security for families and youth. The disruption took several forms, starting with widespread job loss causing financial insecurity and school closures interrupting food services at the beginning of the pandemic in March 2020, and continuing supply-chain issues that have caused higher prices and limited availability of certain goods.

In addition to long-standing safety-net programs, Congress passed legislation in 2020 and 2021 that helped stabilize the financial and food security of millions of Americans, namely through the 2020 Families First Coronavirus Response Act (FFCRA); the 2020 Coronavirus Aid, Relief, and Economic Security (CARES) Act; the Fiscal Year 2021 Appropriations bill; and the 2021 American Rescue Plan Act.^{79,80,81,82} The FFCRA included authorization for USDA to extend emergency waivers to support food access during the pandemic, and the 2021 appropriations bill extended the authorization into 2022.⁸³ States can continue some through the end of the 2022–2023 school year.⁸⁴ Some key emergency interventions were directed at the population overall, including:

- **Economic assistance to many Americans** via (1) stimulus payments (three rounds totaling \$1,200 for adults and \$500 for dependent children in 2020, and \$2000 for adult and

dependent children in 2021); (2) three pandemic unemployment programs (created in spring 2020 and extended through September 2021) to provide extra relief for individuals who lost jobs; and (3) additional federal tax credits in 2021 to support working adults and families (Child Tax Credit, the Earned Income Tax Credit, and the Child and Dependent Care Tax Credit).^{85,86,87,88,89,90}

- **Additional emergency food assistance**, like additional funding for USDA's Emergency Food Assistance Program, which provides food and assistance to food banks and pantries across the country, and the Commodity Supplemental Food Program, which provides food to low-income seniors.^{91,92,93}
- **New flexibilities and higher benefits for SNAP.** In spring 2020, USDA approved waivers for additional benefit allotments to families who did not qualify for the maximum SNAP benefit, extended certification periods, suspended work-requirement time limits, and expanded the online grocery-purchasing pilot program.^{94,95,96}

Other emergency responses focused more directly on youth, with waivers to add flexibility to school meals programs and the Special Supplemental Nutrition Program for Women, Infants, and Children program to cope with pandemic restrictions and closures. These included:

- **A new cash-benefit program for children in response to school**

closures plus additional benefits and flexibilities for existing child nutrition programs.

In spring 2020, FFCRA created the Pandemic Electronic Benefit Transfer (P-EBT) program to provide cash benefits to children missing school meals during the pandemic, and USDA waived some of the existing child nutrition program requirements, including: offering free meals to all children in schools, providing a higher reimbursement rate for each meal served, 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, and permitting meals to be served in non-group settings.^{97,98}

The rule changes were extended through the end of summer 2022, with some administrative flexibilities and higher reimbursements through the 2022–2023 school year. Other meal flexibilities, including free meals for all, will end on September 30, 2022.^{99,100}

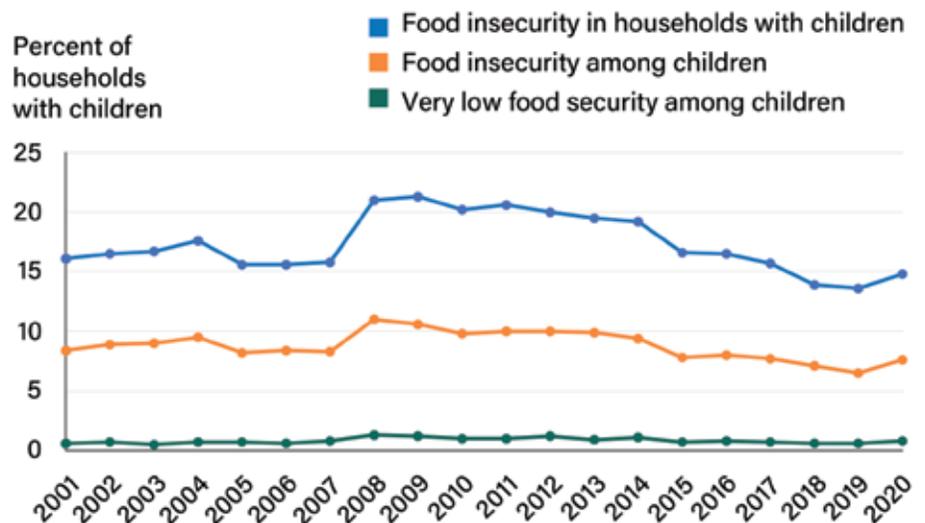
- **Additional benefits for the WIC program.** In spring 2020, USDA changed the rules for WIC participants to receive benefits remotely, to re-enroll without visiting a clinic, and to postpone certain medical tests. In addition, the American Rescue Plan provided funding for program modernization (e.g., improving in-store shopping experiences) and increased benefits for fruits and vegetables purchases.^{101,102}

In spring 2020, 21 million Americans lost jobs, leading to the highest unemployment rate on record.¹⁰³ Despite the economic situation for millions of Americans, overall household food insecurity was stable in 2020.¹⁰⁴ Demand for food-assistance programs paralleled the economic situation and the programs ramped up to meet increased need. Between February 2020 and June 2020, SNAP participation increased by 6 million people (from 36.9 to 42.9 million).¹⁰⁵ Food-pantry usage also jumped in 2020, with a record 6.7 percent of all U.S. households reporting to have used a food pantry (up from 4.4 percent in 2019). The previous highest rate was 5.5 percent in 2014.¹⁰⁶ These suggest that together these long-standing and emergency programs largely worked as designed and served as a safety net for many in the general U.S. population during the COVID-19 pandemic.

These efforts were less successful at maintaining food security among certain populations, including among

youth and families, over the year despite additional programs and flexibilities aimed to help. Participation in the school breakfast program decreased 5 percent and the school lunch program decreased 31 percent between the 2018–2019 pre-pandemic school year and the 2020–2021 school year.¹⁰⁷ Some of this decrease was absorbed by the P-EBT program, which provided alternative benefits during school closures. Yet inequities remained for some families. In 2020, 14.8 percent of households with children in the United States were food-insecure, a statistically significant increase over 2019, when the rate was 13.6 percent, and the first increase in a decade. These increases held for food insecurity specifically among children (versus the whole household) and very low food security among children. The increases were among married couples with children and Black and Latino households with children. Single-parent and white households with children did not have increases in food insecurity.¹⁰⁸

Food insecurity in U.S. households with children became more prevalent in 2020



Source: USDA, Economic Research Service using data from the December 2020 Current Population Survey Food Security Supplement, U.S. Census Bureau.

In 2022, another food insecurity issue rose for families of very young children: a nationwide shortage of infant formula. The shortage stemmed from a combination of several problems, including: (1) supply chain issues for ingredients and manufacturing supplies, and labor shortages related to the COVID-19 pandemic; (2) a major manufacturing safety failure that caused a factory that makes 40 percent of infant formula for the whole country to close for months; and (3) the concentration of formula manufacturing to only a few companies and other features of the infant formula market that constrained increasing production sufficiently to compensate for the closed factory.^{109,110} The Biden Administration and Congress have taken important steps to address the immediate situation including working to reopen the closed factory, helping other manufacturers obtain limited supplies and boost production through the Defense Production Act, temporarily increasing foreign imports, and adding flexibilities

for families in WIC to purchase any brand of formula available.¹¹¹ Additional longer-term fixes for the infant formula market also should be considered.

Without the long-standing and emergency programs, the increase in child food insecurity would have certainly been much, much worse over the past few years. The increase suggests that there are improvements and gaps to consider, including (1) ways to bolster support of youth and families regarding economic and food security now; (2) research on households who became food insecure during the pandemic and how to ensure youth who depend on school meals continue to get healthy foods; and (3) more planning on how to protect children and families during future economic downturns and large-scale emergencies. The next subsection, on page 14, covers key programs related to food security, and the recommendations sections, starting on page 52, includes suggestions on how to improve youth food and nutrition security.

THE CHARITABLE FOOD SYSTEM IN THE UNITED STATES

Food banks (which accept donations, store, and provide food to other organizations and programs) and food pantries (places where food is distributed to the community) are two key components of the charitable food system.¹¹² Feeding America estimates that 60 million people received more than 6 billion meals from private food-assistance programs in 2020. This was a 44 percent increase in meals over 2019.¹¹³

A 2021 study found that the average patron of food pantries was age 51,

white, female, had a high school diploma/GED, and had health insurance. Most people in the highest-usage class were in households that had trouble paying for medical bills. Approximately half had to decide between food or medication to afford the other at least once.¹¹⁴

Each community has unique needs and barriers to overcome, like reaching older adults through mobile food pantries or reaching children and families through school food pantries.

RELATED FEDERAL AND STATE POLICIES AND PROGRAMS

There are a number of critical food and nutrition assistance policies and programs that serve children and families in the United States. This subsection describes the history, purpose, and issues of key programs.

Federal Hunger and Nutrition Assistance: Special Supplemental Nutrition Program for Women, Infants, and Children, School/Child Nutrition Programs, Supplemental Nutrition Assistance Program, and Nutrition Incentive Programs

Special Supplemental Nutrition Program for Women, Infants, and Children

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides healthy food, nutrition education, breastfeeding support, and healthcare referrals to low-income pregnant, postpartum, and breastfeeding women and their children up to age 5. A permanent

federal program since 1975, WIC is funded by the federal government and administered by USDA's Food and Nutrition Service and by state and local agencies.¹¹⁵ The program is one of the nation's largest nutrition-assistance programs and helps provide food security to nearly 5

million children annually.¹¹⁶ The WIC food packages must meet high nutritional standards, and studies have found that, after these nutritional requirements were strengthened in 2009, obesity rates among children in the program declined.^{117,118,119}

THE IMPACT OF WIC FOOD PACKAGE CHANGES

WIC provides its participants with an EBT card they can use at authorized grocery stores to purchase specific foods that meet the nutritional needs of eligible family members. These food packages include items such as milk, infant formula, eggs, bread, canned fish, and produce. There are seven different food packages based on a recipient's age, breastfeeding status, and health needs. In 2007, USDA revised these packages to better align them with the *Dietary Guidelines for Americans*, and states were required to implement these changes by August 2009. The changes added more fruits, vegetables, and whole grains to the packages, reduced the allowable fat levels in milk and infant formula, and eliminated juice from the infant food package.¹²⁰

In the decade prior to the food package changes (2000–2010), the obesity rates among children ages 2 to 4 enrolled in the WIC program had been increasing.¹²¹ After the food packages were improved, obesity rates among these children declined.^{122,123} These improvements were statistically significant among all racial and ethnic groups studied.¹²⁴ Another study published in 2021 found that high weight-for-length rates

among WIC-enrolled infants—a risk factor for obesity later in life—also declined following implementation of the food package improvements.¹²⁵

This fall, USDA is expected to release a revised food package that follows the National Academies of Sciences, Engineering, and Medicine's WIC food package recommendations and 2020–2025 Dietary Guidelines for Americans for infants, toddlers, pregnant women, and breastfeeding women.¹²⁶ The National WIC Association recommends a higher value of WIC benefits across food packages to help adult, infant, and child participants meet nutrition requirements of the Dietary Guidelines for Americans. The National WIC Association also suggest adding in flexibility to rules that are hard to follow and limit usefulness in certain circumstances and populations—for example, including frozen, canned, and dried fruits and vegetables in addition to fresh fruits and vegetables; allowing purchase of larger whole grain packages sizes (e.g., 24-ounce loaf of bread) that are more common and lower cost; and allowing substitutions to accommodate food allergies/sensitivities and religious practices.¹²⁷

WIC has long promoted breastfeeding as a component of its nutrition education program, part of its mission to safeguard the health of women and children. Recognizing that WIC recipients have lower breastfeeding rates than the population as a whole, the Healthy, Hunger-Free Kids Act (HHFKA) of 2010 explicitly added breastfeeding promotion and support to WIC's mandate, expanded WIC's successful peer counselor program, and strengthened breastfeeding data collection requirements.^{128,129} Since then breastfeeding rates have improved among the WIC population: for example, breastfeeding initiation has increased from 63 percent in 2010 to 72 percent in 2020.^{130,131}

For nearly a decade, the number of enrollees in WIC has declined. In FY 2021, 6.2 million Americans were enrolled in WIC, the lowest level since the early 1990s.¹³² The lower enrollment stemmed mostly from challenges in retaining children in the program. In 2019, nearly all eligible infants participated in WIC, but less than one-quarter of eligible 4-year-olds participated.¹³³ Surveys of participants showed that the barriers to receiving services and benefits are not always worth the limited value of benefits.^{134,135} Some technological advancements have been made in recent years, including replacing paper vouchers with electronic benefit transfer (EBT) cards.¹³⁶ Other aspects of the program, however, have not fully transitioned to the digital age. For example, online payments systems are not yet available, though development is underway.^{137,138}

More recently, many temporary program flexibilities were successfully introduced during the pandemic—such as permitting participants to re-enroll without visiting a clinic.¹³⁹ One 2022 study found that WIC participants

reported a high level of satisfaction with virtual visits and other remote services.¹⁴⁰ These flexibilities seem to be boosting child retention as well. While infant and adult participation declined in 2021—likely tied to a lower birth rate at the beginning of the COVID-19 pandemic—child participation increased by 9 percent between February 2020 and February 2021.^{141,142} Currently, the temporary flexibilities are slated to phase out in the 90 days after the end of the COVID-19 public health emergency, which was re-extended on July 15 through October 13, 2022.^{143,144}

The higher child retention, however, demonstrates not only the popularity but the necessity of continuing program flexibilities and further modernization efforts. In September 2021, a task force—convened by USDA at the direction of Congress—urged USDA to modernize and streamline WIC in order to reduce barriers to participation, including the rule prohibiting online purchasing.¹⁴⁵ Researchers have likewise argued that WIC needs to modernize to more effectively serve its participants and reduce childhood food insecurity.¹⁴⁶ And, many public health advocates have recommended improving the program by making permanent many of the COVID-19 waivers and easing cross-enrollment with other federal programs by creating a common application portal.¹⁴⁷

For FY 2022, Congress appropriated \$6 billion for the WIC program, including \$90 million for its breastfeeding peer-counselor program and \$14 million for infrastructure, identical to its FY 2021 funding level.¹⁴⁸ The bill also includes \$834 million to maintain the produce “benefit bump”—which was instituted in 2021 as part of the American Rescue Plan, more than tripling the WIC fruit and vegetable benefit.¹⁴⁹ A recent multi-state survey of WIC participants

unsurprisingly found that the bump resulted in increased fruit and vegetable intake among children in the program.¹⁵⁰

Child Nutrition Programs

Since 1946, the National School Lunch Program (NSLP) has provided healthy meals to America's schoolchildren. The \$15 billion NSLP—along with the School Breakfast Program, Special Milk Program, Child and Adult Care Food Program (CACFP), Summer Food Service Program (SFSP), Fresh Fruit and Vegetable Program, and Farm to School Grant Program—combine to form USDA's child nutrition programs, collectively the nation's second-largest nutrition-assistance program. These programs are federally funded, administered by USDA's Food and Nutrition Service and state agencies, and operate in public and private schools, daycare centers, after-school programs, and residential childcare centers.¹⁵¹

NSLP is the largest of the programs: it served 4.8 billion meals in FY 2019,¹⁵² while the School Breakfast Program served 2.4 billion.¹⁵³ Both programs serve nutritious meals to children in schools and residential childcare institutions at low or no cost.^{154,155} Schools that do not participate in either program, or who have half-day students, can participate in the Special Milk Program, which reimburses schools for the milk they serve.¹⁵⁶ CACFP reimburses childcare centers, after-school programs, and adult daycare centers for the cost of meals they serve.¹⁵⁷ The SFSP serves free healthy meals and snacks to schoolchildren in low-income communities during summer vacation.¹⁵⁸ The Fresh Fruit and Vegetable Program provides fresh fruits and vegetables as a healthy snack option for students,¹⁵⁹ while the Farm to School Grant Program helps improve access to local foods in eligible schools.¹⁶⁰

In the wake of COVID-19, USDA instituted a number of waivers to make it easier for the child nutrition programs to serve their recipients during the pandemic. Most of these waivers remained in place for the 2021–2022 school year, including:

- Permitting meal service outside normal school hours;
- Allowing parents and guardians to pick up meals for their children;
- Allowing meal service in non-group settings to permit social distancing;
- Permitting meals to be served that do not meet the programs’ nutritional requirements, including serving chocolate milk and fewer whole grains.¹⁶¹

Also in place through at least the summer of 2022 is the temporary

P-EBT federal program, which helped children during childcare and school closures by providing food benefits to their families via debit cards that could be used to purchase groceries.¹⁶² Prior to the pandemic, there was a similar EBT pilot program that operated in only a few states during the summer months. This broader program allows all states approved to offer P-EBT during the school year to continue the program during the summer, when there is traditionally a seasonal rise in food insecurity. If all states participated in the program in the summer of 2022, the Center on Budget and Policy Priorities estimated it could help feed more than 36 million children.¹⁶³

The FY 2022 appropriations bill provided \$26.9 billion for the child nutrition programs, including:

- \$14.7 billion for the NSLP;

- \$5.2 billion for the School Breakfast Program and \$6 million for program expansion;
- \$4.3 billion for CACFP;
- \$581.1 million for the SFSP and \$45 million for the Summer EBT demonstration project;
- \$12 million for Farm to School Grants and \$6 million for the Farm to School Tactical Team, which helps school districts and community partners implement the program; and
- \$6 million for the Special Milk Program.^{164,165}

The report accompanying the appropriations bill specifically noted that “the Summer Electronic Benefit Transfer (EBT) has proven to lower food insecurity among children” and encouraged USDA to expand the program.¹⁶⁶

THE IMPORTANCE OF HEALTHY SCHOOL MEALS TO STUDENTS

USDA’s child nutrition programs ensure that millions of American children are eating healthy meals on a regular basis, lowering food insecurity for them and their families.¹⁶⁷ One study found that the National School Lunch Program alone reduces the risk of food insecurity by 14 percent.¹⁶⁸ Conversely, during the summer months, when children are not in school, food insecurity rises among families whose children participate in the NSLP.¹⁶⁹ School meal programs also provide a consistent source of nutritious food. 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 and that school meals had improved significantly on this score between 2003–2004 and 2017–2018.¹⁷⁰ Another study published in 2019 found that participants in the school meal programs ate more nutritious lunches and breakfasts than their peers.¹⁷¹

In addition to providing nutritional benefits, school meals are also linked to healthier weight. One study found the School Breakfast Program to be associated with significantly lower BMI.¹⁷² Note that this study was conducted before the nutritional standards were strengthened in 2012. Two more recent studies found that

improving the standards reduced obesity risk for school meal participants. A study published in 2020 found that, due to the nutritional improvements required by the HHFKA, there were 500,000 fewer cases of obesity among children living in poverty in 2018.¹⁷³ Another study published in May 2022 found that, prior to the HHFKA, school lunches may have been contributing to rising obesity rates, as children participating in the program were more likely to have a high BMI. After the HHFKA strengthened the school meal nutritional standards, however, this difference disappeared.¹⁷⁴

As noted elsewhere in this report, during the pandemic, schools have been permitted to operate under temporary and more lenient nutritional standards than the HHFKA required. These temporary standards remained in effect through the end of the 2021–2022 school year.¹⁷⁵ New transitional standards—stronger than the temporary standards but weaker than the final HHFKA standards—will govern the program during school years 2022–2023 and 2023–2024,¹⁷⁶ as schools recover from the pandemic and USDA works on new, long-term standards. USDA anticipates new standards for the 2024–2025 school year.¹⁷⁷

Supplemental Nutrition Assistance Program

The Supplemental Nutrition Assistance Program (SNAP), formerly called “food stamps,” is the nation’s largest nutrition-assistance effort. It helps feed more than 41 million low-income people every year by providing them funds on an EBT card that can be used to buy groceries.¹⁷⁸ The federal government pays for SNAP benefits and shares the cost of administering the program with the states.¹⁷⁹ More than two-thirds of SNAP participants are in households with children; thus, the program plays a critical role in preventing food insecurity among young people and their families.¹⁸⁰

During the pandemic, the SNAP program was temporarily made more flexible: the certification periods were extended, work-requirement time limits were suspended, and a pilot program that allows online purchasing with SNAP benefits was expanded.^{181,182,183}

In addition, SNAP benefits were also temporarily increased: the maximum monthly benefit was raised by 15 percent (which ended on September 30, 2021) and additional emergency allotments were provided to families who did not qualify for the maximum benefit.^{184,185,186,187} As of August 2022, emergency allotments are still in effect in the 13 states that continue to have an ongoing state-level COVID-19 public health emergency declaration, although most are slated to expire soon.^{188,189} In 2021, USDA modernized the Thrifty Food Plan—which estimates the cost of a healthy diet and is used to calculate SNAP benefits—to better reflect current food costs and eating habits.¹⁹⁰ As a result, the average SNAP benefit increased by 21 percent beginning on October 1, 2021.¹⁹¹ Prior to these changes, a 2021 survey had revealed that 61 percent of SNAP recipients found the cost of nutritious foods a barrier to eating a healthy diet.¹⁹²

For 30 years, SNAP has also included an educational component called Supplemental Nutrition Assistance Program Education (SNAP-Ed), which funds nutrition and obesity-prevention programming for SNAP recipients. Just a few of SNAP-Ed’s accomplishments in the last few years include:

- Establishing 28 school and community gardens in Alabama;¹⁹³
- Encouraging West Virginia children to try new fruit and vegetables purchased with coupons at farmers markets;¹⁹⁴ and
- Getting Iowa children moving by incorporating physical activity and yoga into their before-school program.¹⁹⁵

The FY 2022 appropriations bill funded SNAP at \$140.4 billion, including \$464 million for SNAP-Ed.^{196,197} This funding level is expected to fully fund FY 2022 participation, including emergency allotments.¹⁹⁸

KEY PROVISIONS OF FARM BILL 2023

Every five years, Congress must pass a comprehensive Farm Bill to authorize a host of agriculture and food programs, including SNAP Nutrition programs make up more than three-quarters of the bill’s cost, with SNAP accounting for the vast majority.¹⁹⁹

The current Farm Bill expires in 2023, and work on the next bill has already begun, with both House and Senate committees of jurisdiction holding hearings in early 2022.²⁰⁰ The 2018 debate included contested deliberations over SNAP’s work requirements,^{201,202} and those are likely to resume in 2023, along with discussions about whether benefits should return to pre-pandemic levels.

Other federal nutrition programs authorized by the Farm Bill include:

- Food Distribution Program on Indian Reservations;

- The Emergency Food Assistance Program;
- Commodity Supplemental Food Program;
- Senior Farmers’ Market Nutrition Program; and
- Gus Schumacher Nutrition Incentive Program.²⁰³

While the bill also includes some food distribution in schools, the major child nutrition programs are authorized elsewhere.²⁰⁴

The Farm Bill also includes subsidies for certain crops (primarily grains) that some argue have contributed to the obesity crisis.^{205,206} To help subsidize healthy foods, public health experts have proposed adding fruits and vegetables to the commodity crop program in the new Farm Bill, as well as including other supports for fruit and vegetable farmers.²⁰⁷

Nutrition Incentive Programs

The Gus Schumacher Nutrition Incentive Program (GusNIP) is a competitive grant program that funds projects that encourage SNAP recipients to eat healthier by purchasing more fruits and vegetables.²⁰⁸ Created by the 2018 Farm Bill, GusNIP is the successor to the Food Insecurity Nutrition Incentive grant program and is administered collaboratively by USDA's Food and Nutrition Service and National Institute of Food and Agriculture.^{209,210} For FY 2022, GusNIP has available:

- \$33.9 million for nutrition incentive grants, which support point-of-

purchase incentives, such as “buy one, get one free”; and

- \$4.9 million for produce prescription grants, which fund programs where healthcare providers write “prescriptions” for fruits and vegetables that can be redeemed for fresh produce.²¹¹

Nonprofit organizations and government agencies can apply for these grants. Part of GusNIP's purpose is to bring together various stakeholders in local food and healthcare systems, and USDA encourages applicants to work collaboratively on their projects.²¹²

Childcare and Education Settings: Head Start, Early Childhood Education State Requirements, K–12 Local Wellness Programs, and Smart Snacks

Head Start

Head Start helps prepare preschool-aged children from low-income families to succeed in school by providing educational, health, and social services to them and their families. It includes Early Head Start, which serves infants and toddlers. The Administration for Children and Families, an agency within the U.S. Department of Health and Human Services (HHS), manages the program on the federal level and provides oversight to local agencies.²¹³ The program served more than 850,000 children in 2020.²¹⁴ In 2022, HHS made it easier for families to access the program by announcing that children in SNAP-eligible families would be automatically eligible for Head Start.²¹⁵

Head Start programs provide healthy food to their participants via either CACFP or the NSLP.²¹⁶ The program also supports breastfeeding and provides free formula to families.²¹⁷ Since 2016, federal standards have

required the program to actively engage in obesity prevention both in the classroom and through its family-partnership process.²¹⁸

Children who participate in Head Start are healthier than their peers 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.^{219,220} 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.²²¹

Congress appropriated \$11 billion for Head Start in FY 2022, a slight increase over the FY 2021 level of \$10.7 billion.²²²



Early Childhood Education State Requirements

The Child Care and Development Fund is a block-grant program that assists low-income families with the cost of high-quality childcare. It is funded by the federal government and administered by the states.²²³ 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.²²⁴

Congress appropriated \$6.2 billion for the Child Care and Development Block Grant for FY2022, a slight increase over the FY 2021 funding level of \$5.9 billion.²²⁵

K–12 Local Wellness Programs

The federal government requires every school district that participates in a federal child nutrition program to develop and implement a local school wellness policy that promotes the health of students and addresses childhood obesity.²²⁶ These policies are required to:

- 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.²²⁷

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.²²⁸

School districts are required to assess their local wellness policies every three years;²²⁹ however, the most recent due date fell in June 2020, during the height of the pandemic, so USDA extended the deadline until June 30, 2022.²³⁰

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 child nutrition program requirements. Snacks sold after school hours, food intended to be eaten 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.²³¹

Centers for Disease Control and Prevention Childhood Obesity Research, Data, and Education Programs

Childhood Obesity Research Demonstration program

The Childhood Obesity Research Demonstration (CORD) project, now in its third grant cycle, which lasts through 2024, focuses on adapting, testing, and packaging effective programs for prevention and treatment of obesity among children from low-income families. Building on lessons from its first two cycles, CORD 3.0 research teams are implementing their programs in multiple settings, with a focus on sustainability, cost-effectiveness, and social determinants of health, and producing consumer-friendly intervention materials that can be used by health systems, community health centers, other healthcare providers and community organizations that serve low-income families.²³²

COMMIT!

The Childhood Overweight and Obesity Management Models in Teams (COMMIT!) is a joint project of the Centers for Disease Control and Prevention (CDC) and the National Association of Community Health Centers to improve evidence-based care quality in community health centers. COMMIT engages state primary care associations and Federally Qualified Health Centers to implement high-quality childhood growth-related health services and family healthy-weight programs that meet national guidelines and recommendations. Along with CORD, COMMIT! is part of CDC's effort to adapt proven obesity-prevention programs for low-income communities.²³³

Clinical-Community Data Initiative

CDC leads the Clinical-Community Data Initiative (CODI), which collects critical data about obesity-prevention programs and how well they work in clinical and community settings. 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 includes clinical health outcomes, weight-management intervention results, and individual and community demographic information. To protect patient privacy, CODI uses technology that encodes personally identifiable information before it leaves an individual organization's firewall. Between 2018 and 2021, CODI was pilot-tested in Denver. In 2020, it expanded to North Carolina's Research Triangle area, and starting in 2021, the initiative broadened to also assess social determinants of health, chronic diseases, and the effects of COVID-19.²³⁴

CDC Early Childhood Education Programs

Because most young children are cared for outside of the home and many lifelong eating habits develop in early childhood, early childhood education (ECE) settings are critical for obesity prevention. CDC has developed a number of tools to help ECE providers and the states who license them to embed obesity



prevention into their standards and programs. For example, CDC promotes 47 high-impact standards, which are a subset of standards from “Caring for our Children’s Special Collection, Preventing Childhood Obesity.”²³⁵ These standards were identified as most likely to prevent childhood obesity when embedded in the policies and practices of ECE programs. Examples include encouraging breastfeeding, serving whole grains and other healthy foods, limiting screen time, and providing adequate space for both indoor and outdoor play. CDC publishes a scorecard that assesses how well each state addresses obesity prevention in its ECE-licensing standards.²³⁶ Its most recent scorecard was published in 2020. The

average score states earned was a 64, with the majority of states improving their scores since 2010.²³⁷

CDC works across centers and agencies to provide additional support to ECE locations. For example, the State Physical Activity and Nutrition program helps integrate nutrition and physical activity standards into early childhood education systems.

In coordination with USDA’s Office of Community Food Systems, CDC also supports Farm-to-ECE programs, which introduce children to fresh, local produce and the outdoors while encouraging healthy eating habits. For FY 2022, Congress appropriated \$2 million for this initiative.²³⁸

Q&A with Dr. Hilary Seligman:

Improving Americans' Nutrition Security Requires Legislative Action



Hilary Seligman, M.D., MAS, is a professor at the University of California, San Francisco, with appointments in the Departments of Medicine, Epidemiology, and Biostatistics. Her research and advocacy work focuses on food insecurity, its health implications, and the needed policy responses.

TFAH: Food insecurity is obviously a serious problem in the United States. Can you also talk about the issue of nutrition insecurity and the relationship between the two?

Dr. Seligman: First, it's important to recognize that the food-security construct always considered access to nutrition, not just calories. But, the sector's new focus on nutrition security has helped emphasize the importance of providing not just food but food that meets people's health and nutrition needs. The construct of nutrition security is also strongly related to issues of equity and the massive burden of early mortality in our country that is related to poor diets.

TFAH: Can food banks and charitable food networks address hunger and improve nutrition?

Dr. Seligman: Yes, of course they can, and they must. The charitable food system as a whole has made massive investment and progress in this area over the last decade. What I do want to call attention to though is that the same forces that make it difficult for individuals to afford and prepare healthy food make it difficult for the charitable food system to distribute healthy food. Healthy alternatives almost always cost more, they are often perishable, and they often require more preparation time which can be costly to provide.

So, although there has been strong investment and tremendous progress at the system level, there is still a lot to be done. It will always be cheaper to distribute a box of mac and cheese than it will be to distribute a peach.

TFAH: You've been a leader in grassroots anti-hunger programs in the San Francisco area, programs like EatSF, a healthy food voucher program. Are these programs making a difference in food insecurity for San Francisco families and children?

Dr. Seligman: EatSF is one of a rapidly growing ecosystem of state and local food voucher programs and produce prescription programs in the U.S. These programs have functioned as a way for local leaders and health systems to say: *We see we have this critical problem of nutrition insecurity in our community, this is not acceptable in the richest county in the U.S., and we are going to do something about it.* I think that is amazing, and I am privileged to be a part of that movement.

But, let's be honest, the nutrition security problem in the U.S. is not going to be solved by small local programs. We need a systems-based approach. We need better policies to address nutrition security, and we need to rectify the way in which our current policies work better for white people than they do for people who are not white.

TFAH: Can you say more about that? How does current policy work better for white people than for people of color?

Dr. Seligman: SNAP program policies are a good example. In order for able-bodied adults to receive SNAP benefits they have to be working. For a myriad of reasons, Black people are less likely to be able to secure employment. They are therefore less likely to be able to meet the work requirements that would allow them to enroll in SNAP, even if they are food insecure.

TFAH: You direct the National Clinician Scholars Program at the UCSF School of Medicine. The goal of the program is to train clinicians to be change-agents in order to improve their patients' health. Are clinicians and the healthcare system doing enough to address the social determinants of health? Are they well-prepared to treat their patients who have obesity?

Dr. Seligman: Traditionally, healthcare in the U.S. has focused on treating, not preventing, disease in individuals. The evidence is very clear that this is the worst way to approach obesity: first to do it at the treatment stage (when obesity has already developed, rather than to prevent the onset of obesity) and second to do it by attempting to change people's behaviors, rather than changing the environments that resulted in the onset of

obesity to begin with. So, although I hate that we need to be having this discussion at all, we do. We do because the U.S. has completely failed at prevention efforts and at policy and environmental approaches to obesity prevention for decades.

So now, what needs to be done? Obesity and poor diets are the biggest drivers of healthcare costs in the country—so the healthcare system has to get involved (whether it is traditionally in their wheelhouse or not), and the best way to do this is by addressing social determinants of health and food environments. It is not a comfortable fit for the healthcare system, but there really is no other choice. And because it is not a comfortable fit and requires a new way of thinking about healthcare and new kinds of engagement and policy change, we have to nurture the next generation of healthcare leaders to be able to tackle these really complicated problems.

TFAH: What are the links between public policy and obesity? What policy actions or changes would you like to see enacted?

Dr. Seligman: Oh, there are so many of them—dozens if not more are being discussed as potential approaches for the next Farm Bill. At the federal level alone, there are policy levers that Congress, USDA, and the FDA have authority over that could help reverse obesity trends. Let's start with an enormous one: SNAP. Early in my career I worked on health literacy, and I was always challenged by the lack of existing infrastructure to reach people with effective health literacy interventions. Food insecurity is not like that. SNAP works. It reaches almost 50 million people in the U.S. annually. It is available in every county nationwide. It helps families to afford more nutritious food. So, we have the tools, we have the evidence, and we have the infrastructure to solve food

insecurity in the U.S. What we lack is the political will. We need to expand SNAP eligibility to all the people who aren't receiving the food they need but who are not currently eligible for benefits, and we need to raise benefit rates to allow for the purchase of healthy food. If these changes are made, it is very clear to me that they will have a substantial impact on obesity rates and on public health.

TFAH: There have been a number of waivers in federal food programs like SNAP, WIC, and school meals, during the COVID-19 pandemic to better reach individuals and families during the public health emergency. Are there any lessons we can learn from these policy changes?

Dr. Seligman: Yes! The predominant lesson is: these programs work. Food insecurity rates did not increase nearly as much as anticipated during the pandemic, although there were certainly vast disparities in how the pandemic impacted different communities. Why didn't rates of food insecurity rise as much as anticipated? Because we had the will to do the things we knew—based on a tremendous amount of evidence—would make a difference. When we make it easier for people to enroll in SNAP, more people have access to benefits and food insecurity falls. When we provide money on debit cards to replace the meals not being served in schools, food insecurity falls. When stimulus checks were sent to people across the U.S. in response to the pandemic, low-income households reported that food was the first or second most covered item from the stimulus money.

The really optimistic lesson is that we know how to address hunger, nutrition security, and obesity prevention through good public policy. Now we just have to keep these programs in place as interest in the pandemic wanes.

The State of Obesity

Obesity-Related Data and Trends

TRENDS IN ADULT OBESITY (BMI >30)

The National Health and Nutrition Examination Survey (NHANES) conducts in-person exams to determine participants' height, weight, as well as other physical measures. The COVID-19 pandemic disrupted the 2019–2020 collection processes, so the latest data available is combination of data from the 2017–2018 and 2019–2020 surveys. The Behavioral Risk Factor Surveillance System (BRFSS) polls individuals about their health via telephone and was able to continue through the pandemic, including recently released 2021 data. Both NHANES and BRFSS show long-term trends of rising obesity rates among adults. The latest NHANES data shows the adult obesity rate passing 40 percent nationally.^{239,240,241,242,243} This subsection provides the most recent data available on adult obesity levels by state and by demographics.

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) that is not designed to be used for state or local data.²⁴⁴
- 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.²⁴⁵ 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.

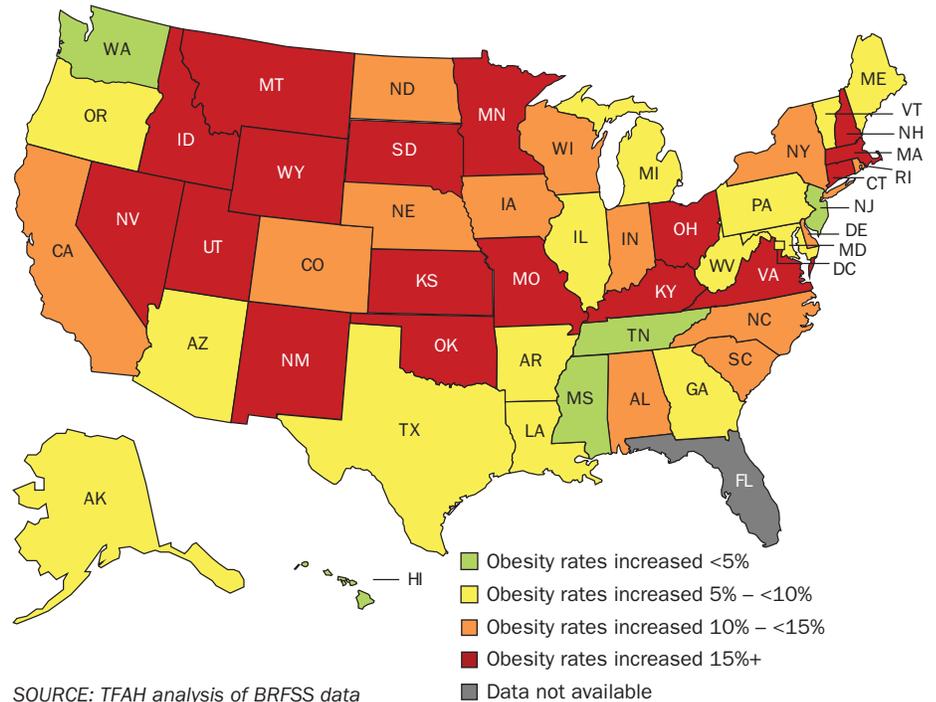
I. State Obesity Rates

State-level obesity rates vary considerably, from a low of 24.7 percent in the District of Columbia to a high of 40.6 percent in West Virginia, according to TFAH's analysis of 2021 BRFSS data. Other key findings from the recently released data include:

- In 2021, the adult obesity rate was at or above 35 percent in 19 states. Nebraska, North Carolina, and South Dakota had adult obesity rates above 35 percent for the first time in 2021.²⁴⁶
- In comparison, no state had an adult obesity rate higher than 15 percent in 1985; in 1991, no state was over 20 percent; in 2000, no state was over 25 percent; and, in 2006, only Mississippi and West Virginia were above 30 percent.²⁴⁷
- Between 2020 and 2021, 17 states had statistically significant increases in their obesity rate. This is a change from recent years: between 2019 and 2020, three states had statistically significant increases in their adult obesity rate and between 2018 and 2019, two states had statistically significant increases.²⁴⁸
- In the prior five years (2016–2021), more than half of states (29) had statistically significant increases in their increases in their obesity rate.

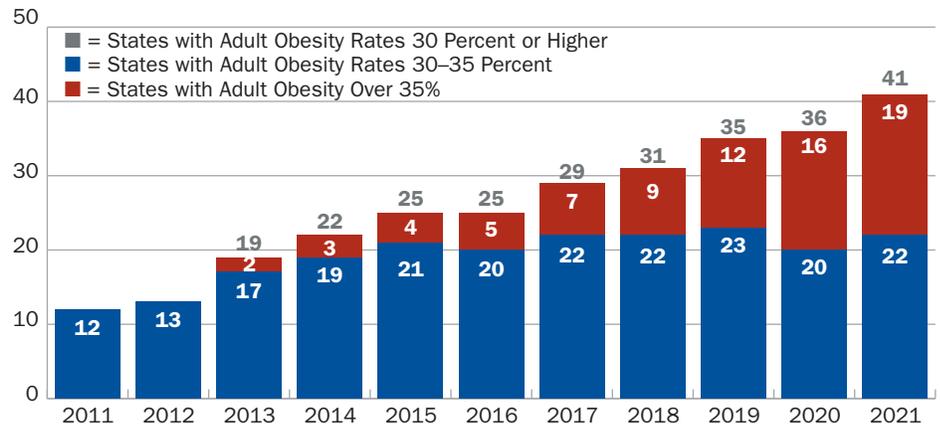
For additional state-level data from BRFSS, see the charts on pages 28-30.

Percent Change in Adult Obesity Rates by State, 2016-2021



SOURCE: TFAH analysis of BRFSS data

Number of States with Adult Obesity Rates Above 30 Percent, 2011–2021



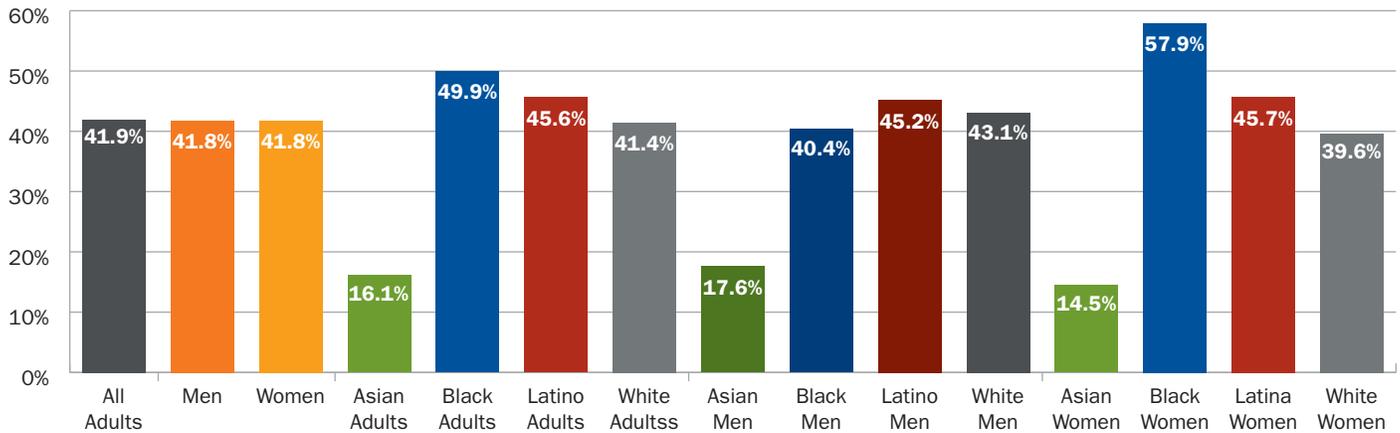
Source: TFAH analysis of BRFSS data

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

How is it that only 19 states have adult obesity rates exceeding 35 percent, yet the national obesity rate is 41.9 percent? It's because the two rates are from separate surveys with different methodologies and were conducted in different years. 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.²⁴⁹ 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.²⁵⁰

Percent of U.S. Adults With Obesity by Select Demographics, 2017–2020



SOURCE: NHANES

ii. Demographic Trends

Obesity levels vary substantially by race/ethnicity as well as by income, education, geography, and education, all of which are inexorably linked with the social, economic, and environmental conditions. For more background on structural factors driving these disparities, see Obesity-Related Policies and Programs section (pages 35-51).

• Race/ethnicity: Racial/ethnic disparities in obesity rates are stark.

- According to 2017–2020 NHANES data, Black Americans had the highest rate of obesity (49.9 percent) for adults ages 20 and higher, followed by Latino (45.6 percent), white (41.4 percent), and Asian (16.1 percent) adults.
- More than half—57.9 percent—of Black women had obesity. That is the highest sex and race/ethnicity combination included in NHANES—and an 18 percentage points difference compared with white women (39.6 percent). In contrast, Black men had an obesity rate of 40.4 percent, which

is slightly lower than white men (43.1 percent).²⁵¹

- Asian adults overall had much lower rates of obesity than any other race/ethnicity reported in NHANES. Other studies have shown variation on obesity rates among different ethnicities and national origins within the population. For example, the 2020 National Health Interview Study found that Native Hawaiian and Other Pacific Islander adults ages 18 and older had self-reported obesity rates of 45.8 percent and Pacific Islander adults had obesity rates of 44.5 percent while Asian adults had an obesity rate of 10.2 (and whites had a 32.3 percent obesity rate).²⁵²
- There is also evidence suggesting that Asian people 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 Asian individuals are tested and diagnosed by healthcare providers.²⁵³ An estimated 40 percent of Asian people with diabetes have not been diagnosed, which is much higher than the overall population.²⁵⁴

- It is also important to note that many national surveys, including NHANES, do not report data on health measures for American Indians and Alaska Natives (AI/AN). 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 2020 National Health Interview Survey, which is based on self-reported height and weight, finds 41.7 percent of AI/AN adults had obesity, which is slightly lower than Black adults in that survey (44.5 percent) and substantially higher than white adults (32.3 percent).²⁵⁵ This gap highlights the need for equitable data collection for populations of smaller sizes.

- **Income and education: Obesity rates were lower among adults living in higher-income households and adults with college degrees.**

- In 2017–2020, 43.9 percent of adults living in household with incomes below 130 percent of the federal poverty level (FPL) had obesity, 46.5 percent of adults in households at 130-350 percent of FPL had obesity, and 39 percent of adults in households above 350 percent FPL had obesity. (In 2022, FPL was an annual income of \$13,590 for an individual and \$27,750 for a family of four.²⁵⁶) The trends varied by sex, with men in the below 130 percent FPL income category having slightly lower obesity rates (38.6 percent) than men in the middle income (43.9 percent) and higher income (42.4 percent) categories. For women, the data shows obesity rates in the lower income category at 47.9 percent, middle income category at 48.8 percent, and higher income category at 35.1 percent.

- In 2017–2020, 40.1 percent of adults with less than a high school education had obesity compared with 46.4 percent of adults a high school diploma and 34.1 percent of college graduates.²⁵⁷

- **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.²⁵⁸

- 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 2013–2016.²⁵⁹

Adult Obesity Rates and Related Health Indicators, 2021

States	Obesity		Overweight & Obesity		Diabetes		Physical Inactivity		Hypertension	
	Percent of Adults With Obesity	Rank	Percent of Adults With Obesity or Were Overweight	Rank	Percent of Adults with Diabetes	Rank	Percent of Adults Who Were Physically Inactive	Rank	Percent of Adults with Hypertension	Rank
Alabama	39.9	3	71.8	6	15.2	3	31*	1	43.1	3
Alaska	33.5	28	67.6	30	8.5	45-T	19.7	43	30.3	41
Arizona	31.3 +/-1.3	35-T	67.9+/-1.3	29	11.2+/-0.9	23-T	21.8+/-1.2	31	31.2	32-T
Arkansas	38.7 +/-2.1	6	70.4*+/-2	14	12.2+/-1.1	13	30.4+/-1.9	3	40.7+/-2	4
California	27.6**	46	63.9	44	11.6*	18-T	19.5	44	28.2	48
Colorado	25.1	48	60.6	48	7.0	50	15.6	49	26.3	50
Connecticut	30.4	39-T	65.7	39	10.9*	27	21.6*	32	31.5	31
Delaware	33.9	25-T	68.8	21	11.9	15	26.1	10	36.4	11
D.C.	24.7 +/-2.2	50	55.4+/-2.5	50	8+/-1.2	48-T	15.4+/-1.8	50	28.5+/-2.1	47
Florida	n/a	-	n/a	-	n/a	-	n/a	-	n/a	-
Georgia	33.9	25-T	68.0	28	12.6	10-T	23.5	22	37.4	10
Hawaii	25.0	49	60.3	49	9.7**	35	20.1	38-T	29.9	43
Idaho	31.6 +/-1.4	34	67.5+/-1.5	31	9.6+/-0.8	36-T	20+/-1.2	40	30.5+/-1.3	39
Illinois	34.2	23-T	68.7	22	10.8	28	27.3	9	30.4	40
Indiana	36.3 +/-1.2	12	69.6+/-1.2	18	12+/-0.8	14	25.3+/-1.1	13	34.8+/-1.2	17
Iowa	36.4	11	70.7	11	9.9	33	23.8	21	31.9	28
Kansas	36.0	15-T	70.5	12-T	11.1	25	23.4*	23-T	34.6	18
Kentucky	40.3* +/-0	2	72.3	3	13.9	5	30.2	4	40.3	5
Louisiana	38.6	7	71.0	9-T	13.4	7-T	29.0	6	40.2	6
Maine	31.9 +/-1.3	32	65.9+/-1.4	38	10.6+/-0.8	29	25.8*+/-1.2	11-T	34.1+/-1.3	21-T
Maryland	34.3*	22	68.2	26	11.2	23-T	20.7	34	35.2	15-T
Massachusetts	27.4*	47	61.2	46	8.9	40	20.5	36	30.8	38
Michigan	34.4	21	68.5	24-T	11**	26	23.1*	25	35.6	13
Minnesota	32.4* +/-0.9	30	67.2+/-1	33	8.8+/-0.5	41	19.8*+/-0.8	41-T	29.6+/-0.9	45
Mississippi	39.1	5	72.7	2	15.3	2	30.6	2	44.1	1
Missouri	37.3* +/-1.4	10	69.2+/-1.3	19	11.4+/-0.8	21-T	24.7+/-1.2	16	35.2+/-1.3	15-T
Montana	31.8* +/-1.5	33	66.7*+/-1.6	34	8.5+/-0.8	45-T	20.6*+/-1.3	35	30.9+/-1.4	37
Nebraska	35.9*	17	71.0	9-T	9.8	34	23.4*	23-T	32.5	27
Nevada	31.3 +/-2.7	35-T	67.4+/-2.7	32	11.6+/-1.7	18-T	22.7+/-2.4	27	32.9+/-2.6	26
New Hampshire	30.6 +/-1.7	38	66+/-1.8	37	8.7+/-0.9	42-T	19.8+/-1.5	41-T	31.1+/-1.6	34-T
New Jersey	28.2	45	65.6	40	10.5	30-T	22.8	26	31.8	29
New Mexico	34.6*	20	70.0	16	13.4	7-T	22.5	29	33.2	25
New York	29.1*	42	63.6	45	11.7*	16-T	25.0	14	31.1	34-T
North Carolina	36*	15-T	68.6	23	12.6	10-T	21.3	33	35.4	14
North Dakota	35.2 +/-1.7	18	70.1+/-1.7	15	9.5+/-0.9	38	24.8+/-1.5	15	31.2+/-1.5	32-T
Ohio	37.7*	9	71.1*	8	12.6	10-T	25.8*	11-T	36.0	12
Oklahoma	39.4* +/-1.8	4	71.9*+/-1.6	5	12.8+/-1.1	9	27.6+/-1.6	8	39.6+/-1.7	7
Oregon	30.4* +/-1.5	39-T	65.1+/-1.6	41	9.6+/-1	36-T	19.1+/-1.4	45	31.1+/-1.5	34-T
Pennsylvania	33.3	29	66.3	35-T	11.4	21-T	23.9	19-T	34.1	21-T
Rhode Island	30.1 +/-1.7	41	66.3+/-1.8	35-T	10.3+/-1.1	32	23.9+/-1.6	19-T	33.4+/-1.7	23
South Carolina	36.1	13-T	70.5	12-T	13.8	6	24.5	18	37.9	9
South Dakota	38.4* +/-2.9	8	72.2+/-2.5	4	10.5*+/-1.6	30-T	22.4+/-2.3	30	34.2+/-2.7	20
Tennessee	35.0	19	71.6	7	14.3	4	28.5*	7	38.1	8
Texas	36.1	13-T	69.8	17	11.6	18-T	24.6	17	33.3	24
Utah	30.9*	37	64.2*	42	8.0	48-T	16.3*	48	26.9	49
Vermont	29* +/-1.7	43	61.1+/-1.9	47	8.2+/-0.9	47	17.1+/-1.5	46	29.5+/-1.6	46
Virginia	34.2*	23-T	68.1	27	11.7	16-T	20.3	37	34.5	19
Washington	28.8	44	64.2	43	8.7	42-T	17.0	47	30.2	42
West Virginia	40.6 +/-1.5	1	73.5*+/-1.4	1	15.9+/-1	1	30.1+/-1.4	5	43.7+/-1.5	2
Wisconsin	33.9	25-T	68.5	24-T	9.0	39	20.1	38-T	31.6	30
Wyoming	32 +/-2.1	31	69+/-2.1	20	8.7+/-1.1	42-T	22.6+/-1.9	28	29.8+/-1.9	44

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 2020 and 2021; Green and ** indicate state rates that significantly decreased between 2020 and 2021; Bold indicates state rates that significantly increased between 2016 and 2021. Hypertension data is collected bi-annually; this data is from 2021. Data from Florida was not available for 2021.

Adult Obesity Rates by Race/Ethnicity and Sex, 2021

States	American Indian/ Alaska Native*		Asian*		Black*		Latino*		White*	
	Percent of AI/AN Adults With Obesity	Rank	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
Alabama	39.6	21	n/a	-	48.1+/-2.1	3	37.9	10	35.2+/-1.2	9
Alaska	37.5	25	22.9	3	43.7	15	37.7	11	29.7+/-1.5	33-T
Arizona	50.5	3	14.4	14	38.9	31	36.5	17	27.9+/-1	40
Arkansas	30.3	40	n/a	-	47+/-3.8	5	33.7+/-6.1	36	36.7+/-1.2	3
California	31.1	37-T	10+/-1.9	30	40.6+/-4.4	26	37+/-1.6	14	25.6+/-1.2	44
Colorado	31.3	36	6.9	36-T	30.9	41	31.4	44-T	22.6+/-0.7	47
Connecticut	40.6	19	12.5	19	42.9	16	35.5	26	27.5+/-1	41-T
Delaware	49.3	5	15.1	13	42.6+/-3.4	19	36.3+/-4.7	18	33.1+/-1.5	18
D.C.	n/a	-	6.9+/-3.9	36-T	38.7+/-2.2	32	26.3+/-4.8	48	11.4+/-1.3	49
Florida	n/a	-	n/a	-	n/a	-	n/a	-	n/a	-
Georgia	35.2	31	12.6	18	41.2+/-2.2	25	36.1	19-T	31+/-1.2	27-T
Hawaii	n/a	-	16.1	11	30.2	42	32.0	41	20.2+/-1.3	48
Idaho	41.1	18	n/a	-	44.5	12	34.5	30	30.2+/-1	31
Illinois	30.6	39	12.3	21	39.5	29-T	38.3+/-4.1	9	31.9+/-1.3	22
Indiana	38.4	24	6.9	36-T	42.1	22	41.0	4-T	35.7+/-0.8	6-T
Iowa	40.0	20	10.6	28	44.0	13	36.0	21	35.9+/-0.7	5
Kansas	43.1	12	9.9	31-T	42.4	21	39.0	7	35.1+/-0.7	10
Kentucky	30.0	41	n/a	-	44.7	11	35.6	25	37.6+/-1.1	2
Louisiana	41.2	17	18.6	7	44.9	9	33.9	35	34.6+/-1.2	12
Maine	29.8	42	n/a	-	29.2	46	31.4	44-T	31.7+/-0.8	23
Maryland	31.9+/-8.6	35	12.9	17	41.7	24	32.8+/-2.6	37-T	29.7+/-0.8	33-T
Massachusetts	22.0	47	11.2	27	33.9	39	32.5+/-3.0	40	25.4+/-0.9	46
Michigan	33.6	32	9.2	34	42.5	20	43.2	2	34.5+/-0.9	13-T
Minnesota	47.2+/-5.6	6	19.5	5	35.1	37	34.2	32	31.1+/-0.6	26
Mississippi	31.1	37-T	26.9	1	47.1+/-1.8	4	40.0	6	35.7+/-1.3	6-T
Missouri	36.0	29	12.0	22-T	41.8	23	37.2	12	34.8+/-0.9	11
Montana	42.5	14-T	n/a	-	n/a	-	35.1	27	28.6+/-0.9	38-T
Nebraska	45.8	9	11.9	24	39.9	28	36.6	16	34.5	13-T
Nevada	49.4	4	13.9+/-6.2	15	33.8+/-5.4	40	34+/-3.3	33-T	30+/-1.8	32
New Hampshire	33.3	33	11.6	25-T	30.1	43	32.8	37-T	31+/-1	27-T
New Jersey	n/a	-	n/a	-	n/a	-	n/a	-	n/a	-
New Mexico	46.7	7	16.5	10	39.5	29-T	35.9+/-1.7	22	25.5+/-1.3	45
New York	25.9	46	11.6	25-T	36.1	35	31.0	47	26.9	43
North Carolina	37.5	26	18.8	6	48.8	2	31.7	43	31+/-1.2	27-T
North Dakota	54+/-5.6	1	23.4+/-10.5	2	25.2	48	36.8	15	33.9+/-1.1	16
Ohio	36.9	27	12.0	22-T	42.7	18	37.1	13	35.4+/-0.8	8
Oklahoma	43.9	10	18.1	8	43.9+/-4.2	14	38.6	8	36.3+/-1.1	4
Oregon	36.6+/-9.1	28	16.6+/-5.6	9	29.8	44	36.1+/-3.2	19-T	28.6+/-0.9	38-T
Pennsylvania	53.6	2	8.4	35	42.8	17	32.7	39	32.2+/-1	21
Rhode Island	38.5	23	9.5	33	37.8	34	35.7	24	29.1+/-1.2	36
South Carolina	43.0	13	20.6	4	45.2+/-2.3	8	31.1	46	32.7+/-1.1	19
South Dakota	46.4	8	n/a	-	34.0	38	45.2	1	33.5+/-1.6	17
Tennessee	29.7	43	n/a	-	45.8	6	34.9	28	34+/-1.2	15
Texas	26.3	45	13.2	16	40.5	27	41.0	4-T	31.6+/-1.3	24-T
Utah	41.5	16	10.3	29	28.9	47	34.6	29	29+/-0.7	37
Vermont	32.9	34	n/a	-	38.4	33	22.9	49	27.5+/-1	41-T
Virginia	28.1	44	12.4	20	44.8	10	31.9	42	31.6+/-0.9	24-T
Washington	42.5	14-T	9.9	31-T	35.4	36	34.4	31	29.3+/-0.7	35
West Virginia	38.7	22	n/a	-	45.4+/-6.8	7	42.9+/-9.1	3	39.7+/-1	1
Wisconsin	43.8	11	15.9	12	51.8	1	35.8	23	32.5	20
Wyoming	35.5	30	n/a	-	29.3+/-16.1	45	34+/-5.1	33-T	30.5+/-1.2	30

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; 2019–2021 data were used here. Some data are not available due to an insufficient sample size. Because data from one year are not available for New Jersey and Texas, race/ethnicity data is not available for the two states.

Adult Obesity Rates by Age, 2021

States	Male		Female		Ages 18-24		Ages 25-44		Ages 45-64		Ages 65+	
	Percent of Men With Obesity	Rank	Percent of Women With Obesity	Rank	Percent With Obesity	Rank						
Alabama	38.0	6	41.6	2	25.4	10	46.2	1	45.3	6	30.9+/-2.9	24-T
Alaska	32.3	31	34.9+/-2.9	23	26.1	8	32.8	38	38.3+/-3.3	29	31.8+/-3.2	18
Arizona	31.1	37	31.6	33	20.7	26	33.6	30	35.5+/-2.2	38	28.3+/-2.2	33
Arkansas	38.7+/-3	5	38.6+/-3	8	28.4+/-7.7	4	41.4	5-T	43.9	9	33.4	9
California	26.5	48	28.7+/-2.2	44	19.5	31	29.7	44	30.6	49	23.9+/-3	48
Colorado	24.5	49	25.7	49	13.8	49	25.2	49	30.7	48	22.9	49
Connecticut	30.1	40	30.7	38	20.0	28-T	32.1	40	35.3	39	26.6	40
Delaware	31.7+/-3	33-T	36.1	18	17.5+/-6.5	40-T	34.7+/-4.4	26	39.4	27	32.9+/-3.6	13
D.C.	20.7+/-2.8	50	28.5+/-3.2	45	15.5	48	22.1+/-3.4	50	32.7+/-3.8	45	24.0	47
Florida	n/a	-	n/a	-	n/a	-	n/a	-	n/a	-	n/a	-
Georgia	32.0	32	35.8	19	19.4	32	36.3	20	40.6	21-T	28.7	31-T
Hawaii	28.4+/-2.1	44	21.4	50	22.7	15	29.0	46	28.5+/-2.5	50	16.5+/-2.1	50
Idaho	31.3+/-2.0	36	31.8+/-2	32	16.0	46	34.4	27	38.2	30	27.7+/-2.2	34
Illinois	33.6	21-T	34.7	26	19.3	33	35.9+/-4.4	21-T	39.3	28	32.4+/-4.6	16
Indiana	34.4+/-1.8	16	38.2+/-1.8	10	22.5	16	38.5	14-T	42.0	16-T	33.1	11
Iowa	36.3	12	36.5	17	21.7	20	39.7	8	40.6	21-T	34.7+/-2.2	7
Kansas	35.5	15	36.6+/-1.3	15	22.2	17	39.0	12	42.7+/-1.6	11	31.1+/-1.5	22
Kentucky	39.8	1-T	40.9+/-2.7	5	28.2	5	42.5	2-T	46.2	2-T	35.3	4-T
Louisiana	36.0	13	41.2	4	23.0	12-T	39.8	7	45.4	5	35.3	4-T
Maine	31.6+/-1.8	35	32.1+/-1.8	30	21.1	21	33.0	35-T	37.8+/-2.2	31-T	27.5+/-1.7	35
Maryland	33.3	25-T	35.3	21	19.7	30	35.8	23	40.6	21-T	30.1	28
Massachusetts	27.7	47	27.1	48	12.8	50	28.6	47	32.6	46	26.3	41-T
Michigan	33.9	19	34.9	24	22.9	14	35.4	24	40.0	26	31.4	21
Minnesota	33.6+/-1.3	21-T	31.1+/-1.3	36	17.5	40-T	33.6+/-1.7	31	37.8	31-T	30.8	26
Mississippi	36.7	10	41.4	3	26.4	6	39.4	10	49.6	1	31.5+/-3	20
Missouri	37.8	7	36.6+/-2	14	26.3	7	39.6	9	42.5	12	32.5	14-T
Montana	31.7+/-2.1	33-T	31.9+/-2.3	31	18.9	36	32.9	37	36.3	35	30.9+/-2.4	24-T
Nebraska	36.8	9	35.0	22	19.0	34-T	37.7	17	42.1	15	34.9	6
Nevada	33.1+/-3.8	28	29.4+/-3.8	40	21.0	22-T	33.8	28	36.4	34	25.1+/-4.4	44
New Hampshire	33.3+/-2.5	25-T	27.9+/-2.2	46	17.0	43	33.7	29	36.1+/-2.6	36	25.9+/-2	43
New Jersey	28.8	43	27.5	47	15.8	47	30.4	43	31.7	47	26.3+/-2.7	41-T
New Mexico	33.5	24	35.6+/-2.4	20	23.0	12-T	38.6	13	41.3	20	26.7+/-2.8	39
New York	28.4	45	29.8	39	20.8	24-T	27.9	48	34.7	41	27.1	36
North Carolina	34.1	17	37.9	11	20.5	27	38.5	14-T	41.9	18-T	33.0	12
North Dakota	37.1+/-2.2	8	33.1+/-2.5	28	18.0	39	35.9+/-3.3	21-T	42.2+/-2.8	14	35.6+/-2.3	3
Ohio	36.4	11	39.1	6	21.8	19	39.2	11	43.7	10	35.7	2
Oklahoma	39.8	1-T	39+/-2.4	7	30.6	1	41.1	5-T	45.8	4	33.2+/-2.7	10
Oregon	29.7+/-2.1	41	31.1+/-2.2	37	16.9	44	33.6+/-2.7	32	35.9+/-2.8	37	25+/-2.8	45
Pennsylvania	34.0	18	32.6	29	19.0	34-T	33.1	34	40.4	25	31.0	23
Rhode Island	30.9	38	29.2	42	20.0	28-T	33.0	35-T	34.9	40	24.9+/-2.7	46
South Carolina	33.8	20	38.3	9	21.0	22-T	38.4	16	42.3	13	32.5	14-T
South Dakota	39.7	3	37.0	13	20.8	24-T	42.3	4	45.0	7	34.3+/-4.5	8
Tennessee	32.8	29	37.1	12	25.8	9	37.0	18	40.6	21-T	28.9	30
Texas	35.7	14	36.6	16	22.1	18	36.6	19	44.9	8	30.6	27
Utah	30.5	39	31.4	35	16.7	45	33.5	33	37.0	33	28.7	31-T
Vermont	29+/-2.3	42	29.0	43	18.4	37	30.5	42	33.7	43	26.8+/-2.6	38
Virginia	33.6	21-T	34.9	25	17.4	42	34.8	25	42.0	16-T	31.6	19
Washington	28.3	46	29.3	41	18.3	38	29.5	45	32.9	44	26.9	37
West Virginia	39.4+/-2.2	4	41.8+/-2.1	1	30.4+/-6	2	42.5+/-3	2-T	46.2+/-2.4	2-T	35.9+/-2.3	1
Wisconsin	33.3	25-T	34.5	27	23.1	11	30.8	41	41.9	18-T	32.3	17
Wyoming	32.4+/-3.0	30	31.5+/-3	34	28.8+/-8.5	3	32.7+/-4	39	34.5+/-3.4	42	29.6+/-3	29

SOURCE: TFAH analysis of Behavioral Risk Factor Surveillance System data

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

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 2017–2020 survey, obesity rates for children ages 2 to 19 more than tripled, from 5.5 to 19.7 percent.^{260,261} 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 a combination of the 2017–2018 and 2019–2020 NHANES surveys since data collection was disrupted by the COVID-19 pandemic.

2) The WIC Participant and Program Characteristics Report is a biennial census of families that WIC serves. 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.²⁶² 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 2020.

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 older. 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 2019–2020 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.²⁶³ 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.²⁶⁴

National Youth Obesity Rates

The most recent national data, the 2017–2020 NHANES survey, found that 19.7 percent of youth ages 2 through 19 had obesity. The data show variation in obesity prevalence by demographic and socioeconomic groups:

- **Race/ethnicity: Black and Latino youth had higher rates of obesity than their Asian and white peers.** Obesity prevalence for Asian youth was 9 percent, Black youth 24.8 percent, Latino youth 26.2 percent, and white youth 16.6 percent in 2017–2020.

- **Sex: Boys are slightly more likely to have obesity than girls.** In 2017–2020, 20.9 percent of boys had obesity, and 18.5 percent of girls had obesity.

- **Age: The prevalence of obesity increases with age.** In 2017–2020, 12.7 percent of children ages 2 to 5, 20.7 percent of children ages 6 to 11, and 22.2 percent of children ages 12 to 19 had obesity. Between the 1976–1980 NHANES survey and the 2017–2020 survey, the percentage of children ages 2 to 19 with obesity overall

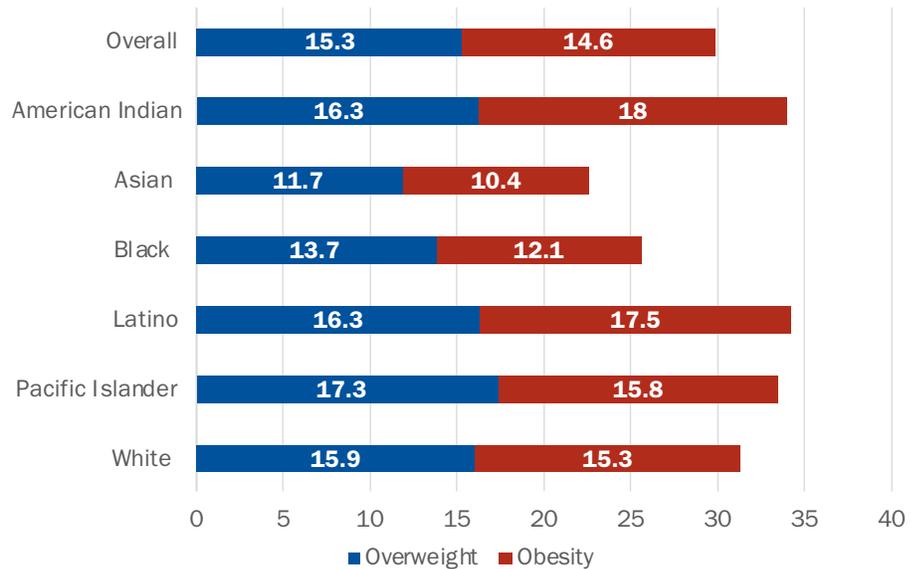
tripled, with the obesity rates of teens ages 12 to 19 quadrupling.²⁶⁵

- **Household income: Children in household with lower incomes have higher rates of obesity.** In 2017–2020, 25.8 percent of children living in household with incomes below 130 percent of FPL had obesity, 21.2 percent of children in households at 130–350 percent of FPL had obesity, and 11.5 percent of children in households above 350 percent FPL had obesity.²⁶⁶

Young WIC Participants, Ages 2 to 4

In 2020, 14.6 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 2020 after a 2009 change in the WIC benefits to allow for healthier food options, including fruits, vegetables, seafood, and whole grains (see page 14 for more on WIC). American Indian and Latino children were the most likely to be overweight or have obesity compared with other races/ethnicities.^{267,268} See chart on page 34 for state data.

Percent of Children Ages 2–4 in WIC Program Who Are Overweight or Have Obesity, by Race/Ethnicity, 2020

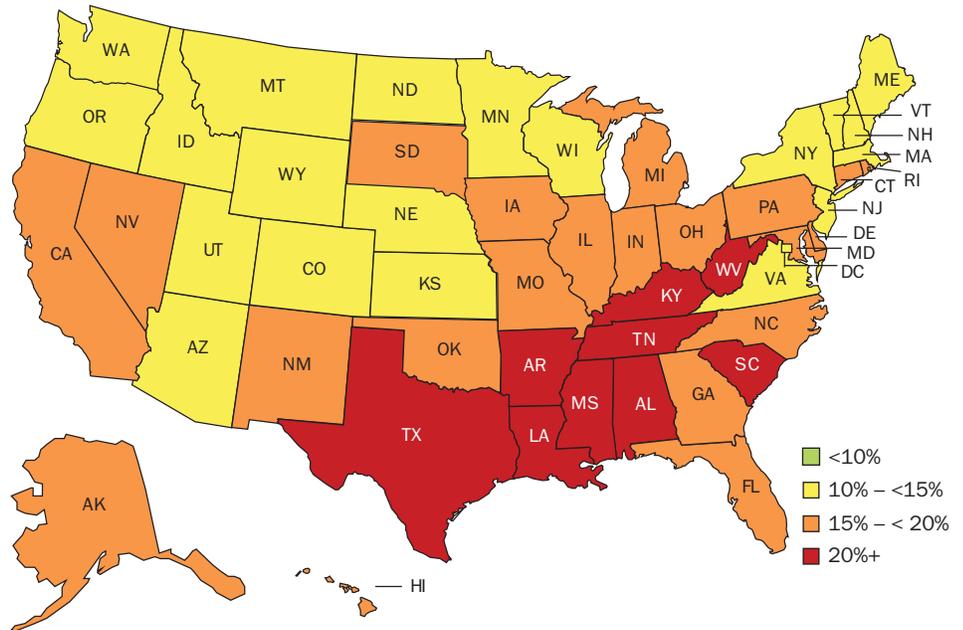


Source: USDA

Obesity Rates in Children and Teenagers, Ages 10 to 17

The National Survey of Children’s Health 2019–2020 survey reported that, nationwide, 16.2 percent of children ages 10 to 17 had obesity and another 15.5 percent were overweight. The states with the highest rates of obesity for children ages 10 to 17 were Kentucky (23.8 percent), Mississippi (22.3 percent), and Louisiana (22.2 percent); the states with the lowest rates of obesity were Montana (10 percent), Arizona (10.2 percent) and Utah (10.3 percent).²⁶⁹ See chart on page 34 for more state data.

Percent of Children Ages 10–17 with Obesity by State, 2019–2020



Source: National Survey of Children’s Health, HRSA

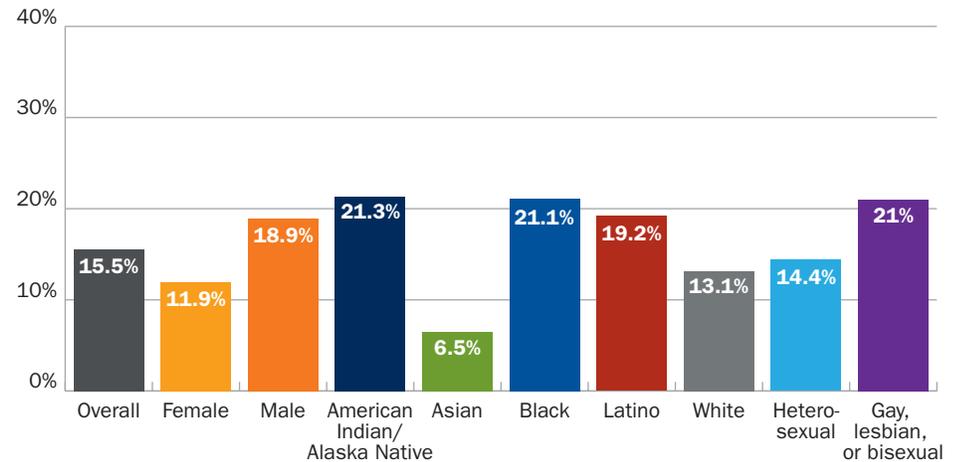
High School Obesity Rates

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.²⁷⁰

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,

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



SOURCE: YRBS

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

Youth Obesity Rates and Related Health Indicators

States	Young Children: Obesity, 2020	Children and Teenagers: Obesity and Physical Activity, 2019-2020			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	15.6	21.8	47	25.2	17.2	20.1	23.2
Alaska	20.1	17.8	37	28.0	14.8	15	17.9
Arizona	13.3	10.2	2	15.0	13.3	17.4	22
Arkansas	13.9	20.6	45	24.4	22.1	19.8	22.7
California	17.0	15.2	23-T	18.5	15.9	15.2	20.5
Colorado	8.8	11.2	6	25.0	10.3	11.7	25.4
Connecticut	14.6	15.3	25-T	22.6	14.4	14.9	23.2
Delaware	18.5	18.9	40	19.6	n/a	n/a	n/a
D.C.	12.9	14.2	19	19.8	n/a	n/a	n/a
Florida	13.5	15.8	30	20.0	14	16.1	22.7
Georgia	13.1	18.0	38	24.9	18.3	18.1	24
Hawaii	11.0	15.5	27	15.7	16.4	14.4	17.1
Idaho	11.8	13.3	13	24.0	12.1	12.4	22.2
Illinois	16.4	17.4	36	21.8	15.2	15.5	26
Indiana	13.9	15.6	28	22.3	n/a	n/a	n/a
Iowa	16.0	16.9	34	24.7	17	15.9	25.7
Kansas	12.8	11.7	8-T	26.5	15.1	15.7	26.5
Kentucky	15.4	23.8	51	24.8	18.4	17.8	19
Louisiana	13.7	22.2	49	22.4	16.5	17.8	21
Maine	14.3	13.7	15-T	27.9	14.9	14.8	20.4
Maryland	16.9	16.7	32-T	20.7	12.8	15.7	19.4
Massachusetts	16.8	12.2	10	17.9	14.2	14.8	21.7
Michigan	13.8	15.7	29	23.2	15.3	16.1	21.8
Minnesota	11.8	11.7	8-T	23.1	n/a	n/a	n/a
Mississippi	14.4	22.3	50	26.8	23.4	18	23.4
Missouri	12.7	19.6	41	24.8	18.4	16.1	25.3
Montana	10.9	10.0	1	26.3	11.5	13	25.3
Nebraska	16.0	12.6	11	23.7	13.3	12.8	27.9
Nevada	11.9	16.0	31	14.6	12.3	16.7	21.7
New Hampshire	16.0	13.5	14	24.1	12.7	14	22.5
New Jersey	15.4	13.8	17	16.2	11.9	14.7	22.7
New Mexico	12.7	15.3	25-T	22.5	15.2	15.8	26.8
New York	13.8	11.5	7	19.8	13.4	16.3	19.2
North Carolina	14.8	19.8	42	18.0	15.4	16	19.9
North Dakota	15.6	10.5	4	31.4	14	16.5	25.2
Ohio	13.0	17.2	35	24.1	16.8	12.2	23.5
Oklahoma	13.2	18.7	39	23.0	17.6	18.1	29.2
Oregon	14.7	13.7	15-T	21.1	n/a	n/a	n/a
Pennsylvania	13.8	15.1	22	24.6	15.4	14.5	25.4
Rhode Island	16.5	16.7	32-T	22.0	14.3	14.6	21.1
South Carolina	13.1	20.1	43	19.2	16.6	16.3	19.5
South Dakota	15.6	15.2	23-T	22.3	14.1	15.6	29.7
Tennessee	14.9	20.8	46	22.0	20.9	18.3	21.6
Texas	15.8	20.3	44	14.1	16.9	17.8	22.9
Utah	8.8	10.3	3	18.5	9.8	12.3	21
Vermont	14.5	14.0	18	23.6	13.1	13.7	22.1
Virginia	15.6	14.9	21	21.6	14.8	15.8	22
Washington	14.8	13.2	12	23.1	n/a	n/a	n/a
West Virginia	16.4	21.9	48	24.4	22.9	16.5	26.3
Wisconsin	15.2	14.6	20	23.0	14.5	14.6	21.5
Wyoming	11.8	11.0	5	30.7	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.

The State of Obesity

Obesity-Related Policies and Programs

Because obesity is a complicated and multifaceted public health challenge, a wide range of government actions are needed to help address it. This section serves as a reference on important federal, state, and local policies and programs with the greatest potential to impact U.S. obesity rates. 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.

ECONOMICS OF WHAT WE EAT AND DRINK

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

From making sugary drinks more expensive to encouraging investment in areas with low access to affordable and nutritious food, economic policies can impact Americans' food environment—as a key social determinant of health—and make it easier to make healthier food and beverage choices.

Beverage Taxes

Sugar sweetened beverages impose a considerable disease burden around the globe.^{271,272} The World Health Organization recommends that its members tax sugary beverages,²⁷³ and more than 50 countries have such taxes in place.^{274,275,276} The global evidence has demonstrated these taxes discourage beverage consumption,^{277,278,279} generate revenue,²⁸⁰ can spur the industry to reformulate their products to reduce the amount of sugar,^{281,282} and may raise awareness about their health impact.²⁸³

In the United States, sugary beverages are among the leading sources of

added sugar in American diets,²⁸⁴ and researchers have found taxing sugary beverages to be one of the most cost-effective obesity-reduction interventions, estimating a national tax could prevent half a million cases of childhood obesity over a decade.²⁸⁵ Eight U.S. cities have imposed sugary beverage taxes,²⁸⁶ and research has demonstrated a positive short-term impact.^{287,288,289,290} While results are more mixed on the long-term effect of these local taxes,^{291,292} much of the research suggests beverage taxes effectively discourage beverage consumption.^{293,294} Two new studies released in late 2021 found a sustained reduction in consumption following implementation of Seattle's beverage tax.^{295,296} Despite growing research on their effectiveness, beverage taxes have faced political challenges in the United States in recent years, due in part to aggressive lobbying by the beverage industry.^{297,298,299}

Healthy Food Financing Initiative

Created by the 2014 Farm Bill, the Healthy Food Financing Initiative provides grant funding for programs that increase access to healthy food in under-resourced communities, helping to reduce food insecurity, revitalize low-income neighborhoods, and build a more equitable food system.³⁰⁰ The program is a public-private partnership funded by USDA and administered by the Reinvestment Fund.³⁰¹ It offers a small grant program with awards in 2021 ranging from \$20,000 to \$200,000 and a technical assistance program.³⁰²

Recent HFFI-funded projects include:

- The North Flint Food Market, the Michigan city's first co-op grocery store;³⁰³
- A new food hub at the California Indian Museum and Cultural Center in Santa Rosa, which will house food sovereignty programs and serve as an incubator for Native-led food startups;³⁰⁴ and
- A nonprofit pay-what-you-can grocery store, MARSH Sliding Scale Grocery, which opened last year in South St. Louis.³⁰⁵

Congress appropriated \$5 million for HFFI in FY 2022.³⁰⁶

New Markets Tax Credit

Established as part of the Community Renewal Tax Relief Act of 2000, the New Markets Tax Credit (NMTC) incentivizes taxpayers to invest in low-income communities that lack adequate access to capital.³⁰⁷ The credits are competitively awarded by the U.S. Treasury's Community Development Financial Institutions Fund (the CDFI Fund). NMTC-funded

projects are expected to create jobs or otherwise improve the lives of residents by, for example, improving access to healthcare services, places to exercise, and healthy food—all key social determinants of health.

Recent NMTC projects include:

- The reconstruction of the vacant Provident Mutual Life Insurance Building, creating the Provident Public Health Center, a medical campus in a medically-underserved area of Philadelphia with a high rate of obesity.³⁰⁸ The anchor tenants—Children's Hospital of Philadelphia and Public Health Management Corporation—are expected into the space in the Summer of 2022.³⁰⁹
- The transformation of a parking lot in Southeast Washington, DC, into a 28,000 square foot community facility featuring a rooftop garden and fitness center for Bread for the City, a front-line agency that serves low-income individuals.³¹⁰ The organization cut the ribbon on the Michelle Obama Southeast Center of Bread for the City in September 2020.³¹¹
- The construction of Homeland Grocery, a full-service grocery store that opened in September 2021 in a food desert in Northeast Oklahoma City.^{312,313}

The CDFI Fund awarded \$5 billion in New Market Tax Credits in FY 2020 to a total of 100 Community Development Entities.³¹⁴

The NMTC is set to expire in 2025,³¹⁵ but President Biden has proposed making the credit permanent,³¹⁶ a change that has bipartisan support.³¹⁷ The NMTC is currently authorized at \$5 billion annually.³¹⁸

Food and Beverage Marketing

The food industry spends nearly \$14 billion every year marketing to American consumers, and 80 percent of this advertising promotes unhealthy choices such as fast food, sugary drinks, and candy.³¹⁹ These marketing messages are communicated through traditional television advertising, and increasingly via digital platforms.³²⁰ Studies have shown exposure and receptivity to television fast-food marketing is associated with increased consumption and obesity.^{321,322}

Digital advertising presents many of the same challenges as traditional advertising but also creates new ones. As with television, food advertising on digital platforms is highly prevalent and dominated by ads for unhealthy products.³²³ Unlike broadcast advertising, digital marketing is personalized to individual consumers using proprietary analytics. Thus, digital advertisers have knowledge about their own tactics and reach not available to the general public, making it hard for consumer and public health advocates to track industry behavior.³²⁴ Another concern about digital marketing is the proliferation of paid “influencers,” those who post videos or other content on social media and may or may not be part of an official industry-backed marketing campaign. One study of YouTube influencers popular with children found that most videos featured food and most of the food was unhealthy, with cake and fast food being the most common.³²⁵ Another study found that children who viewed influencers with unhealthy snacks increased their immediate intake of unhealthy food, while influencer promotion of healthy food had no effect.³²⁶ As online grocery shopping and food retail has increased, it is also important to think about marketing and incentives (products available, discounts,

rewards, etc.) on these platforms and how they affect consumer choices as well.³²⁷

Racial inequities that exist in other health contexts also apply to the food-marketing environment. More total food advertising is directed at Black and Latino youth 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.³²⁸ Food ads airing on Spanish-language television were almost exclusively promoting fast food and other unhealthy food and beverages.³²⁹ More research is needed to see if these broadcast trends are continuing into the digital space.

The Latino community has 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 Dietary Guidelines of Americans.^{330,331} A 2021 study found that Latino parents are more likely to have purchased toddler milk than non-Latino parents.³³² 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 do not meet infants’ unique nutritional needs.³³³

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;³³⁴ and providing the Food and Drug Administration (FDA) regulatory authority over toddler milk to ensure consumers are not confused about the products’ purpose.³³⁵

FOOD SECURITY IN INDIAN COUNTRY

A key social determinant of health is the ability to access affordable and healthy food. The legacy of colonization coupled with the present day and enduring impact of historical trauma and structural racism directed at Native Americans—reflected in unpaid obligations by the federal government and the lack of critical infrastructure—has impacted this community in a host of ways, including with disproportionately high rates of food insecurity, poor health, and obesity. The COVID-19 pandemic exacerbated these inequities, exerting a devastating impact on American Indian and Alaska Native communities while also causing supply chain delays, job disruptions, and increasing food prices, which were already high in Native communities.³³⁶

Many federal surveys that measure population-level social, economic, and health indicators—including food insecurity—do not report data on American Indian and Alaska Native populations. In 2021, the Native American Agriculture Fund (NAAF) endeavored to survey a wide range of tribal communities about food insecurity in the wake of the COVID-19 pandemic to better understand the issue. The survey revealed extremely high rates of food insecurity among American Indians and Alaska Natives, with nearly half of respondents experiencing food insecurity during the COVID-19

pandemic and one-quarter experiencing very low food security.³³⁷

Many Native-led organizations helped to meet food needs in tribal communities during the pandemic. Producers planted seeds, community groups raised funds, and tribal governments helped organize food purchases. Community members also helped themselves and their neighbors, with about half reporting gardening, hunting, fishing, foraging, sharing or trading food. Reliance on food banks and the federal nutrition programs also rose, with participation in the Food Distribution Program on Indian Reservations increasing by more than 200 percent.³³⁸

One blueprint for the future is NAAF's Reimagining Native Food Economies, released in 2020, which proposes strengthening the food system infrastructure for Tribal Nations by creating 10 regional hubs across the country that would support processing and packaging facilities for meats, grains vegetables, and fruits, as well as provide warehouse storage, logistical and support, and distribution infrastructure for Native producers, communities, and tribes in the area to use.³³⁹ The goal of this plan is to create economic opportunity, strengthen food system resilience and food security, and provide nutritious and healthy foods more economically in Indian Country.

COMMUNITY POLICIES AND PROGRAMS

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

The obesity crisis did not develop in a vacuum. Choices about diet and physical activity depend on a person's larger social, economic, and physical context, and the choices available are not equitable across places and populations. A community's "built environment"—the name for its collective group of human-made buildings and structures including streets, sidewalks, parks, stores, and housing—ranks among the major social determinants of health.³⁴⁰

A review of studies from around the world have found that research consistently demonstrates that people who live in walkable neighborhoods have higher levels of physical activity.³⁴¹ Many studies have demonstrated a link between walkability and lower BMI.³⁴² People who live near green spaces—parks, tree canopies, and nature trails—are also less likely to have obesity.^{343,344} There are also persistent inequities in availability and quality of green space and parks in low-income neighborhoods and in neighborhoods with predominantly African American and Latino residents.³⁴⁵

On the other hand, living in certain neighborhoods is associated with an increased risk of obesity. One study found that children who live in communities where the built environment is poor—for example, there is a lack of access to quality housing, sidewalks, or parks—were up to 60 percent more likely to have obesity or be overweight.³⁴⁶ Researchers have theorized that unhealthy conditions in many low-income communities—such as air and noise pollution, traffic danger, higher crime, and other stressors—may drive up obesity levels.^{347,348} Certainly,

many challenges disproportionately concentrated in low-income areas add to its residents' overall health burdens. While studies linking air pollution to obesity have found mixed results, some studies have found severe air pollution to be positively associated with weight gain.^{349,350}

Public health researchers have long been interested in the connection between a person's retail food environment and obesity, but the findings have been mixed.³⁵¹ There is, however, growing evidence of a link between proximity to fast food outlets and obesity.^{352,353}

Community Design and Land Use

Recognizing that a person's environment is a key social determinant of health, urban planners, zoning boards, and transportation officials have increasingly begun incorporating health considerations into land use, transportation, and community design decisions. Policymakers can promote healthier habits in these areas by:

- Designing communities that have more housing units, are more compact, and promote affordable, active transportation instead of development that encourages reliance on automobiles;^{354,355,356,357}
- Adopting Complete Street policies, which ensure streets are designed to be safely used by all—including people of all ages and abilities and those riding by car, foot, or bicycle—by building sidewalks, trails, and protected bike lanes, and installing safety features such as streetlights, speed bumps, traffic signals, and crosswalks;^{358,359}

- Building and preserving playgrounds, parks, and other green spaces, which support physical activity and social connection while filtering out air pollution;^{360,361} and
- Investing in high-quality public transportation infrastructure, as studies have shown that taking public transportation is associated with higher levels of physical activity, as people often walk or bike to and from public transportation.^{362,363,364}

To ensure health equity, these changes are particularly important in low-income communities that have a disproportionate number of households without vehicles and often have streets that are unsafe for pedestrians.³⁶⁵

Many of these improvements require significant financial investment. The Infrastructure Investment and Jobs Act, which was signed into law by President Biden in November 2021, includes historic levels of federal funding to improve the nation’s transportation infrastructure, including upgrades to public transportation and funding for active transport.³⁶⁶ The new law:

- Provides \$89.9 billion for public transit over the next five years, the largest investment in U.S. history;
- Reauthorizes the federal surface transportation programs, which include funding for active travel, and improves the Transportation Alternatives Program and increases its funding by \$2.8 billion over five years;
- Establishes several new programs including a \$6.4 billion Carbon Reduction Program to fund green projects including pedestrian and cycling trails, a \$1 billion Reconnecting Communities pilot program to restore connectivity to communities previously cut off by transportation infrastructure,



and a \$5 billion Safe Streets and Roads for All program to prevent roadway injuries and deaths;

- Requires states and localities to develop Complete Street plans; and
- Expands eligibility for the Highway Safety Improvement Program to include safety improvements to protect pedestrians and cyclists, including Safe Routes to School projects.^{367,368, 369,370,371, 372}

Housing

Poor street connectivity and sprawling, low-density housing separated from commercial development increases reliance on automobiles and encourages sedentary behavior.³⁷³ In contrast, communities with better street connectivity, high-density housing, and a mix of land uses in close proximity encourages active transportation.³⁷⁴ A 2022 literature review of the connection between land use and childhood obesity found strong evidence of an association between street intersection density—an indicator of walkability—and lower BMIs.³⁷⁵

Safe Routes to School

Walking, rolling, or biking to and from school is an easy way for children to make physical activity part of their daily routine. However, the rise of car-dependent neighborhoods, concerns about traffic and crime, and changing social norms have converged to reduce the number of children who walk to school.³⁷⁶

The Safe Routes to School (SRTS) program educates and encourages children to walk or cycle to school by sponsoring awareness campaign and funding safety improvements such as crosswalks, sidewalks, and bike lanes.³⁷⁷ Research has found that SRTS initiatives are cost-effective and associated with a significant increase in active transportation to and from school.³⁷⁸ Since 2015, the program has supported projects in 17,000 schools benefitting nearly 7 million students.³⁷⁹ The 2021 Infrastructure Law expanded the program to benefit high schools and to allow the Highway Safety Improvement Program, in addition to the Transportation Alternatives Program, to fund SRTS projects.^{380,381}

CDC Community Initiatives

CDC supports programs that fund community efforts to prevent and reduce obesity. The programs focus on transforming conditions to establish and promote healthy food and physical activity environments for all community members. In FY 2022, CDC received a \$602 million funding increase for a total program budget of \$8.4 billion, and its Division of Nutrition, Physical Activity, and Obesity (DNPAO)—which leads the agency’s obesity prevention efforts—was appropriated only \$58.4 million, a \$1.7 million increase from its 2021 funding level.³⁸²

CDC’s major programs that support obesity prevention are documented in the following chart and discussed in more detail below.

State Physical Activity and Nutrition Program

DNPAO’s State Physical Activity and Nutrition (SPAN) Program funds state, local, territorial and tribal interventions that increase physical activity and improve nutrition.³⁸³ SPAN is currently funding five-year projects in 16 states to:

- Support breastfeeding;
- Improve food systems to increase access to healthier foods;

- Connect activity friendly routes—such as homes, sidewalks, bike lanes, and public transportation—to everyday destinations such as schools, grocery stores, and libraries; and
- Help integrate nutrition and physical activity standards into early childhood education systems.

SPAN funding has helped expand healthy food offering in New York bodegas,³⁸⁴ train lactation specialists in Peoria, Illinois,³⁸⁵ and connect everyday destinations in Connecticut.³⁸⁶

Total SPAN program funding is \$70 million over five years.³⁸⁷

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 ³⁸⁸	\$880,543 average annual award ³⁸⁹	\$70 million over 5 years ³⁹⁰
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 ³⁹¹	\$724,909 average annual award ³⁹²	\$56 million over 5 years ³⁹³
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 ³⁹⁴	\$9.5 million on nutrition and \$2.8 million on physical activity in FY 2020 ³⁹⁵	\$160 million in FY 2022 ³⁹⁶
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 ³⁹⁷	\$748,301 average annual award ³⁹⁸	\$66 million in FY 2022, including \$22.5 million for Good Health for Healthy Tribes ³⁹⁹
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 ⁴⁰⁰	\$350,000 average for Priority 1 awards and \$450,000 average for Priority 2 awards during the 2018–2022 funding period ⁴⁰¹	\$35 million over 5 years ⁴⁰²

High Obesity Program

High Obesity Program (HOP) funds 15 land grant universities that work with their local communities to increase access to healthier foods and promote physical activity in rural counties where more than 40 percent of adults have obesity.⁴⁰³ During its first five years (2014–2018), the program increased healthy food access for more than 1.5 million people and expanded physical activity opportunities for nearly 1.6 million people.⁴⁰⁴

Some of the HOP-funded projects during the 2018–2022 grant period include:

- Renovating Chief Niwopet Park in Menominee County/Nation—located in Northeastern Wisconsin—with sustainable and culturally relevant renovations, including areas to walk and play, to provide a place for tribal residents to be physically active;⁴⁰⁵
- Establishing more than 40 community gardens in Calhoun, Clay, Dooly, Stewart, and Taliaferro counties in Georgia, improving access to healthy food;⁴⁰⁶ and
- Expanding a park and playground near a walking trail in Mayersville, a 600-person town in the Mississippi Delta, so that children can play on the playground while their parents walk on the trail.⁴⁰⁷

In FY 2022, HOP received \$15 million of funding.⁴⁰⁸

Preventive Health and Health Services Block Grant

The Preventive Health and Health Services (PHHS) block grant provides states, territories, and tribes with flexible funding to address local public health needs.⁴⁰⁹ In FY 2020, the most recent year for which CDC has published data by topic area, states spent \$149 million in PHHS funds,



including \$9.5 million on nutrition and \$2.8 million on physical activity.⁴¹⁰

PHHS funding has helped promote fruit intake in Alabama, encourage breastfeeding in Montana, sponsor worksite health promotion programs in Delaware, support built environment programs in California, promote active transportation in Florida, sponsor worksite lactation support programs in Virginia, and address food insecurity among children in Michigan.⁴¹¹

The block grant program received \$160 million in FY 2022.⁴¹²

Racial and Ethnic Approaches to Community Health

Racial and Ethnic Approaches to Community Health (REACH) is a CDC program aimed at reducing health inequities among populations with the highest levels of chronic disease. REACH funds culturally-appropriate initiatives by states, localities, tribes, universities, and community organizations that target preventable risk behaviors, including those that lead to obesity.⁴¹³

More than one-third of REACH's funding is dedicated to the Healthy Tribes collection of programs, including the Good Health and Wellness in Indian Country (GHWIC) program, which focuses on health promotion and chronic disease prevention in tribal

communities. Healthy Tribes' long-term goals include increasing physical activity, breastfeeding, and the intake of healthy foods. The Alaska Native Tribal Health Consortium coordinates the program, which benefits more than 100 tribes and Urban Indian Organizations.⁴¹⁴

Thanks to REACH funding:

- The Coeur d'Alene tribe in Idaho created the Powwow Sweat Program, which uses traditional dance to encourage tribe members to increase their physical activity;⁴¹⁵
- The local farmers market in California's largely Latino Madera County was approved to accept electronic benefits transfer (EBT) cards, resulting in 700 WIC participants purchasing fresh produce there in the summer of 2020;⁴¹⁶
- Community partners in Boston developed the Out of School Nutrition and Physical Activity Initiative to help after-school programs and summer camps that serve a majority of African American and Latino children serve healthier food and beverages and increase opportunities for vigorous physical activity.⁴¹⁷

REACH received \$66 million of funding in FY 2022—including \$23 million for GHWIC—a slight increase over FY 2021's \$64 million in funding.⁴¹⁸

National Diabetes Prevention Program

Because obesity is the leading risk factor for developing type 2 diabetes,⁴¹⁹ obesity and diabetes prevention are linked. The National Diabetes Prevention Program (DPP) is a public-private partnership aimed at preventing the 96 million Americans with pre-diabetes from developing type 2 diabetes. A key component of the DPP is its research-based lifestyle change program that includes a lifestyle coach, a CDC-approved curriculum, and one year of group support.⁴²⁰ Participants in this type of lifestyle change program can cut their risk of developing diabetes by 58 percent—or even more if they are over the age of 60.⁴²¹

In FY2022, the National Diabetes Prevention Program, received \$33 million in funding, a \$4 million increase over the FY2021 level.⁴²²

Physical Activity Guidelines

Regular physical activity lowers the risk of obesity and contributes to overall health—reducing the risk of disease and depression, improving brain health, and strengthening bones and muscles.^{423,424} In 2018, HHS published its second edition of Physical Activity Guidelines for Americans, which provides recommendations about the amount and type of physical activity necessary at each phase of the lifecycle to improve health and reduce the risk of chronic disease. It recommends that:

- Children
 - Ages 3 to 5 be physically active throughout the day;
 - Ages 6 to 17 engage in 60 minutes or more of moderate-to-vigorous activity per day.

- Adults
 - Engage in 150–300 minutes (2.5–5 hours) of moderate-to-vigorous activity or 75–150 minutes (1.25–2.5 hours) of vigorous aerobic activity per week; and
 - Perform muscle-strengthening exercises two or more days per week.⁴²⁵

As of 2020, the vast majority of Americans (75 percent of adults) did not meet these recommendations. Adults living in metro areas had higher rates of physical activity than those in non-metro areas.⁴²⁶ Recent research has demonstrated that fewer people engaged in physical activity during the COVID-19 pandemic, possibly driven by changes in conditions like school, sports, and gym closures, declines in public transportation, and additional work from home. A new study published in February 2022 found that 9 percent of adolescents ages 10 to 14 met the guidelines during May 2020, compared with 16 percent pre-pandemic.⁴²⁷

Active People, Healthy Nation

Active People, Healthy Nation is a CDC-led initiative that aims to help 27 million Americans become more physically active by 2027. It coordinates and engages stakeholders at national, state, and community levels representing a variety of sectors (e.g., transportation, employers, healthcare, public health) to increase physical activity.⁴²⁸ The initiative's strategies include:

- Creating activity-friendly routes to everyday destinations;
- Increasing access to places for physical activity;

- Sponsoring youth and school programs;
- Promoting community-wide campaigns;
- Providing individual and social supports;
- Encouraging physical activity through signage and other prompts; and
- Ensuring equitable and inclusive access to opportunities for physical activity.⁴²⁹

Other CDC Programs

A number of other CDC programs also support initiatives that prevent obesity.

- **Hospitals Promoting Breastfeeding**, funded at \$9.75 million for FY 2022, helps strengthen lactation supports and reduce breastfeeding inequities.⁴³⁰
- **The Social Determinants of Health Pilot Program** began in 2021 with awarding of planning grants to develop multi-sector Social Determinants of Health Accelerator Plans in communities with the poorest health outcomes.⁴³¹ Congress appropriated \$8 million in FY2022 to increase these grants.^{432,433}
- **National Early Child Care Collaboratives**, which will receive \$4 million in FY2022, is an initiative that helps childcare and education programs for young children implement obesity prevention strategies.⁴³⁴
- **Farm-to-Education Program**, funded at \$2 million in FY2022, supports research and education promoting healthy eating habits in early childhood educational settings.⁴³⁵

NUTRITION STANDARDS, DIETARY GUIDELINES, AND NUTRITION AND MENU LABELS

Nutrition Standards

Federal law requires that school lunches and other federal nutrition programs meet exacting standards to ensure the meals served are healthy and nutritious. They must include sufficient quantities of fruits, vegetables, and whole grains, while limiting salt, saturated fat and trans fats.^{436,437} The current standards were strengthened considerably by the Healthy, Hunger-Free Kids Act of 2010 (HHFKA) and the nutritional quality of school lunches increased following those reforms.⁴³⁸ In addition, a 2020 study found the law substantially reduced the risk of obesity for youth living in poverty.⁴³⁹

Yet, more than a decade after the law passed, some of the HHFKA requirements have been stalled or even reversed. In 2018, the Trump administration passed a new rule allowing schools to once again serve chocolate milk, refined grains, and

foods with higher sodium levels.⁴⁴⁰

While these changes were struck down in federal court in 2020,⁴⁴¹ pandemic-specific waivers that had passed in the meantime—aimed at providing flexibility to program operators in light of pandemic-related food distribution challenges—allowed many of the same changes.⁴⁴² These waivers remained in effect for the 2021–2022 school year.⁴⁴³

In March 2022, USDA announced a rule establishing “transitional” nutrition standards that will take effect on July 1, 2022 and guide the child nutrition programs as schools recover from the pandemic.⁴⁴⁴ The new rule:

- permits schools to continue to serve low-fat chocolate milk;
- leaves the current sodium levels in place for the 2022–2023 school year, while lowering them slightly for the 2023–2024 school year; and
- requires 80 percent of grain products to be whole-grain rich.⁴⁴⁵

These transitional standards are weaker than the original rule implementing the HHFKA, which had required lower sodium levels in place by the 2017–2018 school year and schools to serve only whole grain products by the 2014–2015 school year.⁴⁴⁶

USDA is currently working on new, long-term standards that will reflect the Dietary Guidelines for Americans 2020–2025, as well as input from stakeholders. It plans to have those standards in place for the 2024–25 school year.⁴⁴⁷

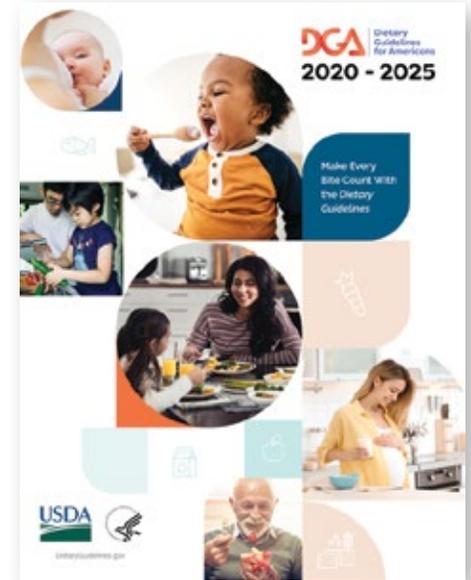


Dietary Guidelines for Americans

The *Dietary Guidelines for Americans*—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, with the most recent edition published in December 2020.⁴⁴⁸ The *2020–2025 Dietary Guidelines for Americans* focus on healthy eating for all life stages, including infancy, toddlerhood, childhood, adolescence, pregnancy, lactation, and older adulthood.⁴⁴⁹ HHS and USDA have

already begun work on the 2025–2030 guidelines, soliciting public comments on proposed scientific questions that will inform the next edition, which will focus on diet and health outcomes across the lifespan.⁴⁵⁰

MyPlate is a consumer-friendly graphical nutrition guide based on the *Dietary Guidelines*. It includes a suite of interactive online tools, including the Start Simple with MyPlate app and the *myplate.gov* website. 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.⁴⁵¹



Nutrition and Menu Labels

Packaged Food Labels

Since 1993, manufacturers have been required to include a Nutrition Facts label on most packaged food to help consumers make informed purchasing decisions.⁴⁵² The requirements were updated in 2016 to make labels easier to read, include added sugars, and measure serving sizes in ways that more accurately reflect Americans’ eating habits.⁴⁵³

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.⁴⁵⁴

Recognizing that restaurants temporarily 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 COVID-19 Public Health Emergency—which was extended on July 15 until at least October 13, 2022—provided the package does not make any nutrition claims and contains other required information, such as the ingredients.^{455,456}

In addition to the required Nutrition Facts label, many manufacturers make health-related claims on their packaging—typically on the front to attract consumers, since they will see those labels first. Such front-of-package

(FOP) symbols or graphics, which often include nutritional statements such as “low sodium” or “sugar free,” can impact consumer decisions in seconds.⁴⁵⁷ The FDA requires FOP labels that make health or nutrient content claims to comply with federal regulations to ensure accuracy.⁴⁵⁸ For example, a food claiming to be “low calorie” must have fewer than 40 calories per serving.⁴⁵⁹ Yet, FOP labels may still mislead consumers if they are not read in conjunction with the Nutrition Facts label, and—because they are voluntary—manufacturers of unhealthy food can just leave them off altogether. Some public health advocates would prefer coded FOP labels that indicate a food’s overall healthfulness using stop-sign or stoplight icons, as some other countries require.⁴⁶⁰

Menu Labels

As required by the Affordable Care Act, in 2011 and 2014 the FDA promulgated rules requiring large chain restaurants and vending machine operators to disclose nutritional information about their products, including calorie counts.⁴⁶¹ After a number of extensions based on Congressional and industry concerns, these rules finally went into effect in 2018.^{462,463} The regulation allows consumers to make more informed choices when they eat out, which is particularly important given that food prepared outside the home tends to have more calories and be of lower nutritional quality than food prepared at home. Consumers, meanwhile, tend to underestimate the number of calories and levels of sodium in out-of-home meals.^{464,465,466}

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 did not meet the menu label requirements during the

COVID-19 Public Health Emergency.⁴⁶⁷ Meanwhile, third-party delivery services—whose use soared during the pandemic—often fail to include calorie counts on their platforms. This has led public health advocates to urge the FDA to make clear that menu labeling rules apply to third-party platforms.⁴⁶⁸

Several studies have demonstrated that posting calorie information at the point of purchase can result in healthier menu choices,⁴⁶⁹ and a 2016 study found that the average BMI fell in jurisdictions in New York that implemented calorie-count laws.⁴⁷⁰ 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.^{471,472,473,474} There is some evidence that the transparency required by menu labeling may lead restaurants to improve the nutritional content of their food.⁴⁷⁵ A study published in December 2021 found that new menu items introduced at chain restaurants after calorie labels were required had a lower mean calorie content than items introduced before labeling.⁴⁷⁶

50TH ANNIVERSARY OF THE SENIOR NUTRITION PROGRAM

In 1972, the Older Americans Act—which supports a range of home and community-based services for seniors—was amended to include a federal nutrition assistance program.⁴⁷⁷ This year the Senior Nutrition Program celebrates its 50th anniversary. The program not only helps provide nutritious meals for seniors, it brings them together, serving as a social hub where older adults can access food and other community services while socializing with peers.⁴⁷⁸

“As the keystone program of the Older Americans Act, the Senior Nutrition Program is at the foundation of our nation’s system for helping older adults age in place. For 50 years, it has provided healthy meals, opportunities for social interaction, and access to a wide variety of programs and services to help older people stay active, healthy, and engaged in their communities. ACL is proud of this program and the aging services network whose leadership and tireless efforts bring it to life across the country.”⁴⁷⁹

– Alison Barkoff, Acting Administrator and Assistant Secretary for Aging, ACL

HARVARD CHOICES COST-EFFECTIVE INTERVENTIONS

At the Harvard T.H. Chan School of Public Health, researchers are studying not only the most effective obesity prevention measures, but determining which ones are most cost-effective. Demonstrating to policymakers that investing in obesity prevention can both improve health and control costs is an important way to build support for these initiatives.

The Childhood Obesity Intervention Cost-Effectiveness Study (CHOICES), a project of the school’s Prevention Research Center on Nutrition and Physical Activity, compares the costs and outcomes over 10 years of a variety of programs that encourage healthy eating and increased physical activity. The study focuses on interventions in four settings: (1) school; (2) early care and out-of-school time; (3) communities and government; (4) clinical.⁴⁸⁰

CHOICES has determined that the most cost-effective intervention would be the implementation of a 1-cent-per-ounce excise tax on sugary drinks, which would be not only cost-effective but cost-saving. They predict that, over 10 years, it would save \$30.80 in future healthcare costs for every \$1

invested, not including the billions of dollars in revenue that could be generated from such as tax.^{481,482, 483}

The study has analyzed the costs for 19 different strategies and developed a toolkit to help governments, schools and other organizations determine what interventions might work best in their communities.⁴⁸⁴ Other interventions that CHOICES projects save substantially more than they cost include:

- Eliminating the tax deductibility of the cost of advertising nutritionally poor foods and beverages to children and adolescents (\$20.40 healthcare cost savings for every \$1 invested over 10 years);⁴⁸⁵
- Providing counseling to WIC families about reducing screen time (\$7.96 in savings per \$1 invested);
- Requiring chain restaurants to post calorie counts (\$5.90 in savings per \$1 invested); and
- Requiring nutrition standards for all snacks sold in schools (\$4.56 in savings per \$1 invested).

HEALTHCARE COVERAGE AND PROGRAMS

Medicare and Medicaid

Because Medicare and Medicaid provide health coverage for more than 140 million Americans these programs pay for an outsize cost of the obesity crisis. One study found that, in 2013, the two programs together covered more than 40 percent of the \$69 billion annual cost of severe obesity.⁴⁸⁶ An analysis of U.S. healthcare expenditures found that between 2010 and 2015, 7 percent of Medicare costs and 8 percent of Medicaid costs were associated with obesity.⁴⁸⁷

Medicare

Medicare, the federal health insurance program for Americans ages 65 and over and some with disabilities, provides the following obesity-related benefits:

- Obesity screening by primary care providers;⁴⁸⁸
- Intensive behavioral therapy for beneficiaries with an obesity diagnosis;⁴⁸⁹
- The Medicare Diabetes Prevention Program for beneficiaries with prediabetes;⁴⁹⁰ and
- Bariatric surgery for beneficiaries with BMIs of 35 or higher who have an obesity-related disease and have been unsuccessful with previous weight-loss attempts.⁴⁹¹

While Medicare estimates that 22 percent of its beneficiaries have obesity,⁴⁹² fewer than 1 percent utilized their intensive behavioral therapy benefit between 2012 and 2015.⁴⁹³ Similarly, one study found that Medicare patients had 22 percent smaller odds of undergoing bariatric surgery than patients with private health insurance,⁴⁹⁴ an already small number given that it is the most effective treatment for severe obesity.⁴⁹⁵

Medicare does not cover weight-loss programs or anti-obesity medications, which some argue creates a gap in care for older Americans with obesity.⁴⁹⁶ The lack of inclusion in Medicare influences health coverage more generally as many private insurers follow Medicare's lead with respect to pharmaceutical coverage.⁴⁹⁷

Medicaid

Medicaid is a program that provides health insurance for Americans with low incomes and disabilities. It is jointly funded by the states and the federal government and administered by the states, which results in some variation in both Medicaid eligibility and coverage.

For children, states must provide Medicaid coverage for all medically necessary obesity services. For adults, states can choose whether to provide coverage for obesity treatment, and most states offer coverage for at least one obesity-related treatment.⁴⁹⁸ As of 2016–2017, of the 51 state Medicaid programs (including DC):

- 49 covered some form of bariatric surgery;
- 41 covered at least one obesity screening and counseling visit;
- 20 covered nutritional counseling; and
- 16 covered one or more FDA-approved medications for the treatment of obesity.^{499,500}

In addition, seventeen states offer the National Diabetes Prevention Program as a covered benefit to at least some beneficiaries with prediabetes.⁵⁰¹ In some of these states, however, the program is not offered to all beneficiaries or not offered statewide.

While obesity rates vary across the states, obesity-related healthcare coverage is not highly correlated with the severity of obesity in that state. Thus, many of the Americans who need this coverage the most do not have it.⁵⁰² For example, Mississippi—the state with the highest obesity rate in the nation—explicitly excludes coverage for anti-obesity medications and metabolic and bariatric surgery, regardless of medical necessity.^{503,504} It also does not cover obesity-related behavioral interventions and only provides nutritional counseling for high-risk pregnancies and hospice care.⁵⁰⁵

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).⁵⁰⁶ Their recommendations for the prevention and treatment of obesity include:

- Obesity screening for children and adolescents and offering or referring those with obesity to intensive, multicomponent, family-centered behavioral interventions (Grade B);⁵⁰⁷
- Referral of adults with BMIs of 30 or above to intensive, multicomponent, behavioral interventions (Grade B);⁵⁰⁸
- Offering behavioral counseling about healthy weight gain to pregnant people (Grade B);⁵⁰⁹
- Diabetes screening and referral for preventive interventions for adults who are overweight or have obesity (Grade B).⁵¹⁰

The USPSTF is also currently reviewing evidence to update its recommendations regarding:

- Weight management in children and adolescents;⁵¹¹
- Behavioral counseling for adults without cardiovascular risk factors;⁵¹² and
- Preventive services for food insecurity.⁵¹³

Healthcare and Hospital Programs

Healthcare is one of the largest and fastest-growing sectors of our economy, accounting for 14 percent of all American workers.⁵¹⁴ More than 18 million workers work in the industry,⁵¹⁵ and the average American sees a doctor or other medical provider about four times a year.⁵¹⁶ Accordingly hospitals and other healthcare facilities have a substantial impact on American lives and a tremendous opportunity to help prevent and reduce obesity. Ways they can do this include training their workers, adopting best practices, sponsoring community benefit programs, addressing patient's social needs, and promoting breastfeeding.

Medical Education and Training

The current training and continuing education for healthcare providers on preventing and treating obesity, as well as the issues of discrimination and weight stigma within the healthcare system, is often nonexistent or insufficient. One-third of medical schools reported they had no obesity education program and most did not meet the recommended 25 hours of nutrition education.^{517,518} As a result, physicians and other healthcare providers are lacking both knowledge about and comfort in treating obesity.^{519,520,521} In a 2020 study of Stanford internal medicine residents, 91 percent of residents reported discomfort prescribing anti-obesity medication, only one-third correctly identified indications for bariatric surgery and, of those, 9 percent reported referring patients for the surgery.⁵²² Furthermore, many providers want more training in obesity. In the Stanford survey, 90 percent of residents said they wanted more education about anti-obesity medications and 77 percent wanted more information about the

referral processes for weight-loss surgery and other interventions.⁵²³ In addition, fully trained physicians report feeling ill-prepared to treat obesity and there are few published studies on the effectiveness of medical school obesity education programs.⁵²⁴ Where obesity prevention and treatment education programs are in place, there is evidence that they improve outcomes. Researchers conclude that more obesity education should be incorporated into medical education.⁵²⁵

The Obesity Medicine Education Collaborative—an initiative organized by the Obesity Medicine Association, the Obesity Society, and the American Society for Metabolic and Bariatric Surgery in 2016—has developed a comprehensive obesity curriculum for medical training for undergraduate and graduate medical education, and fellowship training for providers of all levels. The curriculum covers (1) Patient Care and Procedural Skills; (2) Medical Knowledge; (3) Practice-based Learning and Improvement; (4) Interpersonal and Communication Skills; (5) Professionalism; and (6) Systems-based Practice.⁵²⁶

Best Practices

Healthcare practices should ensure their providers are providing obesity treatment consistent with the latest scientific research. Resources in this area 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. These 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.⁵²⁷

- **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.^{528,529,530,531} The Affordable Care Act requires most health plans to cover preventive services that have received an A or B grade from USPSTF.⁵³²

- **Screening and treatment recommendations** from the American Academy of Pediatrics, which recommends that pediatricians assess their patients for obesity risk and provide escalating tiers of care to patients with BMIs exceeding the 85th percentile.⁵³³ The American Academy of Pediatrics also recommends that pediatricians screen their patients for food insecurity and connect at-risk patients with nutrition-assistance programs.⁵³⁴

In addition to the following recommended clinical practices, hospitals and other healthcare facilities should also promote healthy environments for patients, visitors, and staff by:

- Serving healthy and nutritious food onsite;
- Sponsoring workplace wellness programs and nutrition classes;
- Reimbursing employees' exercise-related expenses;

- Providing onsite fitness centers; and
- Designating a private space where nursing employees can breastfeed or express milk.^{535,536,537}

Community Benefit Programs

To maintain their tax-exempt status, nonprofit hospitals—which constitute 58 percent of community hospitals in the United States⁵³⁸—must conduct triennial community health needs assessments (CHNA) to determine their community's specific health needs and implement a plan to address them, also called Community Benefit.⁵³⁹ A national survey of hospitals taken in 2016 found that obesity was identified as a community health need in 71 percent of respondents' CHNAs.⁵⁴⁰ As a result, many hospitals now sponsor programs to encourage healthy eating and physical activity. For example:

- Nationwide Children's Hospital in Columbus, Ohio, encourages children to be more physically active through its Play Strong Program, which uses play to show kids that exercise can be fun.^{541,542}
- Temple University Hospital's Farm to Families program brings fresh, low-cost produce to North Philadelphia families and also holds cooking demonstrations.⁵⁴³
- In partnership with their local fire department, Slidell Memorial Hospital in Slidell, Louisiana, and Ochsner Medical Center in Baton Rouge sponsor a Fit As A Firefighter summer camp for kids ages 7 to 13 that offers nutrition and fitness activities.⁵⁴⁴

Addressing Patients' Social Needs

Unmet social needs—such as food insecurity, unstable housing, and domestic violence—increase the risk of developing chronic disease, including obesity. Accordingly, public health experts are developing new systems to better link clinical care with community resources and ensure patients are being treated holistically. CMS recently released a final rule that sets phased-in adoption of new measures for the Hospital Inpatient Quality Reporting Program that would screen for social drivers of health. The new social drivers of health measures will help hospitals identify specific risk factors for inadequate healthcare access and adverse health outcomes and, if consistently and accurately reported, could lead to an important data set to understand the top social determinants of health for beneficiaries.⁵⁴⁵

Breastfeeding

Breastfed children are at a significantly lower risk for childhood obesity and the American Academy of Pediatrics recommends exclusive breastfeeding for the first six months of life and continuing with complementary food for up to two years or more.^{546,547} As of 2019, 83 percent of babies in the United States were ever breastfed, with 45 percent exclusively breastfeed at three months.⁵⁴⁸

Hospitals are uniquely positioned to support the establishment of breastfeeding during the critical postpartum period. CDC analyzed hospital practices that affect how babies are fed. Data from 2018 indicated that most US hospitals scored well, yet institutional management for breastfeeding practices and policies



could be improved.⁵⁴⁹ In the summer of 2020, CDC followed up with the same hospitals to measure the impact of COVID-19 infection-control procedures on breastfeeding. It found that 17.9 percent of hospitals had reduced in-person lactation support during the pandemic and observed that more post-discharge breastfeeding support might be needed, along with long-term monitoring to assess the impact of the pandemic on infant health.⁵⁵⁰

The Baby-Friendly Hospital Initiative, a joint program of the World Health Organization and the United Nations Children's Fund, is a global program to support the implementation of the Ten Steps to Successful Breastfeeding. In the United States, Baby Friendly USA is the accrediting body that designates a hospital as "Baby Friendly" when they offer the optimal level of care for infant feeding. Today, nearly 28 percent of children in the United States are born at one of the 595 facilities designated as Baby Friendly, compared with fewer than 3 percent in 2007.⁵⁵¹

The State of Obesity

Recommendations

Ensuring that all communities can support healthy lifestyles for people of all ages requires a systems approach—because the development of chronic disease is influenced by 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 COVID-19 pandemic; targeting obesity-prevention programs in communities with the highest needs; and scaling and spreading evidence-based initiatives that create the healthy community environments to support optimal health, and promote healthy behaviors and outcomes (e.g., within healthcare, transportation, and education sectors).

For children and their families, schools serve not only as education centers, but also as critical influencers of youth development and well-being. For example, the National School Breakfast (SBP) and School Lunch Program (NSLP) meals are provided for free or at a reduced price to eligible children and are a nutrition safety net for lower-income children. Indeed, two school meals represented 47 percent of the daily calorie intake for an average student and provided 41 percent of a child’s vegetable intake.⁵⁵²

Providing high quality and consistent child nutrition is not only important for the prevention of chronic disease, but also has critical impacts on a child’s health and education outcomes for their entire lives. For example, students who participate in school breakfast programs have improved attendance, behavior, academic performance, and academic achievement, as well as decreased tardiness.⁵⁵³ In addition, food preferences formed during childhood, informed by education about food, family experience, and environmental exposures, are also important to the development of life-long attitudes toward nutrient consumption.⁵⁵⁴

The health of individuals and families are impacted by the communities in which they are born, live, work, learn, play, worship, and age. The available choices and habits related to diet, nutrition, and physical activity—as well as factors like stress, discrimination, poverty, economic opportunity, and food insecurity—vary across the United States and play a critical role in determining the health and well-being of community members. Ensuring all communities across the country support health requires additional resources, policies, and attention.

This section focuses on recommendations for federal, state, and local governments in five areas: (1) advance 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) work with the healthcare system to close disparities and gaps in clinic-to-community settings.

Advance 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 plays a critical role in directing resources and programs that can combat obesity. In any policymaking, including the recommendations below, equity should be prioritized by:

1. Properly funding communities by providing a foundation of flexible support, resources, 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, 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 FY2023 for CDC's Division of Nutrition, Physical Activity and Obesity to ensure its State Physical Activity and Nutrition (SPAN) program 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 preventing and reducing obesity. Yet, CDC's current funding level can only support 16 states (out of 50 approved but unfunded applications). Likewise, national obesity surveillance systems should be adequately funded to improve the collection of race/ethnicity and other demographic data, in order to better tailor programs and funding.

- **Increase funding for equitable obesity-related initiatives.** Congress should increase funding for initiatives that center equity, such as CDC's Racial and Ethnic Approaches to Community Health (REACH) program, which delivers effective, local, culturally appropriate programs to those who bear a disproportionate burden of chronic disease. The REACH program, however, only has enough funding to support up to 40 grantees (out of a total 264 approved but unfunded applications). The Healthy Tribes program—formerly referred to as Good Health and Wellness in Indian Country—is funded out of the REACH funding line and supports tribal organizations to reduce chronic disease health disparities and promote health in American Indian and Alaska Native populations. TFAH recommends at least \$102.5 million for REACH and Healthy Tribes in FY2023 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 social determinants of health (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.^{555,556} Congress should expand funding to \$153 million, as requested in the President’s FY2023 budget, for the SDOH program at CDC to fund meaningful multisector partnerships between public health and other sectors to address structural drivers of poor health. Such a program would create community conditions that foster optimal health, including access to healthy foods, safe places to be physically active, and initiatives that reduce poverty. The Improving Social Determinants of Health Act of 2021 (H.R. 379/S. 104) would authorize the creation of such a program at CDC.
- **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 increasing the minimum wage, expanding the Earned Income Tax Credit, and access to safe, healthy, and affordable housing can reduce poverty and improve population health.^{557,558,559} For further discussion of TFAH’s policy recommendations on economic well-being, see the report *Promoting Health and Cost Control in States*.⁵⁶⁰
- **Prioritize health equity in goals planning.** All relevant divisions at HHS, the U.S. Department of Transportation (DOT), and USDA should implement and publicly report on the progress for their Agency Equity Action Plans.⁵⁶¹ In addition, HHS, DOT, and USDA agencies that work to prevent obesity and development of chronic diseases should prioritize 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, historical underfunding, 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. Upfront financial barriers, and limited operating budgets could be constricting the community organizations that are best suited to implement chronic disease prevention programs. All federal agencies should implement Agency Equity Action Plans, which call for helping underserved communities learn about and navigate federal funding opportunities, providing technical assistance throughout the application process, and making federal funding applications simpler and easier to navigate.⁵⁶²

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 job losses and school closures caused millions to experience food insecurity.⁵⁶³ Families need support to ensure consistent access to enough food for an active, healthy life. In 2021, the Supplemental Nutrition Assistance Program (SNAP) helped 41.5 million people with an average monthly benefit of \$217.83,^{564,565} while the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provided healthy foods and nutrition services to 6.2 million participants.⁵⁶⁶ The money the federal government spends on anti-hunger programs (like SNAP) and nutrition-assistance programs (like WIC) make critical differences in the health of millions of Americans. In addition, 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.^{567,568} Focused 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 permanent USDA school meal waivers, including healthy school meals for all.** Congress should make healthy school meals for all permanent as a step to end 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



Massimo Giachetti

financial loss,⁵⁶⁹ 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 Electronic Benefit Transfer (EBT), and align the nutrition standards of summer programs with the Dietary Guidelines for Americans and school meals. Congress should further extend COVID-19 waivers that allowed schools and community organizations the flexibility to continue feeding children throughout the pandemic. In particular, waivers that allowed for the distribution of food in non-congregate settings should be made permanent to help create continuity in access to nutrition throughout the school year and summer, particularly for children in rural areas.

- **In the interim, encourage Community Eligibility Provision enrollment and expand eligibility.** The Community Eligibility Provision (CEP) has allowed over 33,000 schools, about one in three of the schools that participate in school meals, to offer

them at no charge to all students.⁵⁷⁰ 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, reduces paperwork for parents and schools, and makes school-meal programs more efficient.⁵⁷¹ However, not all eligible schools participate. 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 prevent rules that would weaken school nutrition standards and should issue and swiftly implement rules to maintain and increase nutrition standards for school meals and snacks, including lowering sodium to healthy and age-appropriate levels, creating an added-sugars standard, and increasing access to nutrient-rich foods. Congress should provide USDA the resources needed to give technical assistance, training, and peer-to-peer learning collaboratives, consider performance-based incentives, and work with industry to provide foods that meet the standards in phases to allow schools adequate time to adjust to improved nutrition levels.

- **Extend benefits in the Supplemental Nutrition Assistance Program.**

Congress should protect the update to Thrifty Food Plan, which increased pre-pandemic SNAP benefits by 21 percent, and continuously review the effectiveness of the benefit level.⁵⁷² Congress should also 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. In addition, Congress should require and provide additional resources to states to provide translation and outreach services for people applying to SNAP that have limited English proficiency.⁵⁷³

- **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. Additionally, Congress should double investments in SNAP-Ed, and USDA should continue to strengthen the highly effective Gus Schumacher Nutrition Incentive Program (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,^{574,575} 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.^{576,577} Congress should extend the 2021 increase in WIC's fruit and vegetable benefit through FY 2023, and Congress and USDA should make permanent reforms that increase the overall value of the WIC benefit and address existing nutrition gaps.

- **Increase access to the Special Supplemental Nutrition Program for Women, Infants, and Children.**

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 allow WIC benefits to be remotely loaded onto cards. These steps will modernize the WIC program to make it more flexible and allow more families to access WIC's effective interventions by 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 in Head Start programs, family childcare, childcare 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.⁵⁷⁸ 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 previously 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.⁵⁷⁹ Breastfeeding has been shown to contribute to multiple positive health outcomes, including the prevention of childhood obesity.⁵⁸⁰ 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.^{581,582}

Recommendations for state/local government:

- **Support access to healthy school meals.** 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. Schools should learn from the lessons of COVID-19 and continue flexibilities

that will expand access to nutrition for students, 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.

- **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, Medicaid, WIC, 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.

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.^{583,584}

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.^{585,586} Policies in several communities show clear evidence that this approach works to reduce the consumption of sugary drinks.^{587,588}

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 109,000 cases of obesity over a decade.⁵⁸⁹ FDA should establish clear and consistent labeling requirements for “toddler milks,” which can confuse parents into buying nutritionally inferior products for their young children.



FDA should also examine the need to regulate marketing strategies in retail environments, both in-person and online, that may be promoting inaccurate information about products.

- **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 local 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 576,000 cases of childhood obesity and a healthcare savings of \$30.80 per dollar spent over 10 years.⁵⁹⁰ Proposals such as the SWEET Act would create a national sugar sweetened beverage tax, with revenues going toward reducing sugar in the School Breakfast Program. Additionally, 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 and 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.⁵⁹¹
- **Reduce unhealthy food marketing to children at the local level.** Local education agencies and communities 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.⁵⁹²

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 for recreation or transportation purposes; 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, structural racism causes some people of color to face additional, unique challenges to being physically active in public spaces. For example, Black exercisers may experience dread, anxiety, and hypervigilance while

attempting to exercise, especially in predominantly white neighborhoods, due to a fear of their safety.⁵⁹³ The murder of Ahmaud Arbery is one tragic example of the dangers Black people encounter while exercising. Furthermore, Black, Native, and low-income pedestrians are more likely to be killed while walking than white pedestrians.⁵⁹⁴

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 2023. 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 the *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 vast majority of Americans (74 percent of men, 81 percent of women, and 80 percent of adolescents) do not meet these recommendations.⁵⁹⁵ *The Guidelines* were last updated in 2018.

- **Fund active transportation in all communities, with a focus on equity.** Congress should ensure that funding for active transportation projects like pedestrian and biking infrastructure, recreational trails, and Safe Routes to Schools included in the Infrastructure Investment and Jobs Act, which included a 5-year reauthorization of federal surface transportation programs, are properly utilized. 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, have an equitable opportunity to receive funding. 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, 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.⁵⁹⁶

- **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 agreements 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 fourth 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.⁵⁹⁷

Work with the Healthcare System to Close Disparities and Gaps in Clinic-to-Community Settings.

While the Affordable Care Act has provided access to health insurance coverage to an additional 31 million adults, nearly an equal number of individuals of all ages still lack coverage, and there are significant disparities in access to care by sex, age, race, ethnicity, education, and family income.^{598,599}

Health insurance and access to care are foundational to obesity prevention and treatment as well as to overall health. The following recommendations are in addition to the principal belief 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.”⁶⁰⁰

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 marketplace subsidies that are set to expire in 2025⁶⁰¹ and extending incentives for expansion of Medicaid in remaining states and making marketplace coverage more affordable.⁶⁰²

- **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.⁶⁰³ HHS, the U.S. Department of Labor, and the U.S. Department of the Treasury should jointly communicate to insurers that they require coverage of grade A and B recommendations by publishing FAQs, a form of correspondence that 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 healthcare, social service, and nutrition programs, sufficiently reimbursing social-services providers, and more fully integrating social needs data into Electronic Medical Record systems.

- **Address root causes of health disparities.** Congress should pass the Health Equity and Accountability Act, a comprehensive bill that broadly addresses healthcare disparities and aims to improve the health and well-being of communities of color, rural communities, and other underserved populations across the United States.⁶⁰⁴
- **Expand Medicare coverage of weight management and obesity related services.** Medicare should expand coverage of obesity-related services such as obesity and nutritional counseling provided by registered dietitians,⁶⁰⁵ anti-obesity medications, and bariatric surgery.

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 social-determinants-of-health strategies.** States, insurers, and healthcare facilities should follow CMS guidelines on addressing patients' social needs, and public health departments should partner with social-service agencies, healthcare insurers, hospital systems, and community organizations to address social determinants of health. 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 promotores—in low-resourced areas to provide culturally and linguistically appropriate 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.⁶⁰⁶ State Medicaid programs should also expand coverage of obesity-related services such as obesity and nutritional counseling provided by professionals like registered dietitians, anti-obesity medications, and bariatric surgery.
- **Build and support capacity of community-based partners.** State Medicaid agencies should consider seeking waivers or state plan additions that would allow Medicaid managed care organizations to reimburse community-based organizations for chronic disease prevention activities, 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.

Appendix: **Obesity-Related Indicators and Policies by State**

The appendix covers indicators spanning state-level conditions, policies, and performance measures across four themes: Community Conditions, Food Insecurity, Nutrition Assistance Programs, and Childcare and 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. The data included are the most recently available, although some items have a substantial delay before release.



Community Conditions

	Social Determinants of Health Index (2019)	Poverty (2020)			Health Insurance Coverage (2020)		Neighborhood Sidewalks and Parks (2019-2020)		Complete Streets Policy Adoption (2020) ⁵
		How does the state rank on the Social Determinants of Health Index (SDOHi)? ^{1*}	What percentage of residents live below the poverty level? ²	What percentage of children live below the poverty level? ²	How much higher is the poverty rate for Black residents as compared with White residents? ²	What percentage of age 0-64 are uninsured? ³	How much higher are uninsured rates for Black residents (age 0-64) as compared with White residents (age 0-64)? ³	What percentage of children live in neighborhoods with sidewalks/walking paths? ⁴	
Alabama	46	15%	21%	69%	11%	27%	53%	52%	
Alaska	24	14%	19%	N/A	14%	N/A	70%	74%	
Arizona	28	11%	17%	256%	13%	N/A	87%	80%	
Arkansas	48	14%	20%	116%	10%	13%	55%	51%	
California	6	11%	15%	85%	8%	38%	91%	84%	✓
Colorado	9	10%	12%	N/A	12%	N/A	90%	88%	✓
Connecticut	7	11%	16%	N/A	6%	N/A	71%	78%	✓
Delaware	21	11%	17%	216%	10%	53%	74%	71%	✓
D.C.	N/A	17%	22%	335%	4%	60%	99%	90%	✓
Florida	23	13%	20%	139%	15%	41%	76%	73%	✓
Georgia	39	13%	20%	87%	17%	37%	60%	60%	✓
Hawaii	5	11%	16%	N/A	5%	N/A	82%	88%	✓
Idaho	36	9%	11%	N/A	14%	N/A	76%	74%	
Illinois	12	8%	10%	172%	8%	60%	87%	85%	✓
Indiana	42	12%	18%	143%	7%	N/A	70%	66%	✓
Iowa	33	9%	10%	N/A	7%	N/A	80%	79%	✓
Kansas	27	9%	13%	163%	11%	45%	76%	77%	
Kentucky	47	14%	20%	175%	8%	N/A	60%	56%	✓
Louisiana	37	16%	20%	147%	9%	29%	53%	56%	✓
Maine	35	8%	15%	N/A	7%	N/A	61%	66%	✓
Maryland	4	9%	12%	93%	5%	N/A	81%	81%	✓
Massachusetts	1	9%	13%	114%	3%	N/A	87%	84%	✓
Michigan	40	11%	15%	158%	5%	45%	76%	76%	✓
Minnesota	17	8%	10%	N/A	6%	N/A	80%	86%	✓
Mississippi	50	18%	22%	94%	14%	29%	41%	47%	✓
Missouri	32	11%	15%	235%	12%	51%	66%	68%	✓
Montana	29	11%	12%	N/A	9%	N/A	69%	69%	
Nebraska	15	8%	11%	369%	9%	N/A	88%	79%	
Nevada	20	13%	16%	191%	12%	21%	91%	79%	✓
New Hampshire	22	6%	9%	N/A	5%	N/A	62%	74%	
New Jersey	3	8%	11%	84%	8%	53%	85%	90%	✓
New Mexico	44	17%	22%	135%	15%	N/A	81%	78%	✓
New York	2	12%	18%	99%	6%	12%	84%	87%	✓
North Carolina	38	14%	23%	100%	12%	25%	54%	54%	✓
North Dakota	19	11%	14%	N/A	7%	N/A	80%	82%	
Ohio	34	13%	19%	140%	8%	41%	74%	75%	
Oklahoma	45	16%	22%	65%	17%	50%	56%	63%	
Oregon	14	10%	12%	N/A	6%	N/A	83%	80%	✓
Pennsylvania	18	11%	16%	167%	7%	29%	73%	79%	✓
Rhode Island	8	9%	14%	N/A	4%	N/A	77%	81%	✓
South Carolina	43	13%	21%	218%	10%	31%	51%	53%	✓
South Dakota	30	12%	N/A	N/A	11%	73%	81%	77%	
Tennessee	41	13%	20%	133%	13%	17%	53%	58%	✓
Texas	31	14%	20%	174%	20%	43%	73%	73%	✓
Utah	10	8%	10%	N/A	11%	N/A	92%	90%	✓
Vermont	16	9%	9%	N/A	3%	N/A	64%	75%	✓
Virginia	13	8%	13%	215%	6%	39%	72%	72%	✓
Washington	11	8%	10%	N/A	9%	N/A	78%	79%	✓
West Virginia	49	14%	18%	N/A	6%	N/A	52%	54%	✓
Wisconsin	26	8%	15%	352%	6%	N/A	72%	80%	
Wyoming	25	10%	13%	N/A	12%	N/A	80%	79%	
Total	N/A	12%	17%	139%	10%	43%	75%	75%	35 States and D.C.

Sources and Notes:

1. Sharecare and Boston University, "Social Determinants of Health Index," August 2021. 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. Kaiser Family Foundation, "Poverty Rate by Race/Ethnicity" and "Poverty Rate by Age", 2020. <https://www.kff.org/state-category/demographics-and-the-economy/>

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

3. Kaiser Family Foundation, "Uninsured Rates for the Nonelderly by Race/Ethnicity", 2020. <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. HRSA Maternal and Child Health Bureau, "2019-2020 National Survey of Children's Health", 2022. www.childhealthdata.org

5. Smart Growth America. "Complete Streets Policy Adoption 2020." <https://smartgrowthamerica.org/wp-content/uploads/2021/09/CS-policies-2000-2020.pdf>.

Data source: Complete Street Policy Inventory.

Food Insecurity

	Household Food Insecurity (Average 2018-2020)	Food Insecurity Among Youth (2019)	Food Insecurity Among Older Adults (2020)	Cost per Meal (2019)
	What percentage of households experience low or very low food security? ¹	What percentage of children (under 18) are food insecure? ²	What percentage of seniors (age 60+) are food insecure? ³	What is the average dollar amount spent on food per meal by food-secure individuals? ⁴
Alabama	14% ^a	21%	9%	\$3.01
Alaska	11%	16%	6%	\$3.63
Arizona	11%	18%	7%	\$3.03
Arkansas	13%	21%	6%	\$2.73
California	9% ^a	14%	7%	\$3.26
Colorado	10%	12%	8%	\$3.35
Connecticut	12%	15%	7%	\$3.39
Delaware	10%	16%	5%	\$3.18
D.C.	10%	15%	13%	\$4.09
Florida	10%	17%	8%	\$3.28
Georgia	10%	15%	9%	\$3.04
Hawaii	9% ^a	18%	4%	\$3.50
Idaho	10%	11%	5%	\$3.07
Illinois	9% ^a	12%	7%	\$3.00
Indiana	12%	15%	7%	\$2.74
Iowa	7% ^a	13%	6%	\$2.88
Kansas	11%	17%	7%	\$2.96
Kentucky	14% ^a	18%	11%	\$2.75
Louisiana	15% ^a	23%	12%	\$2.97
Maine	11%	18%	5%	\$3.71
Maryland	9%	15%	6%	\$3.24
Massachusetts	8% ^a	9%	5%	\$3.69
Michigan	12%	14%	5%	\$2.93
Minnesota	7% ^a	11%	4%	\$3.16
Mississippi	15% ^a	22%	12%	\$2.90
Missouri	12%	15%	7%	\$2.96
Montana	10%	16%	4%	\$2.95
Nebraska	11%	15%	5%	\$2.90
Nevada	12%	18%	6%	\$3.11
New Hampshire	6% ^a	11%	3%	\$3.48
New Jersey	8% ^a	10%	6%	\$3.41
New Mexico	13% ^a	22%	8%	\$2.95
New York	11%	16%	8%	\$3.31
North Carolina	12%	18%	8%	\$2.99
North Dakota	8% ^a	9%	3%	\$3.18
Ohio	12%	17%	6%	\$2.86
Oklahoma	15% ^a	21%	8%	\$2.89
Oregon	9% ^a	15%	5%	\$3.13
Pennsylvania	10%	15%	5%	\$3.17
Rhode Island	8% ^a	14%	6%	\$3.42
South Carolina	11%	15%	9%	\$2.94
South Dakota	9% ^a	15%	5%	\$3.06
Tennessee	13% ^a	16%	7%	\$3.07
Texas	13% ^a	20%	9%	\$2.68
Utah	10%	12%	4%	\$2.94
Vermont	9% ^a	14%	5%	\$3.60
Virginia	9% ^a	12%	6%	\$3.17
Washington	9% ^a	14%	5%	\$3.21
West Virginia	15% ^a	19%	9%	\$2.75
Wisconsin	10%	14%	6%	\$2.90
Wyoming	12%	14%	8%	\$3.12
Total	11%	N/A	7%	N/A

Sources and Notes:

1. Coleman-Jensen A, Rabbitt MP, Gregory CA, and Singh A. "Household Food Security in the United States in 2020, ERR-298," U.S. Department of Agriculture, Economic Research Service, 2021. <https://www.ers.usda.gov/webdocs/publications/102076/err-298.pdf?v=572.8>. United States Department of Agriculture (USDA).

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

2. Gundersen, C., Strayer, M., Dewey, A., Hake, M., & Engelhard, E. (2021). Map the Meal Gap 2021: An Analysis of County and Congressional District Food Insecurity and County Food Cost in the United States in 2019. Feeding America.

3. Gundersen, C., Ziliak J., Strayer M., & Hake M. (May 2021). The State of Senior Hunger in America 2020: An Annual Report; and Hunger Among Adults Aged 50-59 in America 2020: An Annual Report [Data file]. Available from Feeding America: <https://www.feedingamerica.org/research/senior-hunger-research>.

4. Gundersen, C., Strayer, M., Dewey, A., Hake, M., & Engelhard, E. (2021). Map the Meal Gap 2021: An Analysis of County and Congressional District Food Insecurity and County Food Cost in the United States in 2019. Feeding America.

Nutrition Assistance Programs

	Special Nutrition Assistance Program Participation (2018)	Special Supplemental Nutrition Program for Women, Infant, and Children Participation (2019)	Women, Infant, and Children Breastfeeding Performance Measurements (FY 2020)	Farm to Food Bank Project Funding (as of FY 2022)	TEFAP Food Costs (FY 2021)
	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	Which states are conducting a Farm to Food Bank project in FY 2022? ⁴	What is the total cost of food delivered to states under the Emergency Food Assistance Program (TEFAP)? ⁵
Alabama	79%	62% ^a	13%		\$16,704,301
Alaska	89%	53%	46%		\$4,102,772
Arizona	77%	56%	31%	√	\$34,922,025
Arkansas	66%	49% ^a	14%	√	\$13,614,570
California	70%	69% ^a	38%	√	\$112,076,433
Colorado	79%	53% ^a	35%	√ ^a	\$17,819,098
Connecticut	93%	55%	36%		\$10,320,553
Delaware	100%	50% ^a	32%	√	\$8,164,148
D.C.	82%	61%	49%		\$832,524
Florida	86%	58%	38%	√	\$76,256,951
Georgia	83%	49% ^a	28%		\$35,675,853
Hawaii	88%	58%	48%	√ ^a	\$2,551,598
Idaho	74%	46% ^a	45%	√	\$3,439,652
Illinois	100%	48% ^a	30%	√	\$39,578,407
Indiana	74%	59%	29%	√	\$23,401,023
Iowa	88%	59%	29%	√	\$8,748,209
Kansas	68%	55%	31%		\$11,500,132
Kentucky	75%	57%	22%	√	\$16,651,144
Louisiana	83%	49% ^a	14%		\$20,392,985
Maine	81%	53%	32%	√	\$6,011,519
Maryland	91%	68% ^a	42%		\$3,310,695
Massachusetts	94%	63% ^a	37%		\$15,098,200
Michigan	89%	64% ^a	24%	√ ^a	\$44,697,741
Minnesota	76%	67% ^a	38%	√	\$13,110,629
Mississippi	70%	60%	15%		\$12,436,725
Missouri	87%	53% ^a	23%	√	\$23,497,357
Montana	78%	44% ^a	36%	√ ^a	\$2,717,281
Nebraska	79%	59%	35%		\$5,840,079
Nevada	92%	59%	30%		\$17,323,646
New Hampshire	80%	52%	35%		\$2,234,195
New Jersey	81%	58%	45%		\$22,342,508
New Mexico	98%	44% ^a	38%		\$13,175,188
New York	89%	59%	47%		\$64,918,435
North Carolina	69%	57%	31%	√	\$41,476,156
North Dakota	63%	61%	30%		\$2,525,365
Ohio	84%	52% ^a	16%	√	\$44,930,810
Oklahoma	85%	58%	17%		\$14,607,110
Oregon	100%	69% ^a	39%	√	\$16,225,378
Pennsylvania	99%	55%	19%	√	\$44,963,473
Rhode Island	95%	68% ^a	26%		\$2,457,317
South Carolina	77%	43% ^a	21%		\$15,507,642
South Dakota	78%	53%	29%		\$2,636,644
Tennessee	90%	44% ^a	28%		\$22,033,326
Texas	75%	57%	57%	√	\$118,070,873
Utah	77%	43% ^a	41%	√ ^a	\$8,472,767
Vermont	92%	73% ^a	49%		\$1,443,819
Virginia	72%	49% ^a	22%	√	\$17,244,088
Washington	98%	53% ^a	42%	√	\$24,744,673
West Virginia	88%	55%	17%	√ ^a	\$7,990,768
Wisconsin	92%	58%	23%	√	\$15,561,914
Wyoming	54%	54%	32%	√	\$2,326,917
Total	82%	57%	N/A	28 States	N/A

Sources and Notes:

1. USDA Food and Nutrition Service, “Estimates of State Supplemental Nutrition Assistance Program Participation Rates in 2018,” May 2021. <https://www.fns.usda.gov/snap/reaching-those-need-estimates-state-2018>.

*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 2019 Final Report” February 2022. <https://fns-prod.azureedge.us/sites/default/files/resource-files/WICEligibles2019-Volume1-revised.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, “Fiscal Year 2020 WIC Breastfeeding Data Local Agency Report” June 2021. <https://fns-prod.azureedge.us/sites/default/files/resource-files/FY2020-BFDLA-Report.pdf>.

4. USDA Food and Nutrition Service, “Fiscal Year 2022 Farm to Food Bank Project Summaries.” <https://www.fns.usda.gov/tefap/fy-2022-farm-food-bank-project-summaries>.

a. Newly participating states in FY 2022.

5. USDA Food and Nutrition Service, “The Emergency Food Assistance Program (TEFAP): Total Food Cost.” <https://www.fns.usda.gov/pd/food-distribution-program-tables>.

Food costs are the value of entitlement and bonus commodities delivered to State warehouses during the fiscal year.

Child Nutrition and Physical Activity

	Smart Snacks Standards (2019-2020)	Food Marketing (2019-2020)	School Breakfast Program (2020-2021)	Successful State Farm to School Legislation (2002-2020)	Community Eligibility Provision (2021-2022)
	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	How did the state score (on a scale from 0-6) with respect to successful state farm to school legislation from 2002 to 2020? ³	What percentage of eligible districts have adopted the community eligibility provision? ^{4*}
Alabama			69%	6	76%
Alaska			76%	5	77%
Arizona			66%	0	69%
Arkansas	√		74%	6	63%
California		√ ^b	94%	6	57%
Colorado			62%	4	34%
Connecticut			64%	3	95%
Delaware			90%	1	80%
D.C.	√	√ ^b	96%	5	98%
Florida	√		58%	6	64%
Georgia	√		71%	2	73%
Hawaii			57%	6	100%
Idaho			47%	0	77%
Illinois	√		78%	4	57%
Indiana	√		50%	0	41%
Iowa	√		39%	4	19%
Kansas			52%	0	5%
Kentucky	√		85%	2	97%
Louisiana	√		66%	6	95%
Maine		√ ^a	71%	2	57%
Maryland			100%	6	59%
Massachusetts			73%	4	64%
Michigan			77%	6	67%
Minnesota			75%	5	44%
Mississippi	√		71%	1	82%
Missouri			68%	6	67%
Montana			61%	2	82%
Nebraska			35%	1	19%
Nevada			86%	4	83%
New Hampshire	√		57%	1	0%
New Jersey	√	√ ^a	89%	3	58%
New Mexico	√		94%	5	87%
New York			77%	6	79%
North Carolina			83%	6	65%
North Dakota			44%	0	96%
Ohio			62%	0	82%
Oklahoma	√		54%	6	54%
Oregon			94%	5	43%
Pennsylvania			64%	4	75%
Rhode Island	√	√ ^b	76%	2	45%
South Carolina	√		72%	3	78%
South Dakota			36%	0	76%
Tennessee	√		70%	2	74%
Texas			65%	4	53%
Utah	√		30%	0	82%
Vermont			76%	6	64%
Virginia		√ ^b	89%	1	98%
Washington			91%	4	61%
West Virginia	√	√ ^b	88%	1	93%
Wisconsin			58%	6	47%
Wyoming			51%	2	88%
Total	18 states and D.C.	6 states and D.C.	71%	N/A	64%

Child Nutrition and Physical Activity (continued)

	National Physical Education Standards (2019-2020)	Physical Activity Throughout the Day (2019-2020)	Recess (2019-2020)	Embedding Obesity Prevention in Early Care & Education (2020)
	Does the state address or refer to the National Physical Education Standards within state PE curriculum laws? ⁵	Does the state have laws that address providing physical activity throughout the day (e.g., during classroom breaks)? ⁵	Does the state have laws that address providing physical activity through recess? ⁵	How well do the state's licensing regulations for child care centers support high-impact obesity prevention standards over time (score out of 100)? ^{6*}
Alabama	√		√c	68
Alaska	√	√a	√c	71
Arizona	√	√b		53
Arkansas		√a	√d	74
California			√c	67
Colorado	√	√a	√c	74
Connecticut		√a	√d	65
Delaware	√			80
D.C.	√	√a	√c	74
Florida	√		√d	71
Georgia				70
Hawaii				67
Idaho	√			30
Illinois				78
Indiana		√a	√c	48
Iowa		√b		66
Kansas				47
Kentucky	√	√a		56
Louisiana	√	√a		70
Maine				48
Maryland	√			71
Massachusetts	√			44
Michigan				73
Minnesota	√	√a	√c	65
Mississippi	√	√a	√c	68
Missouri		√a	√d	51
Montana	√			62
Nebraska				63
Nevada				67
New Hampshire	√	√a	√c	69
New Jersey			√d	79
New Mexico	√	√a		69
New York				74
North Carolina				74
North Dakota				51
Ohio	√			49
Oklahoma	√	√a	√c	68
Oregon	√			56
Pennsylvania				44
Rhode Island	√	√b	√d	72
South Carolina	√	√a	√c	66
South Dakota	√			39
Tennessee		√b		79
Texas	√		√c	62
Utah				70
Vermont	√	√a	√c	72
Virginia		√a	√d	66
Washington	√	√a		80
West Virginia		√a	√d	64
Wisconsin				69
Wyoming	√			43
Total	26 states and D.C.	23 states and D.C.	20 states and D.C.	N/A

Sources and Notes:

1. Temkin D et al. "State Policies 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, "The Reach of Breakfast and Lunch: A Look at Pandemic and Pre-Pandemic Participation," February 2022. <https://frac.org/research/resource-library/breakfast2022>.

3. National Farm to School Network and Vermont Law School's Center for Agriculture and Food Systems. State Farm to School Policy Handbook 2002-2020. July 2021. https://assets.website-files.com/5c469df2395cd53c3d913b2d/611055ea25a740645f082f18_StateFarmtoSchoolPolicyHandbook.pdf.

A score of 4-6 indicates the state is "Sustaining Farm to School" (with legislation that includes funded grant programs, coordinator positions, and/or local procurement incentives). A score of 2 or 3 indicates the state is "Growing Farm to School" (with a pilot, local preference, and/or unfunded program). A score of 1 indicates the state is "Seeding Farm to School" (with proclamations/resolutions, a database, and/or task force/councils). A score of 0 indicates the state has no Farm to School legislation enacted.

4. Food Research and Action Center, "Community Eligibility: The Key to Hunger-Free Schools, School Year 2021-2022," June 2022. <https://frac.org/research/resource-library/cep-report-2022>.

*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.

5. Temkin D et al. "State Policies 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

6. Centers for Disease Control and Prevention. State Licensing Scorecards for Embedding High-Impact Obesity Prevention Standards in Early Care & Education (ECE). <https://www.cdc.gov/obesity/strategies/early-care-education/licensing-reports-2020-508.html>.

*A state's overall score out of 100 is based on four subdomains with a total of 47 high-impact obesity prevention standards: healthy infant feeding (11 standards), nutrition (21 standards), physical activity (11 standards), and screen time limits (4 standards). Scores are calculated using publicly available state ratings of 2019 licensing data from the National Resource Center for Health and Safety in Child Care & Early Education: https://nrckids.org/files/Final.ASHW.2018.Supplement_8.19.19.pdf

Endnotes

- 1 Lange Samantha J., Lyudmyla Kompaniyets, David S. Freedman, et al. “Longitudinal Trends in Body Mass Index Before and During the COVID-19 Pandemic Among Persons Aged 2–19 Years—United States, 2018–2020.” *Morbidity and Mortality Weekly Report*, 70:1278–128, September 2021. <https://www.cdc.gov/mmwr/volumes/70/wr/mm7037a3.htm>. Accessed July 27, 2022.
- 2 Restrepo, Brandon J. “Obesity Prevalence Among U.S. Adults During the COVID-19 Pandemic.” *American Journal of Preventive Medicine*, 63(1): 102-106, April 2022. [https://www.ajpmonline.org/article/S0749-3797\(22\)00095-2/fulltext#seccesectitle0005](https://www.ajpmonline.org/article/S0749-3797(22)00095-2/fulltext#seccesectitle0005). Accessed July 27, 2022.
- 3 Fryar, Cheryl D., Margaret D. Carroll, and Joseph Afful. “Prevalence of Overweight, Obesity, and Severe Obesity Among Children and Adolescents Aged 2–19 Years: United States, 1963–1965 Through 2017–2018.” National Center for Health Statistics, *Health E-Stats*, 2020. <https://www.cdc.gov/nchs/data/hestat/obesity-child-17-18/overweight-obesity-child-H.pdf>. Accessed July 29, 2022.
- 4 Fryar, Cheryl D., Margaret D. Carroll, and Cynthia L. Ogden. *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 August 8, 2022.
- 5 Hales, Craig M., Cheryl D. Fryar, Margaret D. Carroll, et al. “Trends in Obesity and Severe Obesity Prevalence in US Youth and Adults by Sex and Age, 2007–2008 to 2015–2016.” *JAMA*, 319(16): 1723-1725, April 14, 2018. <https://jamanetwork.com/journals/jama/fullarticle/2676543>. Accessed August 8, 2022.
- 6 Stierman, Bryan, Joseph Afful, Margaret D. Carroll, et al. “National Health and Nutrition Examination Survey 2017–March 2020 Pre-pandemic Data Files Development of Files and Prevalence Estimates for Selected Health Outcomes.” National Center for Health Statistics, 158, June 2021. <https://stacks.cdc.gov/view/cdc/106273>. Accessed July 29, 2022.
- 7 Centers for Disease Control and Prevention. “Behavioral Risk Factor Surveillance System.” Updated August 29, 2022. <https://www.cdc.gov/brfss/index.html>. Accessed September 7, 2022.
- 8 Trust for America’s Health. “State and Regional Data from the Behavioral Risk Factor Surveillance System.” <https://www.tfah.org/report-details/state-of-obesity-2022/>. Accessed September 7, 2022.
- 9 Kompaniyets, Lyudmyla, Alyson B. Goodman, Brook Belay, 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 August 8, 2022.
- 10 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](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(16)30175-1/fulltext). Accessed July 18, 2021.
- 11 Flegal, Katherine M., Brian K. Kit, Heather Orpana, et al. “Association of All-Cause Mortality with Overweight and Obesity Using Standard Body Mass Index Categories: A Systematic Review and Meta-Analysis.” *JAMA*, 309(1): 71-82, 2013. <https://jamanetwork.com/journals/jama/fullarticle/1555137>. Accessed August 8, 2022.
- 12 Greenberg, James A. “Obesity and Early Mortality in the United States.” *Obesity*, 21(2): 405-412, 2013. <https://www.ncbi.nlm.nih.gov/pubmed/23404873>. Accessed August 8, 2022.
- 13 NHLBI Obesity Education Initiative Expert Panel. *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report*. Bethesda, MD: National Heart, Lung, and Blood Institute, September 1998. <https://www.ncbi.nlm.nih.gov/books/NBK1995/#A136>. Accessed August 8, 2022.
- 14 National Institute of Diabetes and Digestive and Kidney Diseases. “Health Risks of Overweight & Obesity.” Updated February 2018. <https://www.niddk.nih.gov/health-information/weight-management/adult-overweight-obesity/health-risks>. Accessed August 8, 2022.
- 15 NHLBI Obesity Education Initiative Expert Panel. *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report*. Bethesda, MD: National Heart, Lung, and Blood Institute, September 1998. <https://www.ncbi.nlm.nih.gov/books/NBK1995/#A136>. Accessed July 18, 2021.
- 16 Leddy, Meaghan A., Michael L. Power, and Jay Schulkin. “The Impact of Maternal Obesity on Maternal and Fetal Health.” *Reviews in Obstetrics and Gynecology*, 1(4): 170-178, 2008. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2621047/>. Accessed August 8, 2022.
- 17 Cedergren, Marie I. “Maternal Morbid Obesity and the Risk of Adverse Pregnancy Outcome.” *Obstetrics & Gynecology*, 103(2): 219-224, 2004. <https://www.ncbi.nlm.nih.gov/pubmed/14754687>. Accessed July 18, 2021.
- 18 O’Brien, Tara E., Joel G Ray, and Wee-Shian Chan. “Maternal Body Mass Index and the Risk of Preeclampsia: A Systematic Overview.” *Epidemiology*, 14(3): 368-374, 2003. <https://www.ncbi.nlm.nih.gov/pubmed/12859040>. Accessed July 18, 2021.
- 19 Lauby-Secretan, Béatrice, Chiara Scoccianti, Dana Loomis, et al. “Body Fatness and Cancer—Viewpoint of the IARC Working Group.” *The New England Journal of Medicine*, 375: 794-798, 2016. <https://www.proquest.com/docview/1814894103>. Accessed July 18, 2021.
- 20 Zhang, Fang Fang, Frederick Cudhea, Zhilei Shan, et al. “Preventable Cancer Burden Associated with Poor Diet in the United States.” *JNCI Cancer Spectrum*, 3(2), June 2019. <https://academic.oup.com/jncics/article/3/2/pkz034/5492023>. Accessed July 18, 2021.
- 21 Pulgaron, Elizabeth R., and Alan M. Delamater. “Obesity and Type 2 Diabetes in Children: Epidemiology and Treatment.” *Current Diabetes Reports*, 14(8): 508, 2014. <https://link.springer.com/article/10.1007%2Fs11892-014-0508-y>. Accessed July 18, 2021.
- 22 Shrivastava, Saurabh Ram Bihari Lal, Prateek Saurabh Shrivastava, and Jegadeesh Ramasamy. “Childhood Obesity: A Determinant of Adolescent and Adult Hypertension.” *International Journal of Preventive Medicine*, 5(Suppl 1): S71-S72, 2014. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3990923/>. Accessed July 18, 2021.
- 23 Llewellyn, A., M. Simmonds, C.G. Owen, and N. Woolacott. “Childhood Obesity as a Predictor of Morbidity in Adulthood: A Systematic Review and Meta-Analysis.” *Obesity Reviews*, 17: 56-67, 2016. <https://onlinelibrary.wiley.com/doi/abs/10.1111/obr.12316>. Accessed July 18, 2021.

- 24 Carey, Felicia R., Gopal K Singh, H. Shelton Brown, and Anna V. Wilkinson. "Educational Outcomes Associated with Childhood Obesity in the United States: Cross-Sectional Results from the 2011–2012 National Survey of Children's Health." *International Journal of Behavioral Nutrition and Physical Activity*, 12(Suppl 1): S3, 2015. <https://www.ncbi.nlm.nih.gov/pubmed/26222699>. Accessed July 18, 2021.
- 25 Simmonds, M., A. Llewellyn, C.G. Owen, et al. "Predicting Adult Obesity from Childhood Obesity: A Systematic Review and Meta-Analysis." *Obesity Review*, 17(2): 95-107, February 2016. <https://pubmed.ncbi.nlm.nih.gov/26696565/>. Accessed August 8, 2022.
- 26 Kompaniyets, Lyudmyla, Nickolas T. Agathis, Jennifer M. Nelson, et al. "Underlying Medical Conditions Associated With Severe COVID-19 Illness Among Children." *JAMA Network Open*, 4(6): e2111182, June 1, 2021. <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2780706>. Accessed July 27, 2022.
- 27 Ward Zachary J., Sara N. Bleich, Michael W. Long, et al. "Association of Body Mass Index with Health Care Expenditures in the United States by Age and Sex." *PLOS ONE*, 16(3): e0247307, March 2021. <https://doi.org/10.1371/journal.pone.0247307>. Accessed August 1, 2022.
- 28 Wang, Y. Claire, John Pamplin, Michael W. Long, et al. "Severe Obesity in Adults Cost State Medicaid Programs Nearly \$8 Billion in 2013." *Health Affairs*, 34(11), November 2015. <https://www.healthaffairs.org/doi/10.1377/hlthaff.2015.0633>. Accessed August 1, 2022.
- 29 Harris, Benjamin H., and Aurite Werman. "Obesity Costs Evident at the State Level." Brookings Institution, December 2014. <https://www.brookings.edu/blog/up-front/2014/12/12/obesity-costs-evident-at-the-state-level/>. Accessed August 1, 2022.
- 30 Hammond, Ross A., and Ruth Levine. "The Economic Impact of Obesity in the United States. Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy." *Diabetes, Metabolic Syndrome and Obesity*, 3: 285-295, 2010. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3047996/>. Accessed July 18, 2021.
- 31 Rubino, Francesco, Rebecca M. Puhl, and John B. Dixon. "Joint International Consensus Statement for Ending Stigma of Obesity." *Nature Medicine*, 26: 485-497, 2020. <https://www.nature.com/articles/s41591-020-0803-x>. Accessed June 8, 2022.
- 32 O'Keeffe, Majella, Stuart W. Flint, Krista Watts, et al. "Knowledge Gaps and Weight Stigma Shape Attitudes Toward Obesity." *The Lancet Diabetes and Endocrinology*, 8(5): 363-365, 2020. [https://www.thelancet.com/journals/landia/article/PIIS2213-8587\(20\)30073-5/fulltext](https://www.thelancet.com/journals/landia/article/PIIS2213-8587(20)30073-5/fulltext). Accessed June 8, 2022.
- 33 Puhl, Rebecca, and Kelly D. Brownell. "Bias, Discrimination, and Obesity." *Obesity Research*, 9(12): 788-805, 2001. <https://pubmed.ncbi.nlm.nih.gov/11743063/>. Accessed June 8, 2022.
- 34 Rubino, Francesco, Rebecca M. Puhl, and John B. Dixon. "Joint International Consensus Statement for Ending Stigma of Obesity." *Nature Medicine*, 26: 485-497, 2020. <https://www.nature.com/articles/s41591-020-0803-x>. Accessed June 8, 2022.
- 35 Ibid.
- 36 O'Keeffe, Majella, Stuart W. Flint, Krista Watts, et al. "Knowledge Gaps and Weight Stigma Shape Attitudes Toward Obesity." *The Lancet Diabetes and Endocrinology*, 8(5): 363-365, 2020. [https://www.thelancet.com/journals/landia/article/PIIS2213-8587\(20\)30073-5/fulltext](https://www.thelancet.com/journals/landia/article/PIIS2213-8587(20)30073-5/fulltext). Accessed June 8, 2022.
- 37 Puhl, Rebecca, and Kelly D. Brownell. "Bias, Discrimination, and Obesity." *Obesity Research*, 9(12): 788-805, 2001. <https://pubmed.ncbi.nlm.nih.gov/11743063/>. Accessed June 8, 2022.
- 38 Gasoyan, Hamlet et al. "Reasons for underutilization of bariatric surgery: The role of insurance benefit design." *Journal of the American Society for Bariatric Surgery*, 15(1): 146-151, 2019. doi:10.1016/j.soard.2018.10.005. Accessed August 10, 2022.
- 39 Saxon, David R et al. "Antiobesity Medication Use in 2.2 Million Adults Across Eight Large Health Care Organizations: 2009-2015." *Obesity*, 27(12): 1975-1981, October 2019. doi:10.1002/oby.22581. Accessed August 10, 2022.
- 40 Rubino, Francesco, Rebecca M. Puhl, and John B. Dixon. "Joint International Consensus Statement for Ending Stigma of Obesity." *Nature Medicine*, 26: 485-497, 2020. <https://www.nature.com/articles/s41591-020-0803-x>. Accessed June 8, 2022.
- 41 Puhl, Rebecca, and Kelly D. Brownell. "Bias, Discrimination, and Obesity." *Obesity Research*, 9(12): 788-805, 2001. <https://pubmed.ncbi.nlm.nih.gov/11743063/>. Accessed June 8, 2022.
- 42 Brown, Adrian, Stuart W. Flint, and Rachel L. Batterham. "Pervasiveness, Impact and Implications of Weight Stigma." *EclinicalMedicine*, 47: 101408, 2022. [https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370\(22\)00138-9/fulltext](https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(22)00138-9/fulltext). Accessed June 10, 2022.
- 43 Rubino, Francesco, Rebecca M. Puhl, and John B. Dixon. "Joint International Consensus Statement for Ending Stigma of Obesity." *Nature Medicine*, 26: 485-497, 2020. <https://www.nature.com/articles/s41591-020-0803-x>. Accessed June 8, 2022.
- 44 Ibid.
- 45 Brown, Adrian, Stuart W. Flint, and Rachel L. Batterham. "Pervasiveness, Impact and Implications of Weight Stigma." *EclinicalMedicine*, 47: 101408, 2022. [https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370\(22\)00138-9/fulltext](https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(22)00138-9/fulltext). Accessed June 10, 2022.
- 46 American Medical Association. "Recognition of Obesity as a Disease H-440.842." <https://policysearch.ama-assn.org/policyfinder/detail/obesity?uri=%2FAMADoc%2FHOD.xml-0-3858.xml>. Accessed August 10, 2022.
- 47 O'Keeffe, Majella, Stuart W. Flint, Krista Watts, et al. "Knowledge Gaps and Weight Stigma Shape Attitudes Toward Obesity." *The Lancet Diabetes and Endocrinology*, 8(5): 363-365, 2020. [https://www.thelancet.com/journals/landia/article/PIIS2213-8587\(20\)30073-5/fulltext](https://www.thelancet.com/journals/landia/article/PIIS2213-8587(20)30073-5/fulltext). Accessed June 8, 2022.
- 48 Brown, Adrian, Stuart W. Flint, and Rachel L. Batterham. "Pervasiveness, Impact and Implications of Weight Stigma." *EclinicalMedicine*, 47: 101408, 2022. [https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370\(22\)00138-9/fulltext](https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(22)00138-9/fulltext). Accessed June 10, 2022.
- 49 Centers for Disease Control and Prevention. "About Adult BMI." Updated June 3, 2022. https://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/. Accessed August 8, 2022.
- 50 National Institute of Diabetes and Digestive and Kidney Diseases. "Overweight & Obesity Statistics." Updated September 2021. <https://www.niddk.nih.gov/health-information/health-statistics/overweight-obesity>. Accessed August 8, 2022.

- 51 Burkhauser, Richard V., and John Cawley. "Beyond BMI: The Value of More Accurate Measures of Fatness and Obesity in Social Science Research." *Journal of Health Economics*, 27(2): 519-529, 2008. <https://www.sciencedirect.com/science/article/abs/pii/S0167629607001130>. Accessed August 8, 2022.
- 52 Stanford, Fatima Cody, Minyi Lin, and Chin Hur. "Letter to the Editor: Race, Ethnicity, Sex, and Obesity: Is it Time to Personalize the Scale?" *Mayo Clinic Proceedings*, 94(2):362-369, February 2019. [https://www.mayoclinicproceedings.org/article/S0025-6196\(18\)30807-3/pdf](https://www.mayoclinicproceedings.org/article/S0025-6196(18)30807-3/pdf). Accessed July 19, 2022.
- 53 Centers for Disease Control and Prevention. "About Child & Teen BMI." Updated March 17, 2021. https://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html. Accessed August 8, 2022.
- 54 Economic Research Service, United States Department of Agriculture. "Overview: Food Security in the U.S." Updated April 22, 2022. <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/>. Accessed August 8, 2022.
- 55 Economic Research Service, United States Department of Agriculture. "Definitions of Food Security." Updated April 22, 2022. <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security.aspx>. Accessed August 8, 2022.
- 56 U.S. Department of Agriculture. "Food and Nutrition Security." <https://www.usda.gov/nutrition-security>. Accessed July 27, 2022.
- 57 Gundersen, Craig, and James P. Ziliak. "Food Insecurity and Health Outcomes." *Health Affairs*, 34(11): 1830-1839, 2015. <https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2015.0645>. Accessed August 8, 2022.
- 58 Robert Wood Johnson Foundation. "Food Insecurity and Risk for Obesity Among Children and Families: Is There a Relationship?" *Healthy Eating Research Program*, April 2010. https://healthyeatingresearch.org/wp-content/uploads/2013/12/HER-Food-Insecurity-042910_FINAL.pdf. Accessed July 19, 2022.
- 59 Coleman-Jensen, Alisha, Matthew P. Rabbit, Christian A. Gregory, and Anita Singh. "Household Food Insecurity in the United States in 2020." *U.S. Department of Agriculture Economic Research Service*, Report 298, September 2021. <https://www.ers.usda.gov/webdocs/publications/102076/err-298.pdf>. Accessed July 19, 2022.
- 60 Kaur, Jasbir, Molly M. Lamb, and Cynthia L. Ogden. "The Association Between Food Insecurity and Obesity in Children—The National Health and Nutrition Examination Survey." *Journal of the Academy of Nutrition and Dietetics*, 115(5): 751-758, 2015. <https://pubmed.ncbi.nlm.nih.gov/25737437/>. Accessed August 8, 2022.
- 61 Lee Arthur M., Rebecca J. Scharf, and Mark D. DeBoer. "Association Between Kindergarten and First-Grade Food Insecurity and Weight Status in U.S. Children." *Nutrition*, 51-52:1-5, July/August 2018. <https://pubmed.ncbi.nlm.nih.gov/29547734/>. Accessed July 19, 2022.
- 62 Papas, M.A., J.C. Trabulsi, A. Dahl, and G. Dominick. "Food Insecurity Increases the Odds of Obesity Among Young Hispanic Children." *Journal of Immigrant and Minority Health*, 18: 1046-1052, 2016. <https://link.springer.com/article/10.1007%2F10903-015-0275-0#citeas>. Accessed August 8, 2022.
- 63 Larson, Nicole I., and Mary T. Story. "Food Insecurity and Weight Status Among U.S. Children and Families: A Review of Literature." *American Journal of Preventive Medicine*, 40,2:166-173, February 2011. <https://www.sciencedirect.com/science/article/abs/pii/S0749379710006380>. Accessed July 19, 2022.
- 64 Nettle, Daniel, Clare Andrews, and Melissa Bateson. "Food Insecurity as a Driver of Obesity in Humans: The Insurance Hypothesis." *Behavioral and Brain Sciences*, 40: e105, 2017. <https://pubmed.ncbi.nlm.nih.gov/27464638/>. Accessed August 8, 2022.
- 65 Lakerveld, Jeroen, and Joreintje Mackenbach. "The Upstream Determinants of Adult Obesity." *Obesity Facts*, 10(3): 216-222, 2017. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5644962/#B28>. Accessed August 8, 2022.
- 66 Healthy People 2030, Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services. "Social Determinants of Health." <https://health.gov/healthypeople/objectives-and-data/social-determinants-health>. Accessed August 8, 2022.
- 67 Christakis, Nicholas A., and James H. Fowler. "The Spread of Obesity in a Large Social Network Over 32 Years." *New England Journal of Medicine*, 357(4): 370-379, 2007. <https://www.nejm.org/doi/full/10.1056/nejmsa066082>. Accessed August 8, 2022.
- 68 Bentley, R. Alexander, Paul Ormerod, and Damian J. Ruck. "Recent Origin and Evolution of Obesity-Income Correlation Across the United States." *Palgrave Communications*, 4(146), 2018. <https://doi.org/10.1057/s41599-018-0201-x>. Accessed August 8, 2022.
- 69 Food Research & Action Center. "Understanding the Connections: Food Insecurity and Obesity." October 2015. https://frac.org/wp-content/uploads/frac_brief_understanding_the_connections.pdf. Accessed July 27, 2021.
- 70 Harvard T.H. Chan School of Public Health. "The Hunger and Obesity Paradox." <https://www.hsph.harvard.edu/obesity-prevention-source/hunger-and-obesity/>. Accessed July 27, 2021.
- 71 Dinour, Lauren M., Dara Bergen, and Ming-Chin Yeh. "The Food Insecurity–Obesity Paradox: A Review of the Literature and the Role Food Stamps May Play." *Journal of the Academy of Nutrition and Dietetics*, 107(11): P1952-1961, 2007. [https://jandonline.org/article/S0002-8223\(07\)01616-1/fulltext](https://jandonline.org/article/S0002-8223(07)01616-1/fulltext). Accessed August 8, 2022.
- 72 1,000 Days. "NUTRITION IN THE FIRST 1,000 DAYS: A Foundation for Brain Development and Learning." https://thousanddays.org/wp-content/uploads/1000Days-Nutrition_Brief_Brain-Think_Babies_FINAL.pdf. Accessed June 9, 2022.
- 73 Moore, Tim G., Noushin Arefadib, Alana Deery, and Sue West. "The First Thousand Days: An Evidence Paper." Centre for Community Health, September 2017. <https://www.rch.org.au/uploadedFiles/Main/Content/ccchdev/CCCH-The-First-Thousand-Days-An-Evidence-Paper-September-2017.pdf>. Accessed August 8, 2022.
- 74 Ibid.
- 75 Ibid.
- 76 Healthy Eating Research. "The Impact of the First 1,000 Days on Childhood Obesity." March 2016. https://healthyeatingresearch.org/wp-content/uploads/2016/03/her_1000_days_final-1.pdf. Accessed August 8, 2022.
- 77 Slomski, Anita. "Preventing Childhood Obesity in the First 1,000 Days of Life." *The Harvard Gazette*, July 29, 2021. <https://news.harvard.edu/gazette/story/2021/07/intervention-in-first-1000-days-of-life-may-halt-childhood-obesity/>. Accessed August 8, 2022.
- 78 Ibid.

- 79 Families First Coronavirus Response Act. Public Law 116-127. March 18, 2020. <https://www.fns.usda.gov/pl-116-127>. Accessed July 19, 2022.
- 80 Coronavirus Aid, Relief, and Economic Security Act. Public Law 116-136. March 27, 2020. H.R. 748 (116th Congress). <https://www.congress.gov/116/bills/hr748/BILLS-116hr748enr.pdf>. Accessed July 27, 2021.
- 81 Continuing Appropriations Act 2021 and Other Extensions Act. U.S. Public Law 116-159, October 1, 2020. (116th Congress). <https://www.fns.usda.gov/pl-116-159>. Accessed July 19, 2022.
- 82 American Rescue Plan Act of 2021. Public Law 117-2. March 11, 2021. H.R. 1319 (117th Congress). <https://www.congress.gov/bill/117th-congress/house-bill/1319/text>. Accessed July 27, 2021.
- 83 U.S. Department of Agriculture Food and Nutrition Service. “Nationwide Waiver to Allow Non-Congregate Meal Service for Service Institutions Operating the SFSP during Unanticipated School Closures in SY 2021-22.” September 2021. <https://www.fns.usda.gov/cn/covid-19-child-nutrition-response-10>. Accessed July 19, 2022.
- 84 Keep Kids Fed Act of 2022. Public Law 117-158. June 25, 2022. S. 2089. (117th Congress). <https://www.congress.gov/bill/117th-congress/senate-bill/2089> (accessed August 9, 2022).
- 85 Coronavirus Aid, Relief, and Economic Security Act. Public Law 116-136. March 27, 2020. H.R. 748 (116th Congress). <https://www.congress.gov/116/bills/hr748/BILLS-116hr748enr.pdf>. Accessed July 27, 2021.
- 86 Consolidated Appropriations Act, 2021. Public Law 116-260. December 27, 2020. H.R. 133 (116th Congress). <https://www.congress.gov/bill/116th-congress/house-bill/133/text>. Accessed July 27, 2021.
- 87 American Rescue Plan Act of 2021. Public Law 117-2. March 11, 2021. H.R. 1319 (117th Congress). <https://www.congress.gov/bill/117th-congress/house-bill/1319/text>. Accessed July 27, 2021.
- 88 Coronavirus Aid, Relief, and Economic Security Act. Public Law 116-136. March 27, 2020. H.R. 748 (116th Congress). <https://www.congress.gov/116/bills/hr748/BILLS-116hr748enr.pdf>. Accessed July 27, 2021.
- 89 American Rescue Plan Act of 2021. Public Law 117-2. March 11, 2021. H.R. 1319 (117th Congress). <https://www.congress.gov/bill/117th-congress/house-bill/1319/text>. Accessed July 27, 2021.
- 90 Ibid.
- 91 Coleman-Jensen, Alisha, and Matthew P. Rabbitt. “Food Pantry Use Increased in 2020 for Most Types of U.S. Households.” *U.S. Department of Agriculture Economic Research Service*, November 2021. <https://www.ers.usda.gov/amber-waves/2021/november/food-pantry-use-increased-in-2020-for-most-types-of-u-s-households/>. Accessed July 19, 2022.
- 92 Ibid.
- 93 Food and Nutrition Service, U.S. Department of Agriculture. “State Guidance on Coronavirus P-EBT.” Updated August 8, 2022. <https://www.fns.usda.gov/snap/state-guidance-coronavirus-pandemic-ebt-pebt>. Accessed August 8, 2022.
- 94 Food and Nutrition Service, U.S. Department of Agriculture. “SNAP COVID-19 Waivers.” Updated April 30, 2021. <https://www.fns.usda.gov/programs/fns-disaster-assistance/fns-responds-covid-19/snap-covid-19-waivers>. Accessed August 8, 2022.
- 95 Food and Nutrition Service, U.S. Department of Agriculture. “FNS Launches the Online Purchasing Pilot.” Updated August 4, 2022. <https://www.fns.usda.gov/snap/online-purchasing-pilot>. Accessed August 8, 2022.
- 96 Gingold, Naomi. “Coronavirus Pandemic Complicates Getting Groceries With SNAP.” *NPR*, April 30, 2020. <https://www.npr.org/2020/04/30/844361467/coronavirus-pandemic-complicates-getting-groceries-with-snap>. Accessed August 8, 2022.
- 97 Families First Coronavirus Response Act of 2020. Public Law 116-127. March 18, 2020. H.R. 6201 (116th Congress). <https://www.congress.gov/116/plaws/publ127/PLAW-116publ127.pdf>. Accessed July 24, 2021.
- 98 Food and Nutrition Service, U.S. Department of Agriculture. “Child Nutrition COVID-19 Waivers.” Updated July 12, 2022. <https://www.fns.usda.gov/fns-disaster-assistance/fns-responds-covid-19/child-nutrition-covid-19-waivers>. Accessed August 8, 2022.
- 99 Food and Nutrition Service, U.S. Department of Agriculture. “Child Nutrition Nationwide Waiver Update for School Year 2021-2022.” April 20, 2021. <https://www.fns.usda.gov/cn/child-nutrition-response-84>. Accessed July 29, 2021.
- 100 U.S. Senate Committee on Agriculture, Nutrition, and Forestry. “The Keep Kids Fed Act.” https://www.agriculture.senate.gov/imo/media/doc/keep_kids_fed_act1.pdf. Accessed August 8, 2022.
- 101 Food and Nutrition Service, U.S. Department of Agriculture. “WIC COVID-19 Waivers.” Updated January 18, 2022. <https://www.fns.usda.gov/programs/fns-disaster-assistance/fns-responds-covid-19/wic-covid-19-waivers>. Accessed August 8, 2022.
- 102 Food and Nutrition Service, U.S. Department of Agriculture. “Help to Put Food on the Table: Facts on Nutrition Assistance in the American Rescue Plan.” March 22, 2021. <https://www.fns.usda.gov/american-rescue-plan-fact-sheet>. Accessed August 8, 2022.
- 103 Smith, Sean M., Roxanna Edwards, and Hao C. Duong. “Unemployment Rises in 2020, as the Country Battles the COVID-19 Pandemic.” *U.S. Bureau of Labor Statistics*, June 2021. <https://www.bls.gov/opub/mlr/2021/article/unemployment-rises-in-2020-as-the-country-battles-the-covid-19-pandemic.htm>. Accessed July 19, 2022.
- 104 Coleman-Jensen, Alisha, Matthew P. Rabbitt, Christian A. Gregory, and Anita Singh. “Household Food Insecurity in the United States in 2020.” *U.S. Department of Agriculture Economic Research Service*, Report 298, September 2021. <https://www.ers.usda.gov/webdocs/publications/102076/err-298.pdf>. Accessed July 19, 2022.
- 105 U.S. Department of Food and Nutrition Service. “SNAP Data Tables.” Updated July 2022. <https://www.fns.usda.gov/pd/supplemental-nutrition-assistance-program-snap>. Accessed July 19, 2022.
- 106 Coleman-Jensen, Alisha, and Matthew P. Rabbitt. “Food Pantry Use Increased in 2020 for Most Types of U.S. Households.” *U.S. Department of Agriculture Economic Research Service*, November 2021. <https://www.ers.usda.gov/amber-waves/2021/november/food-pantry-use-increased-in-2020-for-most-types-of-u-s-households/>. Accessed July 19, 2022.
- 107 Food Research and Action Center. “The Reach of Breakfast and Lunch: A Look at Pandemic and Pre-Pandemic Participation.” February 2022. <https://frac.org/wp-content/uploads/SchoolMealsReport2022.pdf>. Accessed July 19, 2022.
- 108 Hales, Laura, and Alisha Coleman-Jensen. “Food Insecurity for Households With Children Rose in 2020, Disrupting Decade-Long Decline.” *U.S. Department of Agriculture Economic Research Service*, February 2022. <https://www.ers.usda.gov/amber-waves/2022/february/food-insecurity-for-households-with-children-rose-in-2020-disrupting-decade-long-decline/>. Accessed July 19, 2022.

- 109 Reiley, Laura, and Sam Easter. "Baby formula factory still months away from production." *Washington Post*, May 14, 2022. <https://www.washingtonpost.com/business/2022/05/14/baby-formula-shortage-sturgis/>. Accessed August 3, 2022.
- 110 Pathank, Arohi, Marc Jarsulic, Osob Ahmend, et al. "The National Baby Formula Shortage and the Inequitable U.S. Food System." *Center for American Progress*, June 2022. <https://www.americanprogress.org/article/the-national-baby-formula-shortage-and-the-inequitable-u-s-food-system/>. Accessed August 3, 2022.
- 111 *The White House*. "Addressing the Infant Formula Shortage." <https://www.whitehouse.gov/formula/>. (Accessed August 3, 2022.)
- 112 Waite, Tori. "What is the Difference Between a Food Bank and Food Pantry?" *Feeding America*, February 20, 2019. <https://www.feedingamerica.org/hunger-blog/what-difference-between-food-bank-and-food-pantry>. Accessed August 8, 2022.
- 113 Ibid.
- 114 Long, Christopher R., Marie-Rachelle Narcisse, Brett Rowland, et al. "Food Pantry Usage Patterns are Associated with Client Sociodemographics and Health." *Journal of Hunger & Environmental Nutrition*, 10.1080/19320248.2021.2001404, November 2021. <https://media.ruddcenter.uconn.edu/PDFs/19320248.2021.pdf>. Accessed August 8, 2022.
- 115 U.S. Department of Agriculture, Food and Nutrition Service. "About WIC—WIC at a Glance." <https://www.fns.usda.gov/wic/about-wic-glance>. Accessed May 23, 2022.
- 116 U.S. Department of Agriculture, Food and Nutrition Service. "WIC Data Tables: Monthly Data—National Level." May 13, 2022. https://fns-prod.azureedge.us/sites/default/files/resource-files/37WIC_Monthly-5.pdf. Accessed May 23, 2022.
- 117 Chaparro, M. Pia, Catherine M. Crespi, Christopher E. Anderson, et al. "The 2009 Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) Food Package Change and Children's Growth Trajectories and Obesity in Los Angeles County." *American Journal of Clinical Nutrition*, 109(5): 1414-1421, 2019. <https://academic.oup.com/ajcn/article/109/5/1414/5450726?login=true>. Accessed May 23, 2022.
- 118 Daepf, Madeleine I.G., Steven L. Gortmaker, Y. Claire Wang, et al. "WIC Food Package Changes: Trends in Childhood Obesity Prevalence." *Pediatrics*, 143(5): e20182841, 2019. <https://pediatrics.aappublications.org/content/early/2019/03/28/peds.2018-2841?versioned=true>. Accessed May 23, 2022.
- 119 Dietz, William H. "Better Diet Quality in the Healthy Hunger-Free Kids Act and WIC Package Reduced Childhood Obesity." *Pediatrics*, 147(4), e2020032375, April 2021. <https://doi.org/10.1542/peds.2020-032375>. Accessed May 23, 2022.
- 120 U.S. Department of Agriculture, Food and Nutrition Service. "Special Supplemental Nutrition Program for Women, Infants and Children (WIC): Revisions in the WIC Food Packages." 72 *Federal Register* 68965, December 6, 2007. <https://www.federalregister.gov/documents/2007/12/06/E7-23033/special-supplemental-nutrition-program-for-women-infants-and-children-wic-revisions-in-the-wic-food>. Accessed June 7, 2022.
- 121 Liping, Pan, David S. Freedman, Sohyun Park, et al. "Changes in Obesity Among US Children Aged 2 Through 4 Years Enrolled in WIC During 2010–2016." *JAMA*, 321(23): 2364-2366, 2019. <https://jamanetwork.com/journals/jama/article-abstract/2735808>. Accessed June 7, 2022.
- 122 Ibid.
- 123 Centers for Disease Control and Prevention. "Obesity Among Young Children Enrolled in WIC." Updated May 24, 2021. <https://www.cdc.gov/obesity/data/obesity-among-wic-enrolled-young-children.html>. Accessed August 8, 2022.
- 124 Ibid.
- 125 Liping, Pan, Heidi M. Blanck, Deborah A. Galuska, et al. "Changes in High Weight-for-Length among Infants Enrolled in Special Supplemental Nutrition Program for Women, Infants, and Children During 2010–2018." *Childhood Obesity*, 17(6): 408-419, 2021. <https://doi.org/10.1089/chi.2021.0055>. Accessed June 7, 2022.
- 126 U.S. Department of Agriculture. "USDA Tribal Consultation: Revision in the WIC Food Packages Proposed Rule Background and Next Steps." November 2021. <https://www.usda.gov/sites/default/files/documents/handout-c-wic-food-packages-proposed-rule-background-next-steps.pdf>. Accessed August 1, 2022.
- 127 National WIC Association. "Enhancing the WIC Food Package: Impacts and Recommendations to Advance Nutrition Security." June 2021. <https://s3.amazonaws.com/aws.upl/nwica.org/nwa-wic-food-package-report.pdf>. Accessed August 1, 2022.
- 128 Healthy, Hunger-Free Kids Act of 2010. Pub. L. 111-296. <https://www.congress.gov/111/plaws/publ296/PLAW-111publ296.pdf>. Accessed May 23, 2022.
- 129 Senate Report 111-178 - Healthy - Healthy, Hunger-Free Kids Act Of 2010, May 5, 2010. <https://www.congress.gov/111/crpt/srpt178/CRPT-111srpt178.pdf>. Accessed May 23, 2022.
- 130 U.S. Department of Agriculture Food and Nutrition Service. "WIC Participant and Program Characteristics 2010 Report." December 2010. <https://fns-prod.azureedge.us/sites/default/files/WICPC2010.pdf>. Accessed August 1, 2022.
- 131 Sequeira, Simone, Rachel Edelman, and Deirdre Hirschrift. "WIC Participant and Program Characteristics 2020 Final Report." *U.S. Department of Agriculture Food and Nutrition Service*, February 2022. <https://fns-prod.azureedge.us/sites/default/files/resource-files/WICPC2020-1.pdf>. Accessed August 1, 2022.
- 132 U.S. Department of Agriculture, Food and Nutrition Service. "WIC Program Participation and Costs (Data as of May 13, 2022)." <https://fns-prod.azureedge.us/sites/default/files/resource-files/wisummary-5.pdf>. Accessed May 23, 2022.
- 133 Blumenthal, Susan J., Emily Stark, and Walter C. Willett. "A 'Wired' WIC is Key to Reducing Childhood Food Insecurity in America." *The Hill*, February 26, 2022. <https://thehill.com/opinion/health-care/595863-a-wired-wic-is-key-to-reducing-food-insecurity-in-america/>. Accessed May 23, 2022.
- 134 Food Researcher and Action Center. "Making WIC Work Better: Strategies to Reach More Women and Children and Strengthen Benefits Use." May 2019. <https://frac.org/wp-content/uploads/Making-WIC-Work-Better-Full-Report.pdf>. Accessed August 1, 2022.
- 135 Code for America. "In Their Own Words: Parents Help Us Understand Barriers to Accessing WIC." April 2022. <https://codeforamerica.org/news/understand-barriers-to-accessing-wic/>. Accessed August 1, 2022.

- 136 Healthy, Hunger-Free Kids Act of 2010. Pub. L. 111-296. <https://www.congress.gov/111/plaws/publ296/PLAW-111publ296.pdf>. Accessed May 23, 2022.
- 137 Task Force on Supplemental Foods Delivery in the WIC Program. “Recommendations Report.” September 30, 2021. <https://fns-prod.azureedge.us/sites/default/files/resource-files/Task-Force-Supp-Foods-Delivery-WIC-Recommend-Report.pdf>. Accessed May 23, 2022.
- 138 U.S. Department of Agriculture, Food and Nutrition Service. “WIC Supports Online Ordering and Transactions in WIC.” November 2, 2021. <https://www.fns.usda.gov/wic/supports-online-ordering-transactions>. Accessed May 23, 2022.
- 139 U.S. Department of Agriculture Food and Nutrition Service. “WIC COVID-19 Waivers.” Updated January 2022. <https://www.fns.usda.gov/programs/fns-disaster-assistance/fns-responds-covid-19/wic-covid-19-waivers>. Accessed August 1, 2022.
- 140 Ventura, Alison K., Catherine E. Martinez, and Shannon E. Whaley. “WIC Participants’ Perceptions of COVID-19-Related Changes to WIC Recertification and Service Delivery.” *Journal of Community Health*, 47(2): 184-192, April 2022. doi:10.1007/s10900-021-01026-8. Accessed August 1, 2022.
- 141 *Food Research and Action Center*. “One Year of WIC During COVID-19: Waivers are Vital to Participation and Benefit Redemption.” June 2021. <https://frac.org/wp-content/uploads/One-Year-of-WIC-During-COVID-19.pdf>. Accessed August 1, 2022.
- 142 Morse, Anne. “Fewer Babies Born in December and January but Number Started to Rise in March.” *U.S. Census Bureau*, September 21, 2021. <https://www.census.gov/library/stories/2021/09/united-states-births-declined-during-the-pandemic.html>. Accessed August 1, 2022.
- 143 Widor, Sarah. “Extensions for Certain USDA FNS-Approved COVID-19 Waivers.” *U.S. Department of Agriculture, Food and Nutrition Service*, September 21, 2020. <https://www.fns.usda.gov/wic/extension-certain-approved-COVID-19-waivers>. Accessed May 23, 2022.
- 144 U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response. “Renewal of Determination That a Public Health Emergency Exists.” <https://aspr.hhs.gov/legal/PHE/Pages/covid19-15jul2022.aspx>. Accessed July 19, 2022.
- 145 Task Force on Supplemental Foods Delivery in the WIC Program. “Recommendations Report.” September 30, 2021. <https://fns-prod.azureedge.us/sites/default/files/resource-files/Task-Force-Supp-Foods-Delivery-WIC-Recommend-Report.pdf>. Accessed May 23, 2022.
- 146 Blumenthal, Susan J., Emily Stark, and Walter C. Willett. “A ‘Wired’ WIC is Key to Reducing Childhood Food Insecurity in America.” *The Hill*, February 26, 2022. <https://thehill.com/opinion/healthcare/595863-a-wired-wic-is-key-to-reducing-food-insecurity-in-america/>. Accessed May 23, 2022.
- 147 Ibid.
- 148 Consolidated Appropriations Act, 2022, Public Law 117-103. <https://www.congress.gov/bill/117th-congress/house-bill/2471/text>. Accessed April 25, 2022.
- 149 National WIC Association. “Congress Extends the WIC Benefit Bump to Build Nutrition Security for Next Generation.” March 9, 2022. <https://www.nwica.org/press-releases/congress-extends-the-wic-benefit-bump-to-build-nutrition-security-for-next-generation#.YovIEJPMKrc>. Accessed May 23, 2022.
- 150 Ritchie, Lorrene, Danielle Lee, Celeste Felix, et al. “Multi-State WIC Participant Survey: Cash Value Benefit Increase During COVID.” *The National WIC Association and Nutrition Policy Institute, University of California Division of Agriculture and Natural Resources*, March 2022. <https://s3.amazonaws.com/aws.upl/nwica.org/nwa-multi-state-cvb-report-march-2022.pdf>. Accessed May 23, 2022.
- 151 U.S. Department of Agriculture, Food and Nutrition Service. “Child Nutrition Programs.” <https://www.fns.usda.gov/cn>. Accessed May 27, 2022.
- 152 U.S. Department of Agriculture, Food and Nutrition Service. “National School Lunch Program.” <https://www.fns.usda.gov/nslp>. Accessed May 26, 2022.
- 153 U.S. Department of Agriculture, Food and Nutrition Service. “School Breakfast Program.” <https://www.fns.usda.gov/sbp/school-breakfast-program>. Accessed May 26, 2022.
- 154 Ibid.
- 155 U.S. Department of Agriculture, Food and Nutrition Service. “National School Lunch Program.” <https://www.fns.usda.gov/nslp>. Accessed May 26, 2022.
- 156 U.S. Department of Agriculture, Food and Nutrition Service. “Special Milk Program.” <https://www.fns.usda.gov/smp/special-milk-program>. Accessed May 26, 2022.
- 157 U.S. Department of Agriculture, Food and Nutrition Service. “Child and Adult Care Food Program.” <https://www.fns.usda.gov/cacfp>. Accessed May 26, 2022.
- 158 U.S. Department of Agriculture, Food and Nutrition Service. “Summer Food Service Program.” <https://www.fns.usda.gov/sfsp/summer-food-service-program>. Accessed May 26, 2022.
- 159 U.S. Department of Agriculture, Food and Nutrition Service. “Fresh Fruit and Vegetable Program” <https://www.fns.usda.gov/ffvp/fresh-fruit-and-vegetable-program>. Accessed May 27, 2022.
- 160 U.S. Department of Agriculture, Food and Nutrition Service. “Farm to School Grant Program.” <https://www.fns.usda.gov/cfs/farm-school-grant-program>. Accessed May 27, 2022.
- 161 U.S. Department of Agriculture, Food and Nutrition Service. “SY 2021-22 Waivers and Flexibilities.” <https://www.fns.usda.gov/disaster/pandemic/cn-2021-22-waivers-and-flexibilities>. Accessed May 26, 2022.
- 162 U.S. Department of Agriculture, Food and Nutrition Service. “Pandemic EBT - Summer 2022.” <https://www.fns.usda.gov/SNAP/pandemic-ebt-summer-2022-memo>. Accessed May 26, 2022.
- 163 Bergh, Katie. “States Have an Important Opportunity to Address Childhood Hunger This Summer.” *Center on Budget and Policy Priorities*, May 24, 2022. <https://www.cbpp.org/research/food-assistance/states-have-an-important-opportunity-to-address-childhood-hunger-this>. Accessed May 27, 2022.
- 164 Consolidated Appropriations Act, 2022, Public Law 117-103. <https://www.congress.gov/bill/117th-congress/house-bill/2471/text>. Accessed April 25, 2022.
- 165 Joint Explanatory Statement, Consolidated Appropriations Act, 2022, Division A. <https://docs.house.gov/billsthisweek/20220307/BILLS-117RCP35-JES-DIVISION-A.pdf/>. Accessed May 27, 2022.
- 166 Ibid.
- 167 Ralston, Katherine, Katie Treen, Alisha Coleman-Jensen, et al. “Children’s Food Security and USDA Child Nutrition Programs: EIB-174.” *U.S. Department of Agriculture, Economic Research Service*, 2017. <https://www.ers.usda.gov/webdocs/publications/84003/eib-174.pdf?v=8111.1>. Accessed June 2, 2022.

- 168 Huang, Jin, and Ellen Barnidge. "Low-Income Children's Participation in the National School Lunch Program and Household Food Insecurity." *Social Science & Medicine*, 150:8-14, 2016. <https://pubmed.ncbi.nlm.nih.gov/26722983/>. Accessed August 8, 2022.
- 169 Huang, Jin, Ellen Barnidge, and Youngmi Kim. "Children Receiving Free or Reduced-Price School Lunch Have Higher Food Insecurity Rates in Summer." *The Journal of Nutrition*, 145(9): 2161-8, 2015. <https://pubmed.ncbi.nlm.nih.gov/26203095/>. Accessed June 2, 2022.
- 170 Liu, Junxiu, Renata Micha, Yan Li, et al. "Trends in Food Sources and Diet Quality Among US Children and Adults, 2003-2018." *JAMA Network Open*, 4(4): e215262, 2021. <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2778453>. Accessed June 2, 2022.
- 171 Fox, Mary Kay, and Elizabeth Gearan. "School Nutrition and Meal Cost Study Summary of Findings." *U.S. Department of Agriculture, Food and Nutrition Service*, April 2019. https://fns-prod.azureedge.us/sites/default/files/resource-files/SNMCS_Summary-Findings.pdf. Accessed June 2, 2022.
- 172 Gleason, Phillip M., and Allison Hedley Dodd. "School Breakfast Program but not School Lunch Program Participation Is Associated With Lower Body Mass Index." *Journal of the Academy of Nutrition and Diets*, 109(2 Suppl): S118-28, 2009. [https://www.jandonline.org/article/S0002-8223\(08\)02051-8/fulltext](https://www.jandonline.org/article/S0002-8223(08)02051-8/fulltext). Accessed June 2, 2022.
- 173 Kenney, Erica L., Jessica L. Barrett, Sara N. Bleich, et al. "Impact of the Healthy, Hunger-Free Kids Act on Obesity Trends." *Health Affairs*, 39(7), July 2020. <https://www.healthaffairs.org/doi/10.1377/hlthaff.2020.00133>. Accessed June 2, 2022.
- 174 Richardson, Andrea S., Margaret M. Weden, Irineo Cabrerros, et al. "Association of the Healthy, Hunger-Free Kids Act of 2010 With Body Mass Trajectories of Children in Low-Income Families." *JAMA Network Open*, 5(5): e2210480, 2022. <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2791873>. Accessed June 3, 2022.
- 175 U.S. Department of Agriculture, Food and Nutrition Service. "Nationwide Waiver to Allow Specific School Meal Pattern Flexibility for SY 2021-22." <https://www.fns.usda.gov/cn/covid-19-child-nutrition-response-90>. Accessed May 11, 2022.
- 176 U.S. Department of Agriculture, Food and Nutrition Service. "Transitional Standards for Milk, Whole Grains and Sodium—Final Rule." <https://www.fns.usda.gov/cn/fr-020722>. Accessed May 11, 2022.
- 177 U.S. Department of Agriculture, Food and Nutrition Service. "Child Nutrition Programs: Transitional Standards for Milk, Whole Grains, and Sodium." *87 Federal Register* 6984, February 7, 2022. <https://www.federalregister.gov/documents/2022/02/07/2022-02327/child-nutrition-programs-transitional-standards-for-milk-whole-grains-and-sodium>. Accessed May 31, 2022.
- 178 U.S. Department of Agriculture, Food and Nutrition Service. "Supplemental Nutrition Assistance Program Participation and Costs." <https://fns-prod.azureedge.us/sites/default/files/resource-files/SNAPsummary-5.pdf>. Accessed May 27, 2022.
- 179 U.S. Department of Agriculture, Food and Nutrition Service. "Supplemental Nutrition Assistance Program (SNAP): Frequently Asked Questions." <https://www.fns.usda.gov/snap/retailer/faq>. Accessed May 27, 2022.
- 180 Hall, Lauren, and Catlin Nchako. "A Closer Look at Who Benefits from SNAP: State-by-State Fact Sheets." *Center on Budget and Policy Priorities*, April 25, 2022. <https://www.cbpp.org/research/food-assistance/a-closer-look-at-who-benefits-from-snap-state-by-state-fact-sheets#Alabama>. Accessed May 30, 2022.
- 181 U.S. Department of Agriculture, Food and Nutrition Service. "Supplemental Nutrition Assistance Program (SNAP): Stores Accepting SNAP Online." <https://www.fns.usda.gov/snap/online-purchasing-pilot>. Accessed May 30, 2022.
- 182 U.S. Department of Agriculture, Food and Nutrition Service. "SNAP Extension of COVID-19 Administrative Flexibilities: January 2022 and Beyond." <https://www.fns.usda.gov/snap/extension-covid-19-administrative-flexibilities-january-2022-and-beyond>. Accessed June 2, 2022.
- 183 Gingold, Naomi. "Coronavirus Pandemic Complicates Getting Groceries With SNAP." *NPR*, April 30, 2020. <https://www.npr.org/2020/04/30/844361467/coronavirus-pandemic-complicates-getting-groceries-with-snap>. Accessed May 30, 2022.
- 184 Families First Coronavirus Response Act of 2020. Pub. L. 116-127. <https://www.congress.gov/bill/116th-congress/house-bill/6201/text>. Accessed May 30, 2022.
- 185 American Rescue Plan Act of 2021. Public Law 117-2. <https://www.congress.gov/bill/117th-congress/house-bill/1319/text>. Accessed May 30, 2022.
- 186 Consolidated Appropriations Act, 2021. Public Law 116-260. <https://www.congress.gov/bill/116th-congress/house-bill/133/text>. Accessed May 30, 2022.
- 187 U.S. Department of Agriculture, Food and Nutrition Service. "SNAP Benefits: COVID-19 Pandemic and Beyond." <https://www.fns.usda.gov/snap/benefit-changes-2021#:~:text=In%20April%202021%2C%20USDA%20took,30%2C%202021>. Accessed May 31, 2022.
- 188 U.S. Department of Agriculture, Food and Nutrition Service. "SNAP COVID-19 Emergency Allotments Guidance." <https://www.fns.usda.gov/snap/covid-19-emergency-allotments-guidance>. Accessed May 30, 2022.
- 189 National Academy for State Health Policy. "States' COVID-19 Public Health Emergency Declarations and Mask Requirements." <https://www.nashp.org/governors-prioritize-health-for-all/>. Accessed June 2, 2022.
- 190 U.S. Department of Agriculture, Food and Nutrition Service. "USDA Modernizes the Thrifty Food Plan, Updates SNAP Benefits: First Update in More Than 45 Years Reflects Current Cost Realities." <https://www.fns.usda.gov/news-item/usda-0179.21>. Accessed May 30, 2022.
- 191 Ibid.
- 192 U.S. Department of Agriculture, Food and Nutrition Service. "Barriers that Constrain the Adequacy of Supplemental Nutrition Assistance Program (SNAP) Allotments." <https://www.fns.usda.gov/snap/barriers-constrain-adequacy-snap-allotments>. Accessed May 30, 2022.
- 193 U.S. Department of Education, Food and Nutrition Service. "SNAP-Ed Educators Help to Establish Gardens at Alabama School." <https://snaped.fns.usda.gov/success-stories/snap-ed-educators-help-establish-gardens-alabama-school>. Accessed May 30, 2022.

- 194 U.S. Department of Agriculture, Food and Nutrition Service. “West Virginia Kids Coupons Program.” <https://snaped.fns.usda.gov/success-stories/west-virginia-kids-coupons-program>. Accessed May 30, 2022.
- 195 U.S. Department of Agriculture, Food and Nutrition Service. “Early Risers: Physical Activity Program Gets More Kids Active Before School.” <https://snaped.fns.usda.gov/success-stories/early-risers-physical-activity-program-gets-more-kids-active-school>. Accessed May 30, 2022.
- 196 Consolidated Appropriations Act, 2022, Public Law 117-103. <https://www.congress.gov/bill/117th-congress/house-bill/2471/text>. Accessed April 25, 2022.
- 197 Joint Explanatory Statement, Consolidated Appropriations Act, 2022, Division A. <https://docs.house.gov/billsthisweek/20220307/BILLS-117RCP35-JES-DIVISION-A.pdf/>. Accessed May 27, 2022.
- 198 National Conference of State Legislatures. “2022 Omnibus Appropriations Bill: A Summary of Provisions by Federal Agency.” <https://www.ncsl.org/ncsl-in-dc/publications-and-resources/2022-omnibus-appropriations-bill-a-summary-of-provisions-by-federal-agency.aspx>. Accessed May 30, 2022.
- 199 U.S. Department of Agriculture, Economic Research Service. “Farm Bill Spending.” <https://www.ers.usda.gov/topics/farm-economy/farm-commodity-policy/farm-bill-spending/>. Accessed May 23, 2022.
- 200 Parker, S. Grace, and Savannah Bertrand. “Congressional Hearings Leading up to the 2023 Farm Bill.” *Environmental and Energy Study Institute*. April 19, 2022. <https://www.eesi.org/articles/view/congressional-hearings-leading-up-to-the-2023-farm-bill>. Accessed May 23, 2022.
- 201 Stein, Jeff. “Deal to Pass Farm Bill Scraps House GOP Plan for New Food Stamp Work Requirements.” *The Washington Post*, November 29, 2018. https://www.washingtonpost.com/business/economy/congress-scraps-house-gop-food-stamp-work-requirement-plan-in-farm-bill-deal/2018/11/29/04854362-f3f7-11e8-aeae-b85fd44449f5_story.html. Accessed May 23, 2022.
- 202 Croft, Genevieve K. “Preparing for the Next Farm Bill.” *Congressional Research Service*. March 31, 2022. <https://crsreports.congress.gov/product/pdf/R/R47057>. Accessed May 23, 2022.
- 203 Ibid.
- 204 Ibid.
- 205 Franck, Caroline, Sonia M. Grandi, and Mark J. Eisenberg. “Agricultural Subsidies and the American Obesity Epidemic.” *American Journal of Preventive Medicine*, 45(3): P327-333, 2013. [https://www.ajpmonline.org/article/S0749-3797\(13\)00320-6/fulltext](https://www.ajpmonline.org/article/S0749-3797(13)00320-6/fulltext). Accessed May 23, 2022.
- 206 Siegel, Karen R., Kai McKeever Bullard, Giuseppina Imperatore, et al. “Association of Higher Consumption of Foods Derived from Subsidized Commodities with Adverse Cardiometabolic Risk Among US Adults.” *JAMA Internal Medicine*, 176(8): 1124-1132, 2016. <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2530901>. Accessed May 23, 2022.
- 207 Obesity Prevention Source. “Food Pricing, Taxes, and Agricultural Policy.” *Harvard T.H. Chan School of Public Health*. <https://www.hsph.harvard.edu/obesity-prevention-source/obesity-prevention/food-environment/food-pricing-and-agricultural-policy-and-obesity-prevention/>. Accessed May 23, 2022.
- 208 U.S. Department of Agriculture, National Institute of Food and Agriculture. “Gus Schumacher Nutrition Incentive Program.” <https://www.nifa.usda.gov/grants/programs/gus-schumacher-nutrition-incentive-program>. Accessed May 30, 2022.
- 209 The Agriculture Improvement Act of 2018. Public Law 115-334. <https://www.congress.gov/115/plaws/publ334/PLAW-115publ334.pdf>. Accessed May 30, 2022.
- 210 U.S. Department of Agriculture, National Institute of Food and Agriculture. “Gus Schumacher Nutrition Incentive Program.” <https://www.nifa.usda.gov/grants/programs/gus-schumacher-nutrition-incentive-program>. Accessed May 30, 2022.
- 211 Nutrition Incentive Hub. “New Funding Opportunity: GusNIP RFAs Now Open.” *The Nutrition Incentive Program Training, Technical Assistance, Evaluation, and Information Center*. <https://www.nutritionincentivehub.org/>. Accessed May 30, 2022.
- 212 U.S. Department of Agriculture, National Institute of Food and Agriculture. “Gus Schumacher Nutrition Incentive Program.” <https://www.nifa.usda.gov/grants/programs/gus-schumacher-nutrition-incentive-program>. Accessed June 2, 2022.
- 213 U.S. Department of Health and Human Services, Administration for Children and Families, Office of Head Start. “Head Start Services.” <https://www.acf.hhs.gov/ohs/head-start-services>. Accessed May 30, 2022.
- 214 U.S. Department of Health and Human Services, Administration for Children and Families, Office of Head Start. “Head Start Federal Funding and Funded Enrollment History.” <https://eclkc.ohs.acf.hhs.gov/sites/default/files/pdf/head-start-federal-funding-funded-enrollment-history-eng.pdf>. Accessed May 30, 2022.
- 215 U.S. Department of Health and Human Services, Administration for Children and Families, Office of Head Start. “Head Start Categorical Eligibility for Families Eligible for the Supplemental Nutrition Assistance Program ACF-IM-HS-22-03.” April 21, 2022. <https://eclkc.ohs.acf.hhs.gov/policy/im/acf-im-hs-22-03>. Accessed May 30, 2022.
- 216 U.S. Department of Agriculture, Food and Nutrition Service. “Automatic Eligibility for Free Meal Benefits Extended to All Children Enrolled in Head Start.” <https://www.fns.usda.gov/cn/automatic-eligibility-free-meal-benefits-extended-all-children-enrolled-head-start>. Accessed May 30, 2022.
- 217 National Head Start Association. “Connecting Families Facing Food Insecurity to Head Start.” <https://nhsa.org/connecting-families-facing-food-insecurity-to-head-start/>. Accessed May 30, 2022.
- 218 Administration for Children and Families, U.S. Department of Health and Human Services. “Head Start Performance Standards.” 81 *Federal Register* 172. <https://www.govinfo.gov/content/pkg/FR-2016-09-06/pdf/2016-19748.pdf>. Accessed May 30, 2022.
- 219 National Head Start Association. “Facts and Impacts.” <https://nhsa.org/resource/facts-and-impacts/>. Accessed May 30, 2022.
- 220 Lumeng, Julie C., Niko Kaciroti, Julie Sturza, et al. “Changes in Body Mass Index Associated with Head Start Participation.” *Pediatrics*, 135(2): e449-e456, 2015. <https://pediatrics.aappublications.org/content/135/2/e449>. Accessed May 30, 2022.
- 221 Fernandez-Jimenez, Rodrigo, Risa Jaslow, Sameer Bansilal, et al. “Child Health Promotion in Underserved Communities.” *Journal of the American College of Cardiology*, 73(16): 2011-2021, 2019. <https://www.jacc.org/doi/full/10.1016/j.jacc.2019.01.057>. Accessed May 30, 2022.

- 222 Joint Explanatory Statement, Consolidated Appropriations Act, 2022, Division H. https://docs.house.gov/billsthisweek/20220307/BILLS-117RCP35-JES-DIVISION-H_Part2.pdf. Accessed May 30, 2022.
- 223 U.S. Department of Health and Human Services, Office of the Administration for Children and Families. “What Is the Child Care and Development Fund (CCDF)?” <https://www.acf.hhs.gov/archive/occ/faq/what-child-care-and-development-fund-ccdf>. Accessed May 30, 2022.
- 224 Child Care and Development Block Grant Act of 2014. Pub. L. 113-186. <https://www.congress.gov/113/plaws/publ186/PLAW-113publ186.pdf>. Accessed May 30, 2022.
- 225 Joint Explanatory Statement, Consolidated Appropriations Act, 2022, Division H. https://docs.house.gov/billsthisweek/20220307/BILLS-117RCP35-JES-DIVISION-H_Part2.pdf. Accessed May 30, 2022.
- 226 U.S. Department of Agriculture, Food and Nutrition Service. “Local School Wellness Policy.” <https://www.fns.usda.gov/tn/local-school-wellness-policy>. Accessed May 30, 2022.
- 227 Ibid.
- 228 Piekarz-Porter, Elizabeth, Rebecca Schermbeck, and Julien Leider. *Working on Wellness: How Aligned Are District Wellness Policies with the Soon-To-Be Implemented Federal Wellness Policy Requirements?* National Wellness Policy Study, Institute for Health Research and Policy, University of Illinois at Chicago, 2017. https://apps.cce.csus.edu/sites/childobesity/17/speakers/uploads/Wkg_on_wellness_v4.pdf. Accessed August 8, 2022.
- 229 U.S. Department of Agriculture, Food and Nutrition Service. “Local School Wellness Policy.” <https://www.fns.usda.gov/tn/local-school-wellness-policy>. Accessed May 30, 2022.
- 230 U.S. Department of Agriculture, Food and Nutrition Service. “Nationwide Waiver of Local School Wellness Policy Triennial Assessments in the National School Lunch and School Breakfast Programs.” <https://www.fns.usda.gov/cn/covid-19-child-nutrition-response-98>. Accessed May 30, 2022.
- 231 U.S. Department of Agriculture, Food and Nutrition Service. “A Guide to Smart Snacks in School.” <https://www.fns.usda.gov/tn/guide-smart-snacks-school>. Accessed May 30, 2022.
- 232 Centers for Disease Control and Prevention. “Childhood Obesity Research Demonstration (CORD) 3.0.” <https://www.cdc.gov/obesity/initiatives/cord/cord3.html>. Accessed May 30, 2022.
- 233 Centers for Disease Control and Prevention. “COMMIT!” <https://www.cdc.gov/obesity/initiatives/commit/index.html>. Accessed May 30, 2022.
- 234 Centers for Disease Control and Prevention. “Clinical and Community Data Initiative.” <https://www.cdc.gov/obesity/initiatives/codi/community-and-clinical-data-initiative.html>. Accessed May 31, 2022.
- 235 Centers for Disease Control and Prevention. “Preventing Childhood Obesity in Early Care and Education Programs.” https://nrckids.org/CFOC/Childhood_Obesity. Accessed August 8, 2022.
- 236 Centers for Disease Control and Prevention. “ECE Licensing Scorecards.” <https://www.cdc.gov/obesity/strategies/early-care-education/state-scorecards.html>. Accessed May 31, 2022.
- 237 Centers for Disease Control and Prevention. “ECE Licensing Scorecards.” <https://www.cdc.gov/obesity/strategies/early-care-education/state-scorecards.html>. Accessed May 31, 2022.
- 238 Joint Explanatory Statement, Consolidated Appropriations Act, 2022, Division H. https://docs.house.gov/billsthisweek/20220307/BILLS-117RCP35-JES-DIVISION-H_Part1.pdf. Accessed May 30, 2022.
- 239 Fryar, Cheryl D., Margaret D. Carroll, and Cynthia L. Ogden. *Prevalence of Overweight, Obesity, and Extreme Obesity Among Adults: United States, Trends 1960–1962 Through 2009–2010*. 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 19, 2021.
- 240 Hales, Craig M., Cheryl D. Fryar CD, Margaret D. Carroll, et al. “Trends in Obesity and Severe Obesity Prevalence in US Youth and Adults by Sex and Age, 2007–2008 to 2015–2016.” *JAMA*, 319(16): 1723–1725, April 14, 2018. <https://jamanetwork.com/journals/jama/fullarticle/2676543>. Accessed July 19, 2021.
- 241 Fryar, Cheryl D., and Cynthia L. Ogden. “Prevalence of Obesity and Severe Obesity Among Adults: United States, 2017–2018.” *National Center for Health Statistics Data Brief*, 360, February 2020. <https://www.cdc.gov/nchs/data/databriefs/db360-h.pdf>. Accessed July 27, 2022.
- 242 Stierman, Bryan, Joseph Afful, Maraget D. Carroll, et al. “National Health and Nutrition Examination Survey 2017–March 2020 Prepandemic Data Files—Development of Files and Prevalence Estimates for Selected Health Outcomes.” National Center for Health Statistics, *National Health Statistics Reports*, 158, June 2021. <https://stacks.cdc.gov/view/cdc/106273>. Accessed July 29, 2022.
- 243 Trust for America’s Health. “State and Regional Data from the Behavioral Risk Factor Surveillance System.” https://www.tfah.org/wp-content/uploads/2021/09/BRFSS_States2011_2020.pdf. Accessed July 29, 2022.
- 244 National Center for Health Statistics, Centers for Disease Control and Prevention. “National Health and Nutrition Examination Survey: NHANES 2015–2016 Overview.” <https://www.cdc.gov/nchs/nhanes/continuousnhanes/Overview.aspx?BeginYear=2015>. Accessed August 8, 2022.
- 245 Centers for Disease Control and Prevention. “Behavioral Risk Factor Surveillance System: Annual Survey Data.” https://www.cdc.gov/brfss/annual_data/annual_data.htm. Accessed June 8, 2022.
- 246 Trust for America’s Health. “State and Regional Data from the Behavioral Risk Factor Surveillance System.” <https://www.tfah.org/report-details/state-of-obesity-2022/>. Accessed September 7, 2022.
- 247 Levi Jeffrey, Laura M. Segal, Rebecca St. Laurent, et al. *F as in Fat: How Obesity Threatens America’s Future—2011*. Trust for America’s Health and Robert Wood Johnson Foundation, 2011. <https://www.tfah.org/report-details/f-as-in-fat-how-obesity-threatens-americas-future-2011/>. Accessed August 8, 2022.
- 248 Trust for America’s Health. *State of Obesity 2020 and 2021*. https://www.tfah.org/reports/?fwp_report_type_filter=state-of-obesity-series. Accessed September 7, 2022.
- 249 Connor, G.S., M. Tremblay, D. Moher, and B. Gorber. “A Comparison of Direct vs. Self-Report Measures for Assessing Height, Weight and Body Mass Index: A Systematic Review.” *Obesity Reviews*, 8(4): 307–26, 2007. <https://www.ncbi.nlm.nih.gov/pubmed/17578381>. Accessed August 8, 2022.

- 250 Yun, S., B.P. Zhu, W. Black, and R.C. Brownson. "A Comparison of National Estimates of Obesity Prevalence from the Behavioral Risk Factor Surveillance System and the National Health and Nutrition Examination Survey." *International Journal of Obesity*, 30(1): 164-170, 2006. <https://www.ncbi.nlm.nih.gov/pubmed/16231026>. Accessed August 8, 2022.
- 251 Stierman, Bryan, Joseph Afful, Maraget D. Carroll, et al. "National Health and Nutrition Examination Survey 2017–March 2020 Prepandemic Data Files—Development of Files and Prevalence Estimates for Selected Health Outcomes." National Center for Health Statistics, *National Health Statistics Reports*, 158, June 2021. <https://stacks.cdc.gov/view/cdc/106273>. Accessed July 29, 2022.
- 252 National Center for Health Statistics. "Percentage of Obesity for Adults Aged 18 and Over, United States, 2019–2020." *National Health Interview Survey*. https://www.cdc.gov/NHISDataQueryTool/SHS_adult/index.html. Accessed July 27, 2022.
- 253 *The Lancet*. "Screening Thresholds: One Size Does Not Fit All." *The Lancet Diabetes & Endocrinology*, 6(4): 259, 2018. <https://pubmed.ncbi.nlm.nih.gov/29571505/>. Accessed August 8, 2022.
- 254 Centers for Disease Control and Prevention. "Diabetes and Asian Americans." Updated June 20, 2022. <https://www.cdc.gov/diabetes/library/spotlights/diabetes-asian-americans.html>. Accessed August 8, 2022.
- 255 National Center for Health Statistics. "Percentage of Obesity for Adults Aged 18 and Over, United States, 2019–2020." *National Health Interview Survey*. https://www.cdc.gov/NHISDataQueryTool/SHS_adult/index.html. Accessed July 27, 2022.
- 256 Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services. "HHS Poverty Guidelines for 2022." <https://aspe.hhs.gov/poverty-guidelines>. Accessed July 29, 2022.
- 257 Stierman, Bryan, Joseph Afful, Maraget D. Carroll, et al. "National Health and Nutrition Examination Survey 2017–March 2020 Prepandemic Data Files—Development of Files and Prevalence Estimates for Selected Health Outcomes." National Center for Health Statistics, *National Health Statistics Reports*, 158, June 2021. <https://stacks.cdc.gov/view/cdc/106273>. Accessed July 29, 2022.
- 258 Lundeen, Elizabeth A., Sohyun Park, Liping Pan, et al. "Obesity Prevalence Among Adults Living in Metropolitan and Nonmetropolitan Counties—United States, 2016." *Morbidity and Mortality Weekly Report*, 67: 653-658, 2018. <http://dx.doi.org/10.15585/mmwr.mm6723a1>. Accessed August 8, 2022.
- 259 Hales, Craig M., Cheryl D. Fryar, Margaret D. Carroll, et al. "Differences in Obesity Prevalence by Demographic Characteristics and Urbanization Level Among Adults in the United States, 2013-2016." *JAMA*, 2319(23): 2419–2429, 2018. doi:10.1001/jama.2018.7270. Accessed August 8, 2022.
- 260 Fryar, Cheryl D., Margaret D. Carroll, and Joseph Afful. "Prevalence of Overweight, Obesity, and Severe Obesity Among Children and Adolescents Aged 2–19 Years: United States, 1963–1965 Through 2017–2018." *National Center for Health Statistics Health E-Stats*, 2020. <https://www.cdc.gov/nchs/data/hestat/obesity-child-17-18/overweight-obesity-child-H.pdf>. Accessed July 29, 2022.
- 261 Stierman, Bryan, Joseph Afful, Maraget D. Carroll, et al. "National Health and Nutrition Examination Survey 2017–March 2020 Prepandemic Data Files—Development of Files and Prevalence Estimates for Selected Health Outcomes." National Center for Health Statistics, *National Health Statistics Reports*, 158, June 2021. <https://stacks.cdc.gov/view/cdc/106273>. Accessed July 29, 2022.
- 262 The income requirement for WIC eligibility varies by state. For more information, see: U.S. Department of Agriculture, Food and Nutrition Service. "WIC Eligibility Requirements." Updated April 22, 2022. <https://www.fns.usda.gov/wic/wic-eligibility-requirements>. Accessed August 8, 2022.
- 263 Sherry, Bettylou, Maria Elena Jefferds, and Laurence M Grummer-Strawn. "Accuracy of Adolescent Self-Report of Height and Weight in Assessing Overweight Status: A Literature Review." *Archives of Pediatrics & Adolescent Medicine*, 161(12): 1154-1161, 2007. <https://www.ncbi.nlm.nih.gov/pubmed/18056560>. Accessed August 8, 2022.
- 264 Division of Adolescent and School Health, Centers for Disease Control and Prevention. "YRBSS Frequently Asked Questions." Updated March 11, 2021. <https://www.cdc.gov/healthyyouth/data/yrbs/faq.htm>. Accessed August 8, 2022.
- 265 Fryar, Cheryl D., Margaret D. Carroll, and Joseph Afful. "Prevalence of Overweight, Obesity, and Severe Obesity Among Children and Adolescents Aged 2–19 Years: United States, 1963–1965 Through 2017–2018." *National Center for Health Statistics Health E-Stats*, 2020. <https://www.cdc.gov/nchs/data/hestat/obesity-child-17-18/overweight-obesity-child-H.pdf>. Accessed July 29, 2022.
- 266 Stierman, Bryan, Joseph Afful, Maraget D. Carroll, et al. "National Health and Nutrition Examination Survey 2017–March 2020 Prepandemic Data Files—Development of Files and Prevalence Estimates for Selected Health Outcomes." National Center for Health Statistics, *National Health Statistics Reports*, 158, June 2021. <https://stacks.cdc.gov/view/cdc/106273>. Accessed July 29, 2022.
- 267 Kline, Nicole, Polina Zvavitch, Kathy Wroblewska, et al. *WIC Participant and Program Characteristics 2020*. U.S. Department of Agriculture, Food and Nutrition Service, February 2022. <https://fns-prod.azureedge.us/sites/default/files/resource-files/WICPC2020-1.pdf>. Accessed August 8, 2022.
- 268 Kline, Nicole, Polina Zvavitch, Kathy Wroblewska, et al. *WIC Participant and Program Characteristics 2020: Appendices*. U.S. Department of Agriculture, Food and Nutrition Service, February 2022. <https://fns-prod.azureedge.us/sites/default/files/resource-files/WICPC2020-Appendix.pdf>. Accessed August 8, 2022.
- 269 Data Resource Center for Child and Adolescent Health. "The National Survey of Children's Health (2016-present)." <https://www.childhealthdata.org/browse/survey>. Accessed June 8, 2022.
- 270 Division of Adolescent and School Health, Centers for Disease Control and Prevention. "YRBS Explorer: Explore Youth Risk Behavior Survey Questions—United States, 2019." <https://yrbs-explorer.services.cdc.gov/#/>. Accessed July 20, 2021.
- 271 World Bank. "Taxes on Sugar-Sweetened Beverages: Summary of International Evidence and Experiences." 2020. <https://openknowledge.worldbank.org/handle/10986/33969>. Accessed April 26, 2022.

- 272 Haque, Mainul, Judy McKimm, Massimo Sartelli, et al. "A Narrative Review of The Effects of Sugar-Sweetened Beverages on Human Health: A Key Global Health Issue." *Journal of Population Therapeutics and Clinical Pharmacology*, 27(1): e76-e103, March 3, 2020. <https://doi.org/10.15586/jptcp.v27i1.666>. Accessed April 26, 2022.
- 273 World Health Organization. "Fiscal Policies for Diet and Prevention of Noncommunicable Diseases: Technical Meeting Report." May 5-6, 2015. <https://apps.who.int/iris/bitstream/handle/10665/250131/9789241511247-eng.pdf;jsessionid=1157448CC580D-64C231461F5E27698CA?sequence=1>. Accessed April 25, 2022.
- 274 Obesity Hub Network. "Countries That Have Taxes on Sugar-Sweetened Beverages (SSBs)." <https://www.obesityevidencehub.org.au/collections/prevention/countries-that-have-implemented-taxes-on-sugar-sweetened-beverages-ssbs>. Accessed April 26, 2022.
- 275 Royo-Bordonada, Miguel Ángel, Carlos Fernández-Escobar, Carlos José Gil-Bellosta, et al. "Effect of Excise Tax on Sugar-Sweetened Beverages in Catalonia, Spain, Three and a Half Years After its Introduction." *International Journal of Behavioral Nutrition and Physical Activity*, 19(24), March 2022. <https://doi.org/10.1186/s12966-022-01262-8>. Accessed August 8, 2022.
- 276 Pan American Health Organization, "Sugar-Sweetened Beverage Taxation in the Region of the Americas." 2020. <https://iris.paho.org/handle/10665.2/53252>. Accessed April 26, 2022.
- 277 World Bank. "Taxes on Sugar-Sweetened Beverages: Summary of International Evidence and Experiences." 2020. <https://openknowledge.worldbank.org/handle/10986/33969>. Accessed April 26, 2022.
- 278 Obesity Hub Network. "Countries That Have Taxes on Sugar-Sweetened Beverages (SSBs)." <https://www.obesityevidencehub.org.au/collections/prevention/countries-that-have-implemented-taxes-on-sugar-sweetened-beverages-ssbs>. Accessed April 26, 2022.
- 279 Royo-Bordonada, Miguel Ángel, Carlos Fernández-Escobar, Carlos José Gil-Bellosta, et al. "Effect of Excise Tax on Sugar-Sweetened Beverages in Catalonia, Spain, Three and a Half Years After its Introduction." *International Journal of Behavioral Nutrition and Physical Activity*, 19(24), March 2022. <https://doi.org/10.1186/s12966-022-01262-8>. Accessed August 8, 2022.
- 280 World Bank. "Taxes on Sugar-Sweetened Beverages: Summary of International Evidence and Experiences." 2020. <https://openknowledge.worldbank.org/handle/10986/33969>. Accessed April 26, 2022.
- 281 Obesity Hub Network. "Countries That Have Taxes on Sugar-Sweetened Beverages (SSBs)." <https://www.obesityevidencehub.org.au/collections/prevention/countries-that-have-implemented-taxes-on-sugar-sweetened-beverages-ssbs>. Accessed April 26, 2022.
- 282 Roache, Sarah A., and Lawrence O. Gostin. "The Untapped Power of Soda Taxes: Incentivizing Consumers, Generating Revenue, and Altering Corporate Behavior." *International Journal of Health Policy and Management*, 6(9): 489-493, September 1, 2017. https://www.ijhpm.com/article_3376.html. Accessed August 8, 2022.
- 283 World Bank. "Taxes on Sugar-Sweetened Beverages: Summary of International Evidence and Experiences." 2020. <https://openknowledge.worldbank.org/handle/10986/33969>. Accessed April 26, 2022.
- 284 Centers for Disease Control and Prevention. "Get the Facts: Sugar-Sweetened Beverages and Consumption." <https://www.cdc.gov/nutrition/data-statistics/sugar-sweetened-beverages-intake.html>. Accessed April 26, 2022.
- 285 Gortmaker, Steven L., Y. Claire Wang, Michael W. Long, et al. "Three Interventions That Reduce Childhood Obesity are Projected to Save More Than They Cost to Implement." *Health Affairs*, 34(11): 1932-1939, November 2015. <https://www.healthaffairs.org/doi/10.1377/hlthaff.2015.0631>. Accessed April 26, 2022.
- 286 The Urban Institute. "Soda Taxes." <https://www.urban.org/policy-centers/cross-center-initiatives/state-and-local-finance-initiative/state-and-local-backgrounders/soda-taxes>. Accessed April 26, 2022.
- 287 Falbe, Jennifer, Hillary R. Thompson, Christina M. Becker, et al. "Impact of the Berkeley Excise Tax on Sugar-Sweetened Beverage Consumption." *American Journal of Public Health*, 106(10): 1865-1871, 2016. <https://ajph.aphapublications.org/doi/10.2105/AJPH.2016.303362>. Accessed April 26, 2022.
- 288 Zhong, Yichen, Amy H. Auchincloss, Brian K. Lee, et al. "The Short-Term Impacts of the Philadelphia Beverage Tax on Beverage Consumption." *American Journal of Preventive Medicine*, 55(1): 26-34, 2018. <https://pubmed.ncbi.nlm.nih.gov/29656917/>. Accessed April 26, 2022.
- 289 Silver, Lynn D., Shu Wen Ng, Suzanne Ryan-Ibarra, et al. "Changes in Prices, Sales, Consumer Spending, and Beverage Consumption One Year After a Tax on Sugar-Sweetened Beverages in Berkeley, California, US: A Before-And-After Study." *PLOS Medicine*, 14(4): e1002283, 2017. <https://pubmed.ncbi.nlm.nih.gov/28419108/>. Accessed April 26, 2022.
- 290 Roberto, Christina A., Hannah G. Lawman, Michael T. LeVasseur, et al. "Association of a Beverage Tax on Sugar-Sweetened and Artificially Sweetened Beverages with Changes in Beverage Prices and Sales at Chain Retailers in a Large Urban Setting." *JAMA*, 321(18): 1799-1810, 2019. <https://jamanetwork.com/journals/jama/fullarticle/2733208>. Accessed April 26, 2022.
- 291 Lee, Matthew M., Jennifer Falbe, Dean Schillinger, et al. "Sugar-Sweetened Beverage Consumption 3 Years After the Berkeley, California, Sugar-Sweetened Beverage Tax." *American Journal of Public Health*, 109(4): 637-639, 2019. <https://ajph.aphapublications.org/doi/10.2105/AJPH.2019.304971>. Accessed April 26, 2022.
- 292 Zhong, Yichen, Amy H. Auchincloss, Brian K. Lee, et al. "Sugar-Sweetened and Diet Beverage Consumption in Philadelphia One Year After the Beverage Tax." *International Journal of Environmental Research and Public Health*, 17(4): 1336, 2020. <https://www.mdpi.com/1660-4601/17/4/1336>. Accessed April 26, 2022.
- 293 World Bank. "Taxes on Sugar-Sweetened Beverages: Summary of International Evidence and Experiences." 2020. <https://openknowledge.worldbank.org/handle/10986/33969>. Accessed April 26, 2022.
- 294 Obesity Hub Network. "Countries That Have Taxes on Sugar-Sweetened Beverages (SSBs)." <https://www.obesityevidencehub.org.au/collections/prevention/countries-that-have-implemented-taxes-on-sugar-sweetened-beverages-ssbs>. Accessed April 26, 2022.

- 295 Powell, Lisa M., and Julien Leider. "Impact of a Sugar-Sweetened Beverage Tax Two-Year Post-Tax Implementation in Seattle, Washington, United States." *Journal of Public Health Policy*, 42: 574–588, 2021. <https://doi.org/10.1057/s41271-021-00308-8>. Accessed April 26, 2022.
- 296 Powell, Lisa M., Julien Leider, and Vanessa M. Oddo. "Evaluation of Changes in Grams of Sugar Sold After the Implementation of the Seattle Sweetened Beverage Tax." *JAMA Network Open*, 4(11): e2132271, 2021. <http://doi:10.1001/jamanetworkopen.2021.32271>. Accessed April 26, 2022.
- 297 Young, Samantha. "Another Soda Tax Bill Dies. Another Win for Big Soda." *Kaiser Health News*, April 21, 2021. <https://www.healthleadersmedia.com/strategy/another-soda-tax-bill-dies-another-win-big-soda>. Accessed April 26, 2022.
- 298 White, Jeremy B. "Is Big Soda Winning the Soft Drink Wars?" *Politico*, August 13, 2019. <https://www.politico.com/agenda/story/2019/08/13/soda-tax-california-public-health-000940/>. Accessed April 26, 2022.
- 299 Dewey, Caitlin. "Why Chicago's Soda Tax Fizzled After Two Months—And What It Means for the Anti-Soda Movement." *The Washington Post*, October 10, 2017. <https://www.washingtonpost.com/news/wonk/wp/2017/10/10/why-chicagos-soda-tax-fizzled-after-two-months-and-what-it-means-for-the-anti-soda-movement/>. Accessed April 26, 2022.
- 300 U.S. Department of Agriculture. "Healthy Food Financing Initiative." <https://www.rd.usda.gov/about-rd/initiatives/healthy-food-financing-initiative>. Accessed April 25, 2022.
- 301 Ibid.
- 302 Reinvestment Fund. "Grant Opportunities." <https://www.investinginfood.com/grant-opportunities/>. Accessed April 25, 2022.
- 303 Reinvestment Fund. "Co-op Grocery Store in North Flint Holds Groundbreaking Ceremony." <https://www.investinginfood.com/maya-harjo-farm-director-at-the-cultural-conservancy-harvests-tepary-beans-at-indian-valley-organic-farm-garden-in-novato-tepary-beans-are-drought-tolerant-and-excellent-nutritionally-especially/>. Accessed April 25, 2022.
- 304 Reinvestment Fund. "The Museum Building an Incubator for Native Food Businesses." <https://www.investinginfood.com/the-museum-building-an-incubator-for-native-food-businesses/>. Accessed August 8, 2022.
- 305 Reinvestment Fund. "Pay-What-You-Can Grocery Store to Open in South St. Louis." <https://www.investinginfood.com/pay-what-you-can-grocery-store-to-open-in-south-st-louis/>. Accessed April 25, 2022.
- 306 Consolidated Appropriations Act, 2022, Public Law 117-103. <https://www.congress.gov/bill/117th-congress/house-bill/2471/text>. Accessed April 25, 2022.
- 307 Internal Revenue Service. "New Markets Tax Credit." <https://www.irs.gov/pub/irs-utl/atgntmc.pdf>. Accessed April 26, 2022.
- 308 New Markets Tax Credit Coalition. "Provident Mutual Life Insurance Building." <https://nmtccoalition.org/project/provident-public-health-center/>. Accessed April 26, 2022.
- 309 Levy, Jordan. "The City Sunk \$50 Million Into a West Philly Police HQ. Then Walked Away. How Did That Happen?" *The Billy Penn Newsletter*, April 6, 2022. <https://billypenn.com/2022/04/06/provident-mutual-building-west-philadelphia-police-hq/#:~:text=Built%20in%201926%2C%20the%20grand,commissioners%2C%20and%20by%20community%20stakeholders>. Accessed April 27, 2022.
- 310 New Markets Tax Credit Coalition. "Bread for the City—Southeast Center." <https://nmtccoalition.org/project/bread-for-the-city-southeast-center/>. Accessed April 26, 2022.
- 311 Bread for the City. "Building on Good Hope." <https://breadforthecity.org/goodhope/>. Accessed April 27, 2022.
- 312 Crescent Growth Capital. "Homeland Grocery." <http://crescentgrowthcapital.com/2020/12/03/homeland-grocery/>. Accessed April 27, 2022.
- 313 Lackmeyer, Steve. "First New Full-Size Supermarket in Decades for OKC's East Side to Open Wednesday." *The Oklahoman*, August 31, 2021. <https://www.oklahoman.com/story/news/2021/08/31/oklahoma-city-homeland-grocery-store-near-me-open-food-desert/5577563001/>. Accessed April 27, 2022.
- 314 Community Development Financial Institutions Fund. "CDFI Fund Announces \$5 Billion in New Markets Tax Credits." September 1, 2021. <https://www.cdfifund.gov/news/423>. Accessed April 26, 2022.
- 315 Consolidated Appropriations Act, 2021. Pub. L. 116-260. December 27, 2020. <https://www.congress.gov/bill/116th-congress/house-bill/133/text>. Accessed April 27, 2022.
- 316 U.S. Office of Management and Budget. "Budget of the U.S. Government: Fiscal Year 2023." https://www.whitehouse.gov/wp-content/uploads/2022/03/budget_fy2023.pdf. Accessed April 28, 2022.
- 317 New Markets Tax Credit Extension Act of 2021, S. 456, 117th Congress. <https://www.congress.gov/bill/117th-congress/senate-bill/456?s=6&r=7>. Accessed April 28, 2022.
- 318 Consolidated Appropriations Act, 2021. Pub. L. 116-260. December 27, 2020. <https://www.congress.gov/bill/116th-congress/house-bill/133/text>. Accessed April 27, 2022.
- 319 University of Connecticut, Rudd Center for Food Policy & Obesity. "Food Marketing." <https://uconnruddcenter.org/research/food-marketing/#>. Accessed May 16, 2022.
- 320 Boyland, Emma, D. Thivel, Artur Mazur. "Digital Food Marketing to Young People: A Substantial Public Health Challenge." *Annals of Nutrition and Metabolism*, 76(1), May 2020. <https://doi.org/10.1159/000506413>. Accessed August 8, 2022.
- 321 McClure, Auden C., Susanne E. Tanski, Diane Gilbert-Diamond, et al. "Receptivity to Television Fast-Food Restaurant Marketing and Obesity Among U.S. Youth." *American Journal of Preventive Medicine*, 45(5): P560-568, 2013. [https://www.ajpmonline.org/article/S0749-3797\(13\)00429-7/abstract](https://www.ajpmonline.org/article/S0749-3797(13)00429-7/abstract). Accessed May 16, 2022.
- 322 Andreyeva, Tatiana, Inas Rashad Kelly, and Jennifer L. Harris. "Exposure to Food Advertising on Television: Associations with Children's Fast Food and Soft Drink Consumption and Obesity." *Economics and Human Biology*, 9(3): 221-233, 2011. <https://pubmed.ncbi.nlm.nih.gov/21439918/>. Accessed May 16, 2022.
- 323 Boyland, Emma, D. Thivel, Artur Mazur. "Digital Food Marketing to Young People: A Substantial Public Health Challenge." *Annals of Nutrition and Metabolism*, 76(1), May 2020. <https://doi.org/10.1159/000506413>. Accessed August 8, 2022.
- 324 Ibid.

- 325 Coates, Anna E., Charlotte A. Hardman, Jason C.G. Halford, et al. "Food and Beverage Cues Featured in YouTube Videos of Social Media Influencers Popular With Children: An Exploratory Study." *Frontiers in Psychology*, 20, September 2019. <https://www.frontiersin.org/articles/10.3389/fpsyg.2019.02142/full#B29>. Accessed May 16, 2022.
- 326 Coates, Anna E., Charlotte A. Hardman, Jason C.G. Halford, et al. "Social Media Influencer Marketing and Children's Food Intake: A Randomized Trial." *Pediatrics*, 143(4): e20182554, 2019. <https://doi.org/10.1542/peds.2018-2554>. Accessed May 16, 2022.
- 327 Khandpur, Neha, Laura Y. Zatz, Sara N. Bleich, et al. "Supermarkets in Cyberspace: A Conceptual Framework to Capture the Influence of Online Food Retail Environments on Consumer Behavior." *International Journal of Environmental Research and Public Health*, 17(22): 8639, November 20, 2020. <https://www.mdpi.com/1660-4601/17/22/8639>. Accessed August 8, 2022.
- 328 Harris, Jennifer L., Willie Frazier, Shiriki Kumanyika, et al. "Rudd Report: Increasing Disparities in Unhealthy Food Advertising Targeted to Hispanic and Black Youth." *University of Connecticut, Rudd Center for Food Policy & Obesity*, January 2019. <https://media.ruddcenter.uconn.edu/PDFs/TargetedMarketingReport2019.pdf>. Accessed May 16, 2022.
- 329 Ibid.
- 330 Harris, Jennifer L., Frances Fleming-Milici, Willie Frazier, et al. "Baby Food FACTS: Nutrition and Marketing of Baby and Toddler Food and Drinks." *University of Connecticut, Rudd Center for Food Policy & Obesity*, January 2017. https://media.ruddcenter.uconn.edu/PDFs/BabyFoodFACTS_FINAL.pdf. Accessed May 16, 2022.
- 331 U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Dietary Guidelines for Americans, 2020-2025*. 9th Edition, December 2020. <https://www.dietaryguidelines.gov/>. Accessed May 16, 2022.
- 332 Duffy, Emily W., Lindsey Smith Taillie, Ana Paula C. Richter, et al. "Toddler Milk Perceptions and Purchases: The Role Of Latino Ethnicity." *Public Health Nutrition*, 24(10), 2911-2919, 2021. <https://www.cambridge.org/core/journals/public-health-nutrition/article/toddler-milk-perceptions-and-purchases-the-role-of-latino-ethnicity/78DA5A81C322A82EF844EB110C387AE6>. Accessed May 16, 2022.
- 333 World Health Organization. *WHO/UNICEF Information Note: Cross-Promotion of Infant Formula and Toddler Milks*, May 2019. <https://www.who.int/publications/i/item/WHO-NMH-NHD-19.27>. Accessed May 16, 2022.
- 334 Muth, Natalie D., William H. Dietz, Sheela N. Magge, et al. "Public Policies to Reduce Sugary Drink Consumption in Children and Adolescents." *Pediatrics*, 143(4): e20190282, 2019. <https://pubmed.ncbi.nlm.nih.gov/30910915/>. Accessed May 16, 2022.
- 335 Pomeranz, Jennifer L., Maria J. Romo Palafox, and Jennifer L. Harris. "Toddler Drinks, Formula, and Milks: Labeling Practices and Policy Implications." *Preventive Medicine*, 109: 11-16, 2018. <https://pubmed.ncbi.nlm.nih.gov/29339115/>. Accessed May 16, 2022.
- 336 First Nations Development Institute. "Indian Country Food Price Index: Exploring Variation in Food Pricing Across Native Communities: A Working Paper." 2016. https://www.firstnations.org/wp-content/uploads/publication-attachments/Indian_Country_Food_Price_Index_6-30-2016_FINAL_FIXED.pdf. Accessed May 17, 2022.
- 337 Stanger-McLaughlin, Toni, Sandy Martini, Geri Henchy, et al. "Reimagining Hunger Responses in Times of Crisis: Insights from Case Examples and a Survey of Native Communities' Food Access During COVID-19." *Native American Agricultural Fund, Indigenous Food and Agriculture Initiative, Food Research and Action Center*. <https://nativeamericanagriculturefund.org/wp-content/uploads/2018/04/Reimagining-Hunger-Responses-in-Times-of-Crisis.pdf>. Accessed May 16, 2022.
- 338 Ibid.
- 339 Segrest, Valerie, Karli Moore, Cindy Farlee, et al. "Reimagining Native Food Economies: A Vision for Native Food and Agriculture Infrastructure Rebuilding and Recovery." *Native American Agricultural Fund*, 2020. https://nativeamericanagriculturefund.org/wp-content/uploads/2020/10/NAAF_NativeFoodEcon_Spread.pdf. Accessed May 16, 2022.
- 340 U.S. Department of Health and Human Services. "Social Determinants of Health." <https://health.gov/healthypeople/priority-areas/social-determinants-health>. Accessed April 28, 2022.
- 341 Community Guide. "Physical Activity: Built Environment Approaches Combining Transportation System Interventions with Land Use and Environmental Design." <https://www.thecommunityguide.org/findings/physical-activity-built-environment-approaches>. Accessed July 27, 2022.
- 342 Howell, Nicholas A., and Gillian L. Booth. "The Weight of Place: Built Environment Correlates of Obesity and Diabetes." *Endocrine Reviews: bnac005*, 2022. <https://doi.org/10.1210/endrev/bnac005>. Accessed April 27, 2022.
- 343 Malacarne, Diego, Evangelos Handakas, Oliver Robinson, et al. "The Built Environment as Determinant of Childhood Obesity: A Systematic Literature Review." *Obesity Reviews*, 23(S1): e13385, 2022. <https://doi.org/10.1111/obr.13385>. Accessed April 28, 2022.
- 344 Howell, Nicholas A., and Gillian L. Booth. "The Weight of Place: Built Environment Correlates of Obesity and Diabetes." *Endocrine Reviews: bnac005*, 2022. <https://doi.org/10.1210/endrev/bnac005>. Accessed April 27, 2022.
- 345 Prevention Institute. "Changing the Landscape: People, Parks, and Power." June 2021. <https://preventioninstitute.org/publications/changing-landscape-people-parks-and-power>. Accessed August 8, 2022.
- 346 Singh, Gopal K., Mohammad Siahpush, and Michael D. Kogan. "Neighborhood Socioeconomic Conditions, Built Environments, and Childhood Obesity." *Health Affairs*, 29(3): 503-512, 2010. <https://pubmed.ncbi.nlm.nih.gov/20194993/>. Accessed April 28, 2022.

- 347 Frank, Lawrence D., Nicole Iroz-Elardo, Kara E. MacLeod, et al. "Pathways From Built Environment to Health: A Conceptual Framework Linking Behavior and Exposure-Based Impacts." *Journal of Transport & Health*, 12: 319-335, 2019. <https://doi.org/10.1016/j.jth.2018.11.008>. Accessed April 27, 2022.
- 348 Kneeshaw-Price, Stephanie H., Brian E. Saelens, James F. Sallis, et al. "Neighborhood Crime-Related Safety and Its Relation to Children's Physical Activity." *Journal of Urban Health*, 92:472–489, March 2015. <https://link.springer.com/article/10.1007/s11524-015-9949-0>. Accessed July 29, 2022.
- 349 Howell, Nicholas A., and Gillian L. Booth. "The Weight of Place: Built Environment Correlates of Obesity and Diabetes." *Endocrine Reviews*: bnac005, 2022. <https://doi.org/10.1210/edrev/bnac005>. Accessed April 27, 2022.
- 350 An, Ruopeng, Mengmeng Ji, Hai Yan, et al. "Impact of Ambient Air Pollution on Obesity: A Systematic Review." *International Journal of Obesity*, 42: 1112–1126, 2018. <https://doi.org/10.1038/s41366-018-0089-y>. Accessed April 27, 2022.
- 351 Howell, Nicholas A., and Gillian L. Booth. "The Weight of Place: Built Environment Correlates of Obesity and Diabetes." *Endocrine Reviews*: bnac005, 2022. <https://doi.org/10.1210/edrev/bnac005>. Accessed April 27, 2022.
- 352 Ibid.
- 353 Li, Fuzhong, Peter Harmer, Bradley J. Carinal, et al. "Obesity and The Built Environment: Does the Density of Neighborhood Fast-Food Outlets Matter?" *American Journal of Health Promotion*, 23, 3: 203-9, 2009. <https://doi.org/10.4278/ajhp.071214133>. Accessed April 28, 2022.
- 354 University of Wisconsin Population Health Institute. "What Works for Health: Policies and Programs to Improve Wisconsin's Health." <http://whatworksforhealth.wisc.edu/program.php?t1=21&t2=12&t3=79&id=298>. Accessed April 28, 2022.
- 355 Centers for Disease Control and Prevention. "Designing Activity-Friendly Communities." <https://www.cdc.gov/nccdphp/dnpao/features/walk-friendly-communities/index.html>. April 28, 2022.
- 356 Malacarne, Diego, Evangelos Handakas, Oliver Robinson, et al. "The Built Environment as Determinant of Childhood Obesity: A Systematic Literature Review." *Obesity Reviews*, 23(S1): e13385, 2022. <https://doi.org/10.1111/obr.13385>. Accessed April 28, 2022.
- 357 U.S. Department of Transportation. "Active Transportation." <https://www.transportation.gov/mission/health/active-transportation>. Accessed April 29, 2022.
- 358 Krahnstoever, Kirsten D., and Catherine T. Lawson. "Do Attributes in the Physical Environment Influence Children's Physical Activity? A Review of the Literature." *International Journal of Behavioral Nutrition and Physical Activity*, 3(19), 2006. <https://ijbnpa.biomedcentral.com/articles/10.1186/1479-5868-3-19>. Accessed April 28, 2022.
- 359 Heinen Eva, Jenna Panter, Roger Mackett, et al. "Changes in Mode of Travel to Work: A Natural Experimental Study of New Transport Infrastructure." *International Journal of Behavioral Nutrition and Physical Activity*, 12(81): 1-10, 2015. <https://ijbnpa.biomedcentral.com/articles/10.1186/s12966-015-0239-8>. Accessed April 28, 2022.
- 360 Frank, Lawrence D., Nicole Iroz-Elardo, Kara E. MacLeod, et al. "Pathways From Built Environment to Health: A Conceptual Framework Linking Behavior and Exposure-Based Impacts." *Journal of Transport & Health*, 12: 319-335, 2019. <https://doi.org/10.1016/j.jth.2018.11.008>. Accessed April 27, 2022.
- 361 Malacarne, Diego, Evangelos Handakas, Oliver Robinson, et al. "The Built Environment as Determinant of Childhood Obesity: A Systematic Literature Review." *Obesity Reviews*, 23(S1): e13385, 2022. <https://doi.org/10.1111/obr.13385>. Accessed April 28, 2022.
- 362 Krahnstoever, Kirsten D., and Catherine T. Lawson. "Do Attributes in the Physical Environment Influence Children's Physical Activity? A Review of the Literature." *International Journal of Behavioral Nutrition and Physical Activity*, 3(19), 2006. <https://ijbnpa.biomedcentral.com/articles/10.1186/1479-5868-3-19>. Accessed April 28, 2022.
- 363 Rissel, Chris, Nada Curac, Mark Greenaway, et al. "Physical Activity Associated with Public Transport Use—A Review and Modelling of Potential Benefits." *International Journal of Environmental Research and Public Health*, 9(7): 2454-2478, 2012. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3407915/>. Accessed April 28, 2022.
- 364 U.S. Department of Transportation. "Active Transportation." <https://www.transportation.gov/mission/health/active-transportation>. Accessed April 29, 2022.
- 365 Ibid.
- 366 Infrastructure Investment and Jobs Act, Public Law 117-58. <https://www.congress.gov/bill/117th-congress/house-bill/3684/text?overview=closed&r=6>. Accessed April 28, 2022.
- 367 Ibid.
- 368 The White House. "Fact Sheet: The Bipartisan Infrastructure Deal." November 6, 2021. <https://www.whitehouse.gov/briefing-room/statements-releases/2021/11/06/fact-sheet-the-bipartisan-infrastructure-deal/>. Accessed April 29, 2022.
- 369 U.S. Department of Transportation. "Active Transportation." <https://www.transportation.gov/mission/health/active-transportation>. Accessed April 29, 2022.
- 370 Mills, Kevin. "Analysis: Bipartisan Infrastructure Bill Passes With New Opportunities for Trails, Walking and Biking." *Rails-to-Trails Conservancy*. <https://www.railstotrails.org/trailblog/2021/november/06/analysis-bipartisan-infrastructure-bill-passes-with-new-opportunities-for-trails-walking-and-biking/>. Accessed April 28, 2022.
- 371 Jones, Marisa. "Bipartisan Infrastructure Bill Makes Meaningful Strides Toward Increasing Funding and Improving Safety for People Walking, Biking, and Safe Routes to School." *Safe Routes Partnership*. <https://saferoutespartnership.org/blog/bipartisan-infrastructure-bill-makes-meaningful-strides-toward-increasing-funding-and-improving>. Accessed April 29, 2022.
- 372 U.S. Department of Transportation. "Reconnecting Communities Pilot Program—Planning Grants and Capital Construction Grants." <https://www.transportation.gov/grants/reconnecting-communities>. Accessed July 27, 2022.

- 373 Frank, Lawrence D., Nicole Iroz-Elardo, Kara E. MacLeod, et al. "Pathways From Built Environment to Health: A Conceptual Framework Linking Behavior and Exposure-Based Impacts." *Journal of Transport & Health*, 12: 319-335, 2019. <https://doi.org/10.1016/j.jth.2018.11.008>. Accessed April 27, 2022.
- 374 Ibid.
- 375 Malacarne, Diego, Evangelos Handakas, Oliver Robinson, et al. "The Built Environment as Determinant of Childhood Obesity: A Systematic Literature Review." *Obesity Reviews*, 23(S1): e13385, 2022. <https://doi.org/10.1111/obr.13385>. Accessed April 28, 2022.
- 376 Omura, John D., Eric T. Hyde, Kathleen B. Watson, et al. "Prevalence of Children Walking to School and Related Barriers—United States, 2017." *Preventive Medicine*, 118: 191-195, January 2019. <https://www.sciencedirect.com/science/article/abs/pii/S0091743518303359>. Accessed August 8, 2022.
- 377 Ibid.
- 378 Jacob, Verughese, Sajal K. Chattopadhyay, Jeffrey A. Reynolds, et al. "Economics of Interventions to Increase Active Travel to School: A Community Guide Systematic Review." *American Journal of Preventive Medicine*, 60(1): e27-e40, 2021. <https://pubmed.ncbi.nlm.nih.gov/33341185/>. Accessed April 29, 2022.
- 379 The White House. "FACT SHEET: The Biden-Harris Action Plan for Building Better School Infrastructure." April 4, 2022. <https://www.whitehouse.gov/briefing-room/statements-releases/2022/04/04/fact-sheet-the-biden-harris-action-plan-for-building-better-school-infrastructure/> - :~:text=The Bipartisan Infrastructure Law expanded,use in training and education. Accessed April 29, 2022.
- 380 Ibid.
- 381 Jones, Marisa. "Bipartisan Infrastructure Bill Makes Meaningful Strides Toward Increasing Funding and Improving Safety for People Walking, Biking, and Safe Routes to School." *Safe Routes Partnership*. <https://saferoutespartnership.org/blog/bipartisan-infrastructure-bill-makes-meaningful-strides-toward-increasing-funding-and-improving>. Accessed April 29, 2022.
- 382 Centers for Disease Control and Prevention. "Centers for Disease Control and Prevention FY 2022 Operating Plan." 2022. <https://www.cdc.gov/budget/documents/fy2022/FY-2022-CDC-Operating-Plan.pdf>. Accessed August 8, 2022.
- 383 Centers for Disease Control and Prevention, Division of Nutrition, Physical Activity, and Obesity. "State Physical Activity and Nutrition (SPAN) Program." <https://www.cdc.gov/nccdphp/dnpao/state-local-programs/span-1807/index.html>. Accessed May 2, 2022.
- 384 Calise, Tamara V., Amelia Fox, Amanda Ryder, et al. "Overcoming Challenges Resulting From COVID-19: New York State's Creating Healthy Schools and Communities Initiative." *Preventing Chronic Disease*, 17: 200232, 2020. <http://dx.doi.org/10.5888/pcd17.200232>. Accessed May 2, 2022.
- 385 Illinois Public Health Institute. "New Collaboration Across Health Systems in Peoria: Working to Improve Support for Breastfeeding: Illinois State Physical Activity And Nutrition Program Success Story." https://iphionline.org/wp-content/uploads/2020/04/ECE_Success_Story_Final.pdf. Accessed May 2, 2022.
- 386 Connecticut State Department of Public Health. "Nutrition, Physical Activity and Obesity Program." <https://portal.ct.gov/DPH/Health-Education-Management-Surveillance/Nutrition-Physical-Activity-and-Obesity-Prevention-Program/Nutrition-Physical-Activity-Obesity-Prevention-Program>. Accessed May 2, 2022.
- 387 Grants.gov. "CDC-RFA-DP18-1807: State Physical Activity and Nutrition Program: Department of Health and Human Services: Centers for Disease Control—NCCDPHP." <https://www.grants.gov/web/grants/view-opportunity.html?oppId=299540>. Accessed May 2, 2022.
- 388 Centers for Disease Control and Prevention, Division of Nutrition, Physical Activity, and Obesity. "State Physical Activity and Nutrition (SPAN) Program." <https://www.cdc.gov/nccdphp/dnpao/state-local-programs/span-1807/index.html>. Accessed May 2, 2022.
- 389 O'Toole, Terry. "CDC Update 2020: Pivot, Redirect, Respond." *Centers for Disease Control and Prevention*, June 17, 2020. <https://asphn.org/wp-content/uploads/2020/06/presentation-cdc-dnpao.pdf>. Accessed May 2, 2022.
- 390 Grants.gov. "CDC-RFA-DP18-1807: State Physical Activity and Nutrition Program: Department of Health and Human Services: Centers for Disease Control—NCCDPHP." <https://www.grants.gov/web/grants/view-opportunity.html?oppId=299540>. Accessed May 2, 2022.
- 391 Centers for Disease Control and Prevention, Division of Nutrition, Physical Activity, and Obesity. "High Obesity Program (HOP)." <https://www.cdc.gov/nccdphp/dnpao/state-local-programs/hop-1809/high-obesity-program-1809.html>. Accessed May 2, 2022.
- 392 O'Toole, Terry. "CDC Update 2020: Pivot, Redirect, Respond." *Centers for Disease Control and Prevention*, June 17, 2020. <https://asphn.org/wp-content/uploads/2020/06/presentation-cdc-dnpao.pdf>. Accessed May 2, 2022.
- 393 Grants.gov. "CDC-RFA-DP18-1809: High Obesity Program: Department of Health and Human Services: Centers for Disease Control—NCCDPHP." <https://www.grants.gov/web/grants/view-opportunity.html?oppId=303770>. Accessed May 2, 2022.
- 394 Centers for Disease Control and Prevention. "Public Health Professionals Gateway: Preventive Health and Health Services (PHHS) Block Grant." <https://www.cdc.gov/phhsblockgrant/index.htm>. Accessed May 2, 2022.
- 395 Centers for Disease Control and Prevention. "Preventive Health and Health Services (PHHS) Block Grant: Funding by Topic Area." <https://www.cdc.gov/phhsblockgrant/funding/index.htm>. Accessed May 2, 2022.
- 396 Joint Explanatory Statement, Consolidated Appropriations Act, 2022, Division H. https://docs.house.gov/bills2020307/BILLS-117RCP35-JES-DIVISION-H_Part1.pdf. Accessed May 4, 2022.
- 397 Centers for Disease Control and Prevention, Division of Nutrition, Physical Activity, and Obesity. "REACH 2018 Recipients." https://www.cdc.gov/nccdphp/dnpao/state-local-programs/reach/current_programs/recipients.html. Accessed May 4, 2022.
- 398 O'Toole, Terry. "CDC Update 2020: Pivot, Redirect, Respond." *Centers for Disease Control and Prevention*, June 17, 2020. <https://asphn.org/wp-content/uploads/2020/06/presentation-cdc-dnpao.pdf>. Accessed May 2, 2022.

- 399 Joint Explanatory Statement, Consolidated Appropriations Act, 2022, Division H. https://docs.house.gov/billsthisweek/20220307/BILLS-117RCP35-JES-DIVISION-H_Part1.pdf. Accessed May 4, 2022.
- 400 Centers for Disease Control and Prevention. “CDC Healthy Schools: Funded School Health Partners.” <https://www.cdc.gov/healthyschools/fundedpartners.htm>. Accessed May 5, 2022.
- 401 Grants.gov. “CDC-RFA-DP18-1801: Improving Student Health and Academic Achievement through Nutrition, Physical Activity and the Management of Chronic Conditions in Schools: Department of Health and Human Services: Centers for Disease Control—NCCDPHP.” <https://www.grants.gov/web/grants/search-grants.html?keywords=CDC-RFA-DP18-1801>. Accessed May 5, 2022.
- 402 Ibid.
- 403 Centers for Disease Control and Prevention, Division of Nutrition, Physical Activity, and Obesity. “High Obesity Program (HOP).” <https://www.cdc.gov/nccdpdp/dnpao/state-local-programs/hop-1809/high-obesity-program-1809.html>. Accessed May 2, 2022.
- 404 Centers for Disease Control and Prevention. “The High Obesity Program: Special Collection.” https://www.cdc.gov/nccdpdp/dnpao/state-local-programs/hop-1809/pdfs/PCD_Publication-Summary-Infographic_508.pdf. Accessed May 2, 2022.
- 405 Centers for Disease Control and Prevention. “CDC Funding in Action: Park Updates Promote Physical Activity For Tribal Nation: Recreation Spaces Enhanced with Menominee Art, Language, and History.” <https://nccd.cdc.gov/nccdsuccessstories/TemplateCDC.aspx?s=17630&ds=1>. Accessed May 2, 2022.
- 406 University of Georgia Cooperative Extension. “Healthier Together: Promoting Access to Healthy Foods and Physical Activity.” <https://site.extension.uga.edu/healthiertogether/about/>. Accessed May 2, 2022.
- 407 Hensley, Erica. “MSU Extension Agents ‘AIM’ To Reduce Rural Obesity.” Mississippi State University Extension. <http://extension.msstate.edu/news/feature-story/2021/msu-extension-agents-%E2%80%99aim%E2%80%99-reduce-rural-obesity>. Accessed May 2, 2022.
- 408 Centers for Disease Control and Prevention. “CDC Fiscal Year 2022 Operating Plan.” 2022. <https://www.cdc.gov/budget/documents/fy2022/FY-2022-CDC-Operating-Plan.pdf>. Accessed August 8, 2022.
- 409 Centers for Disease Control and Prevention. “Public Health Professionals Gateway: Preventive Health and Health Services (PHHS) Block Grant.” <https://www.cdc.gov/phhsblockgrant/index.htm>. Accessed May 2, 2022.
- 410 Centers for Disease Control and Prevention. “Preventive Health and Health Services (PHHS) Block Grant: Funding by Topic Area.” <https://www.cdc.gov/phhsblockgrant/funding/index.htm>. Accessed May 2, 2022.
- 411 Centers for Disease Control and Prevention, Public Health Professionals Gateway. “Preventive Health and Health Services (PHHS) Block Grant: Recipient Stories.” Updated December 9, 2019. <https://www.cdc.gov/phhsblockgrant/granteehighlights.htm>. Accessed August 8, 2022.
- 412 Centers for Disease Control and Prevention. “CDC Fiscal Year 2022 Operating Plan.” 2022. <https://www.cdc.gov/budget/documents/fy2022/FY-2022-CDC-Operating-Plan.pdf>. Accessed August 8, 2022.
- 413 Centers for Disease Control and Prevention, Division of Nutrition, Physical Activity, and Obesity. “Racial and Ethnic Approaches to Community Health.” <https://www.cdc.gov/nccdpdp/dnpao/state-local-programs/reach/index.htm>. Accessed May 5, 2022.
- 414 Centers for Disease Control and Prevention. “Healthy Tribes: Good Health and Wellness Indian Country.” <https://www.cdc.gov/healthytribes/ghwic.htm>. Accessed May 5, 2022.
- 415 Society for Public Health Education. “REACH Rural Areas.” <https://www.sophe.org/focus-areas/health-equity/reach/reach-rural-areas/>. Accessed May 5, 2022.
- 416 Centers for Disease Control and Prevention. “CDC Funding in Action Madera County Farmers’ Market Makes Healthy Food Accessible: Customers Can Buy Produce Using WIC Vouchers, SNAP Benefits.” <https://nccd.cdc.gov/nccdsuccessstories/TemplateCDC.aspx?s=17633&ds=1>. Accessed May 2, 2022.
- 417 Society for Public Health Education. “REACH Urban Communities.” <https://www.sophe.org/focus-areas/health-equity/reach/reach-urban-communities/>. Accessed May 5, 2022.
- 418 Centers for Disease Control and Prevention. “CDC Fiscal Year 2022 Operating Plan.” 2022. <https://www.cdc.gov/budget/documents/fy2022/FY-2022-CDC-Operating-Plan.pdf>. Accessed August 8, 2022.
- 419 Barnes, Ann Smith. “The Epidemic Of Obesity And Diabetes: Trends and Treatments.” *Texas Heart Institute Journal*, 38(2): 142-4, 2011. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3066828/>. Accessed May 5, 2022.
- 420 Centers for Disease Control and Prevention. “National Diabetes Prevention Program: Working Together to Prevent Type 2 Diabetes.” https://www.cdc.gov/diabetes/images/library/socialmedia/NDPP_WorkingTogetherDiabetes_Print.pdf. Accessed May 5, 2022.
- 421 Centers for Disease Control and Prevention. “National Diabetes Prevention Program: About the National DPP.” <https://www.cdc.gov/diabetes/prevention/about.htm>. Accessed May 5, 2022.
- 422 Centers for Disease Control and Prevention. “CDC Fiscal Year 2022 Operating Plan.” <https://www.cdc.gov/budget/documents/fy2022/FY-2022-CDC-Operating-Plan.pdf>. Accessed July 19, 2022.
- 423 Centers for Disease Control and Prevention. “Benefits of Physical Activity.” <https://www.cdc.gov/physicalactivity/basics/pa-health/index.htm>. Accessed May 6, 2022.
- 424 Pearce, Matthew, Leandro Garcia, Ali Abbas, et al. “Association Between Physical Activity and Risk of Depression: A Systematic Review and Meta-analysis.” *JAMA Psychiatry*, published online April 13, 2022. <https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2790780>. Accessed May 6, 2022.
- 425 U.S. Department of Health and Human Services. “Physical Activity Guidelines for Americans, 2nd edition.” 2018. https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf. Accessed May 6, 2022.
- 426 Reuben, Cynthia. “QuickStats: Age-Adjusted Percentage of Adults Aged ≥18 Years Who Met the 2018 Federal Physical Activity Guidelines for Both Muscle-Strengthening and Aerobic Physical Activity, by Urbanization Level—National Health Interview Survey, United States, 2020.” *Morbidity and Mortality Weekly Report*, 71(27): 887, July 2022. <https://www.cdc.gov/mmwr/volumes/71/wr/mm7127a6.htm>. Accessed August 8, 2022.

- 427 Ngata, Jason M., Catherine A. Cortez, Erin E. Dooley, et al. “Moderate-to-Vigorous Intensity Physical Activity Among Adolescents in the USA During the COVID-19 Pandemic.” *Preventive Medicine Reports*, 25: 101685, 2022. <https://doi.org/10.1016/j.pmedr.2021.101685>. Accessed May 6, 2022.
- 428 Centers for Disease Control and Prevention. “Active People, Healthy Nation: About Active People, Healthy NationSM.” <https://www.cdc.gov/physicalactivity/activepeoplehealthynation/about-active-people-healthy-nation.html>. Accessed May 6, 2022.
- 429 Centers for Disease Control and Prevention. “Active People, Healthy Nation: Strategies to Increase Physical Activity.” <https://www.cdc.gov/physicalactivity/activepeoplehealthynation/strategies-to-increase-physical-activity/index.html>. Accessed May 6, 2022.
- 430 Joint Explanatory Statement, Consolidated Appropriations Act, 2022, Division H. https://docs.house.gov/billsthisweek/20220307/BILLS-117RCP35-JES-DIVISION-H_Part1.pdf. Accessed May 4, 2022.
- 431 Centers for Disease Control and Prevention, Division of Nutrition, Physical Activity, and Obesity. “Notice of Funding Opportunity: Closing the Gap with Social Determinants of Health Accelerator Plans.” <https://www.cdc.gov/nccphp/dnpao/state-local-programs/sdoh-2111/SDOH-accelerator-planning.html>. Accessed May 5, 2022.
- 432 Association of American Medical Colleges. “President Signs FY 2022 Funding Bill with Increases for Research, Health Programs.” <https://www.aamc.org/advocacy-policy/washington-highlights/president-signs-fy-2022-funding-bill-increases-research-health-programs>. Accessed April 29, 2022.
- 433 Joint Explanatory Statement, Consolidated Appropriations Act, 2022, Division H. https://docs.house.gov/billsthisweek/20220307/BILLS-117RCP35-JES-DIVISION-H_Part1.pdf. Accessed May 4, 2022.
- 434 Ibid.
- 435 Ibid.
- 436 Healthy, Hunger-Free Kids Act of 2010. Pub. L. 111-296. <https://www.congress.gov/111/plaws/publ296/PLAW-111publ296.pdf>. Accessed May 10, 2022.
- 437 Food and Nutrition Service, U.S. Department of Agriculture. “Nutrition Standards in the National School Lunch and School Breakfast Programs.” *Federal Register*, 77(17): 4088-4167, January 26, 2012. <https://www.govinfo.gov/content/pkg/FR-2012-01-26/pdf/2012-1010.pdf>. Accessed May 10, 2022.
- 438 Fox, Mary Kay, and Elizabeth Gearan. “School Nutrition and Meal Cost Study: Summary of Findings.” *Mathematica Policy Research*, April 23, 2019. <https://mathematica.org/publications/school-nutrition-and-meal-cost-study-summary-of-findings>. Accessed May 10, 2022.
- 439 Kenney, Erica L., Jessica L. Barrett, Sara N. Bleich, et al. “Impact of the Healthy, Hunger-Free Kids Act on Obesity Trends.” *Health Affairs*, 39(7): 1122-1129, 2020. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7961790/>. Accessed May 10, 2022.
- 440 Food and Nutrition Service, U.S. Department of Agriculture. “Child Nutrition Programs: Flexibilities for Milk, Whole Grains, and Sodium Requirements.” *Federal Register*, 83(238): 63775-63794, December 12, 2018. <https://www.govinfo.gov/content/pkg/FR-2018-12-12/pdf/2018-26762.pdf>. Accessed May 10, 2022.
- 441 *Center for Science in the Public Interest v. Perdue*. Case 8:19-cv-01004-GJH (D.Md.), April 13, 2020. <https://democracyforward.org/wp-content/uploads/2020/04/School-Lunch-CSPI-Opinion-04.13.20.pdf>. Accessed May 10, 2022.
- 442 U.S. Department of Agriculture, Food and Nutrition Service. “Child Nutrition COVID-19 Waivers.” <https://www.fns.usda.gov/fns-disaster-assistance/fns-responds-covid-19-child-nutrition-covid-19-waivers>. Accessed May 11, 2022.
- 443 U.S. Department of Agriculture, Food and Nutrition Service. “Nationwide Waiver to Allow Specific School Meal Pattern Flexibility for SY 2021-22.” <https://www.fns.usda.gov/cn/covid-19-child-nutrition-response-90>. Accessed May 11, 2022.
- 444 U.S. Department of Agriculture, Food and Nutrition Service. “Transitional Standards for Milk, Whole Grains and Sodium—Final Rule.” <https://www.fns.usda.gov/cn/fr-020722>. Accessed May 11, 2022.
- 445 U.S. Department of Agriculture, Food and Nutrition Service. “Child Nutrition Programs: Transitional Standards for Milk, Whole Grains, and Sodium.” 87 *Federal Register* 6984, February 7, 2022. <https://www.federalregister.gov/documents/2022/02/07/2022-02327/child-nutrition-programs-transitional-standards-for-milk-whole-grains-and-sodium>. Accessed May 11, 2022.
- 446 Food and Nutrition Service, U.S. Department of Agriculture. “Nutrition Standards in the National School Lunch and School Breakfast Programs.” *Federal Register*, 77(17): 4088-4167, January 26, 2012. <https://www.govinfo.gov/content/pkg/FR-2012-01-26/pdf/2012-1010.pdf>. Accessed May 10, 2022.
- 447 U.S. Department of Agriculture, Food and Nutrition Service. “Child Nutrition Programs: Transitional Standards for Milk, Whole Grains, and Sodium.” 87 *Federal Register* 6984, February 7, 2022. <https://www.federalregister.gov/documents/2022/02/07/2022-02327/child-nutrition-programs-transitional-standards-for-milk-whole-grains-and-sodium>. Accessed May 11, 2022.
- 448 Dietary Guidelines for Americans. “About.” <https://www.dietaryguidelines.gov/about-dietary-guidelines>. Accessed May 11, 2022.
- 449 Ibid.
- 450 Dietary Guidelines for Americans. “Work Under Way.” <https://www.dietaryguidelines.gov/work-under-way>. Accessed May 11, 2022.
- 451 U.S. Department of Agriculture. “My Plate.” <https://www.myplate.gov/>. Accessed May 11, 2022.
- 452 Wartella, Ellen A., Alice H. Lichtenstein, Caitlin S. Boon (eds.). “Front-of-Package Nutrition Rating Systems and Symbols: Phase I Report.” *Institute of Medicine Committee on Examination of Front-of-Package Nutrition Rating Systems and Symbols*, 2010. <https://www.ncbi.nlm.nih.gov/books/NBK209859/>. Accessed May 11, 2022.
- 453 U.S. Department of Health and Human Services, Food and Drug Administration. “Food Labeling: Revision of the Nutrition and Supplement Facts Labels.” 81 *Federal Register* 33741, May 27, 2016. <https://www.federalregister.gov/documents/2016/05/27/2016-11867/food-labeling-revision-of-the-nutrition-and-supplement-facts-labels>. Accessed May 11, 2022.
- 454 Shangquan, Siyi, Ashkan Afshin, Masha Shulkin, et al. “A Meta-Analysis of Food Labeling Effects on Consumer Diet Behaviors and Industry Practices.” *American Journal of Preventive Medicine*, 56(2): 300-314, 2019. <https://pubmed.ncbi.nlm.nih.gov/30573335/>. Accessed May 11, 2022.
- 455 U.S. Department of Health and Human Services, Food and Drug Administration, Center for Food Safety and Applied Nutrition, Office of Nutrition and Food Labeling. “Temporary Policy Regarding Nutrition Labeling of Certain Packaged Food During the COVID-19 Public Health Emergency.” *Guidance for Industry*, March 2020. <https://www.fda.gov/media/136469/download>. Accessed May 11, 2022.

- 456 U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response. "Renewal of Determination That a Public Health Emergency Exists." <https://aspr.hhs.gov/legal/PHE/Pages/covid19-15jul2022.aspx>. Accessed July 19, 2022.
- 457 Harvard T.H. Chan School of Public Health. "Understanding Food Labels." <https://www.hsph.harvard.edu/nutritionsource/food-label-guide/>. Accessed May 17, 2022.
- 458 Food and Drug Administration. "Authorized Health Claims That Meet the Significant Scientific Agreement (SSA) Standard." <https://www.fda.gov/food/food-labeling-nutrition/authorized-health-claims-meet-significant-scientific-agreement-ssa-standard>. Accessed May 17, 2022.
- 459 Food and Drug Administration. "Nutrient Content Claims." <https://www.fda.gov/blog/2018/12/13/product-claims>. Accessed May 17, 2022.
- 460 Harvard T.H. Chan School of Public Health. "Understanding Food Labels." <https://www.hsph.harvard.edu/nutritionsource/food-label-guide/>. Accessed May 17, 2022.
- 461 Food and Drug Administration. "Food Labeling; Nutrition Labeling of Standard Menu Items in Restaurants and Similar Retail Food Establishments." 79 *Federal Register* 71155, December 1, 2014. <https://www.federalregister.gov/documents/2014/12/01/2014-27833/food-labeling-nutrition-labeling-of-standard-menu-items-in-restaurants-and-similar-retail-food>. Accessed May 11, 2022.
- 462 U.S. Department of Health and Human Services, Food and Drug Administration. "Food Labeling; Nutrition Labeling of Standard Menu Items in Restaurants and Similar Retail Food Establishments; Extension of Compliance Date; Request for Comments." 82 *Federal Register* 20825, May 4, 2017. <https://www.federalregister.gov/documents/2017/05/04/2017-09029/food-labeling-nutrition-labeling-of-standard-menu-items-in-restaurants-and-similar-retail-food>. Accessed May 11, 2022.
- 463 U.S. Department of Health and Human Services, Food and Drug Administration. "Food Labeling; Calorie Labeling of Articles of Food in Vending Machines; Extension of Compliance Date." 81 *Federal Register* 50303, August 1, 2016. <https://www.federalregister.gov/documents/2016/08/01/2016-18140/food-labeling-calorie-labeling-of-articles-of-food-in-vending-machines-extension-of-compliance-date>. Accessed May 11, 2022.
- 464 Shangguan, Siyi, Ashkan Afshin, Masha Shulkin, et al. "A Meta-Analysis of Food Labeling Effects on Consumer Diet Behaviors and Industry Practices." *American Journal of Preventive Medicine*, 56(2): 300-314, 2019. <https://pubmed.ncbi.nlm.nih.gov/30573335/>. Accessed May 11, 2022.
- 465 Block, Jason P., Suzanne K. Condon, Ken Kleinman, et al. "Consumers' Estimation of Calorie Content at Fast Food Restaurants." *BMJ*, 346: f2907, 2013. <https://www.bmj.com/content/346/bmj.f2907>. Accessed May 11, 2022.
- 466 Moran, Alyssa J., Maricelle Ramirez, and Jason P. Block. "Consumer Underestimation of Sodium in Fast Food Restaurant Meals: Results from a Cross-Sectional Observational Study." *Appetite*, 113: 155-161, 2017. <https://pubmed.ncbi.nlm.nih.gov/28235618/>. Accessed May 11, 2022.
- 467 U.S. Department of Health and Human Services, Food and Drug Administration, Center for Food Safety and Applied Nutrition, Office of Nutrition and Food Labeling. "Temporary Policy Regarding Nutrition Labeling of Standard Menu Items in Chain Restaurants and Similar Retail Food Establishments During the COVID-19 Public Health Emergency." *Guidance Document*, April 2020. <https://www.fda.gov/media/136597/download>. Accessed May 11, 2022.
- 468 Center for Science in the Public Interest. "Consumer Groups to FDA: Bring Calorie Labeling to Doordash, Grubhub, and Other Third-Party Ordering Platforms." April 1, 2021. <https://www.cspinet.org/news/consumer-groups-fda-bring-calorie-labeling-doordash-grubhub-and-other-third-party-ordering>. Accessed May 11, 2022.
- 469 Auchincloss, Amy H., Giridhar G. Mallya, Beth L. Leonberg, et al. "Customer Responses to Mandatory Menu Labeling at Full-Service Restaurants." *American Journal of Preventive Medicine*, 45(6): 710-719, 2013. <https://pubmed.ncbi.nlm.nih.gov/24237912/>. Accessed May 11, 2022.
- 470 Restrepo, Brandon J. "Calorie Labeling in Chain Restaurants and Body Weight: Evidence from New York." *Health Economics*, 26(10): 1191-1209, 2016. <https://pubmed.ncbi.nlm.nih.gov/27451966/>. Accessed May 11, 2022.
- 471 Cantor, Jonathan, Alejandro Torres, Courtney Abrams, et al. "Five Years Later: Awareness of New York City's Calorie Labels Declined, With No Changes in Calories Purchased." *Health Affairs*, 34: 11, November 2015. <https://doi.org/10.1377/hlthaff.2015.0623>. Accessed May 11, 2022.
- 472 Dumanovsky, Tamara, Christina Y. Huang, Cathy A. Nonas, et al. "Changes in Energy Content of Lunchtime Purchases from Fast Food Restaurants After Introduction of Calorie Labelling: Cross Sectional Customer Surveys." *BMJ*, 343: d4464, 2011. <https://www.bmj.com/content/343/bmj.d4464>. Accessed May 11, 2022.
- 473 Krieger, James W., Nadine L. Chan, Brian E. Saelens, et al. "Menu Labeling Regulations and Calories Purchased at Chain Restaurants." *American Journal of Preventive Medicine*, 44(6): 595-604, 2013. <https://pubmed.ncbi.nlm.nih.gov/23683977/>. Accessed May 11, 2022.
- 474 VanEpps, Eric M., Christina A. Roberto, Sara Park, et al. "Restaurant Menu Labeling Policy: Review of Evidence and Controversies." *Current Obesity Reports*, 5(1): 72-80, 2016. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5124489/>. Accessed May 11, 2022.
- 475 Bruemmer, Barbara, Jim Krieger, Brian E. Saelens, et al. "Energy, Saturated Fat, and Sodium Were Lower in Entrées at Chain Restaurants at 18 Months Compared with 6 Months Following the Implementation of Mandatory Menu Labeling: Regulation in King County, Washington." *The Journal of the Academy of Nutrition and Dietetics*, 112(8): 1169-1176, 2012. <https://pubmed.ncbi.nlm.nih.gov/22704898/>. Accessed May 11, 2022.
- 476 Grummon, Anna H., Joshua Petimar, Mark J. Soto, et al. "Changes in Calorie Content of Menu Items at Large Chain Restaurants After Implementation of Calorie Labels." *JAMA Network Open*, 4(12): e2141353, 2021. <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2787598>. Accessed May 11, 2022.
- 477 Administration for Community Living. "Older Americans Act." <https://acl.gov/about-acl/authorizing-statutes/older-americans-act>. Accessed May 17, 2022.
- 478 Administration for Community Living. "Senior Nutrition Program 50th Anniversary." <https://acl.gov/snp50>. Accessed May 17, 2022.
- 479 Ibid.
- 480 Childhood Obesity Intervention Cost-Effectiveness Study (CHOICES). "About." *Harvard T.H. Chan School of Public Health*. <https://choicesproject.org/about/>. Accessed May 17, 2022.
- 481 Childhood Obesity Intervention Cost-Effectiveness Study (CHOICES). "CHOICES Strategy Profile: Sugary Drink Excise Tax." *CHOICES Project Team at the Harvard T.H. Chan School of Public Health*, April 2022. <https://choicesproject.org/publications/sugary-drink-tax-profile/>. Accessed August 8, 2022.

- 482 Gortmaker, Steven L., Sara N. Bleich, Erica L. Kenney, et al. "Cost-Effective Strategies to Prevent Obesity and Improve Health Equity." *Harvard T. H. Chan School of Public Health*, 2021. https://choicesproject.org/wp-content/uploads/2022/01/CHOICES_Cost-Effective-Strategies-and-Health-Equity-12.30.2021.pdf. Accessed May 17, 2022.
- 483 Childhood Obesity Intervention Cost-Effectiveness Study (CHOICES). "Childhood Obesity National Action Kit." <https://choicesproject.org/actionkit/>. Accessed May 17, 2022.
- 484 Ibid.
- 485 Ibid.
- 486 Wang, Y. Claire, John Pamplin, Michael W. Long, et al. "Severe Obesity In Adults Cost State Medicaid Programs Nearly \$8 Billion In 2013." *Health Affairs*, 34(11): 1923-31, November 2015. <https://www.healthaffairs.org/doi/10.1377/hlthaff.2015.0633>. Accessed May 12, 2022.
- 487 Biener, Adam, John Cawley, and Chad Meyerhoefer. "The Impact of Obesity on Medical Care Costs and Labor Market Outcomes in the US." *Clinical Chemistry*, 64(1): 108-117, January 2018. <https://doi.org/10.1373/clinchem.2017.272450>. Accessed May 13, 2022.
- 488 Centers for Medicare and Medicaid Services. "National Coverage Determination: Intensive Behavioral Therapy for Obesity." <https://www.cms.gov/medicare-coverage-database/view/ncd.aspx?NCDId=353>. Accessed May 12, 2022.
- 489 Centers for Medicare and Medicaid Services. "National Coverage Determination: Intensive Behavioral Therapy for Obesity." <https://www.cms.gov/medicare-coverage-database/view/ncd.aspx?NCDId=353>. Accessed May 12, 2022.
- 490 The National Diabetes Prevention Program Coverage Toolkit. "Participating Payers and Employers." *The National Association of Chronic Disease Directors (NACDD) and Centers for Disease Control and Prevention (CDC)*. <https://coveragetoolkit.org/participating-payers/>. Accessed May 12, 2022.
- 491 Centers for Medicare and Medicaid Services. "National Coverage Determination: Bariatric Surgery for Treatment of Co-Morbid Conditions Related to Morbid Obesity." <https://www.cms.gov/medicare-coverage-database/view/ncd.aspx?ncdid=57&ncdver=5&bc=0>. Accessed May 12, 2022.
- 492 Centers for Medicare and Medicaid Services. "Data Snapshot: January 2022: Obesity Disparities in Medicare Fee-for-Service Beneficiaries." <https://www.cms.gov/files/document/omh-datashnapshot-obesity.pdf>. Accessed May 12, 2022.
- 493 Dewar, Shenbagam, Julie Bynum, and John A. Batsis. "Uptake of Obesity Intensive Behavioral Treatment Codes in Medicare Beneficiaries, 2012-2015." *Journal of General Internal Medicine*, 35(1): 368-370, 2020. <https://link.springer.com/article/10.1007/s11606-019-05437-1>. Accessed August 8, 2022.
- 494 Hamlet, Gasoyan, Jennifer K. Ibrahim, William E. Aaronson. "The Role of Health Insurance Characteristics in Utilization of Bariatric Surgery." *Surgery for Obesity and Related Diseases*, 17(5): P860-868, 2021. [https://www.soard.org/article/S1550-7289\(21\)00050-2/fulltext](https://www.soard.org/article/S1550-7289(21)00050-2/fulltext). Accessed August 8, 2022.
- 495 Wirth, Keith, Scott Kizy, Hisham Abdelwahab, et al. "Bariatric Surgery Outcomes in Medicare Beneficiaries." *Obesity Science & Practice*, 7(2): 176-191, December 2020. <https://pubmed.ncbi.nlm.nih.gov/33841887/>. Accessed May 13, 2022.
- 496 Vafiadis, Dorothea. "Healthy Weight for Older Adults: Obesity Treatment and Medicare: A Guide to Understanding Coverage." *National Council on Aging*. <https://www.ncoa.org/article/obesity-treatment-and-medicare-a-guide-to-understanding-coverage>. Accessed May 12, 2022.
- 497 Noguchi, Yuki. "Obesity Drug's Promise Now Hinges on Insurance Coverage." *NPR*, July 6, 2021. <https://www.npr.org/sections/health-shots/2021/07/06/1007772101/obesity-drugs-promise-now-hinges-on-insurance-coverage>. Accessed May 12, 2022.
- 498 Centers for Medicare and Medicaid Services. "Reducing Obesity." <https://www.medicaid.gov/medicaid/quality-of-care/quality-improvement-initiatives/reducing-obesity/index.html>. Accessed May 12, 2022.
- 499 Strategies to Overcome & Prevent (STOP) Obesity Alliance. "Obesity Treatment Coverage: Medicaid." *Sumner M. Redstone Global Center for Prevention & Wellness, Milken Institute School of Public Health, The George Washington University*. <https://stop.publichealth.gwu.edu/coverage/medicaid>. Accessed May 13, 2022.
- 500 Jannah, Nichole, Jeff Hild, Christine Gallagher, et al. "Coverage for Obesity Prevention and Treatment Services: Analysis of Medicaid and State Employee Health Insurance Programs." *Obesity*, 26(12): 1834-1840, December 2018. <https://onlinelibrary.wiley.com/doi/10.1002/oby.22307>. Accessed May 13, 2022.
- 501 The National Diabetes Prevention Program Coverage Toolkit. "Participating Payers and Employers." *The National Association of Chronic Disease Directors (NACDD) and Centers for Disease Control and Prevention (CDC)*. <https://coveragetoolkit.org/participating-payers/>. Accessed May 12, 2022.
- 502 Waidmann, Timothy A., Elaine Waxman, Vincent Pancini, et al. "Obesity Across America: Geographic Variation in Disease Prevalence and Treatment Options." *The Urban Institute*, February 2022. <https://www.urban.org/sites/default/files/2022-02/obesity-across-america.pdf>. Accessed May 12, 2022.
- 503 Mississippi Administrative Code, Title 23: Medicaid, Part 214: Pharmacy Services. <https://medicaid.ms.gov/wp-content/uploads/2020/11/Title-23-Part-214-Pharmacy-Services-eff-11.01.20.pdf>. Accessed May 13, 2022.
- 504 Mississippi Administrative Code, Title 23: Medicaid, Part 200: General Provider Information. <https://medicaid.ms.gov/wp-content/uploads/2022/03/Title-23-Part-200-General-Provider-Information-eff-11.01.21-revised-3.14.pdf>. Accessed May 13, 2022.
- 505 Strategies to Overcome & Prevent (STOP) Obesity Alliance. "Medicaid Obesity Coverage: Mississippi." *Sumner M. Redstone Global Center for Prevention & Wellness, Milken Institute School of Public Health, The George Washington University*. <https://stop.publichealth.gwu.edu/coverage/medicaid>. Accessed May 13, 2022.
- 506 Centers for Medicare and Medicaid Services. "Reducing Obesity." <https://www.medicaid.gov/medicaid/quality-of-care/quality-improvement-initiatives/reducing-obesity/index.html>. Accessed May 13, 2022.
- 507 U.S. Preventive Service Task Force. "Final Recommendation: Statement Obesity in Children and Adolescents: Screening." June 20, 2017. <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/obesity-in-children-and-adolescents-screening>. Accessed May 13, 2022.

- 508 U.S. Preventive Service Task Force. “Final Recommendation Statement: Weight Loss to Prevent Obesity-Related Morbidity and Mortality in Adults: Behavioral Interventions.” September 18, 2018. <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/obesity-in-adults-interventions>. Accessed May 13, 2022.
- 509 U.S. Preventive Service Task Force. “Final Recommendation Statement: Healthy Weight and Weight Gain In Pregnancy: Behavioral Counseling Interventions.” May 25, 2021. <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/healthy-weight-and-weight-gain-during-pregnancy-behavioral-counseling-interventions>. Accessed May 13, 2022.
- 510 U.S. Preventive Service Task Force. “Final Recommendation Statement: Prediabetes and Type 2 Diabetes: Screening.” August 24, 2021. <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/screening-for-prediabetes-and-type-2-diabetes>. Accessed May 13, 2022.
- 511 U.S. Preventive Service Task Force. “Interventions for Weight Management in Children and Adolescents.” <https://www.uspreventiveservicestaskforce.org/uspstf/draft-update-summary/weight-management-children-adolescents-interventions>. Accessed May 13, 2022.
- 512 U.S. Preventive Service Task Force. “Behavioral Counseling to Promote a Healthy Diet and Physical Activity for Cardiovascular Disease Prevention in Adults Without Cardiovascular Disease Risk Factors.” <https://www.uspreventiveservicestaskforce.org/uspstf/draft-update-summary/healthy-diet-and-physical-activity-for-cvd-prevention-adults-without-known-risk-factors-behavioral-counseling>. Accessed May 13, 2022.
- 513 U.S. Preventive Service Task Force. “Preventive Services for Food Insecurity.” <https://www.uspreventiveservicestaskforce.org/uspstf/draft-update-summary/food-insecurity-preventive-services>. Accessed May 13, 2022.
- 514 Laughlin, Linda, Augustus Anderson, Anthony Martinez, et al. “Who Are Our Health Care Workers? 22 Million Employed in Health Care Fight Against COVID-19.” *U.S. Census Bureau*. <https://www.census.gov/library/stories/2021/04/who-are-our-health-care-workers.html>. Accessed May 13, 2022.
- 515 Centers for Disease Control and Prevention, The National Institute for Occupational Safety and Health (NIOSH). “Healthcare Workers.” <https://www.cdc.gov/niosh/topics/healthcare/>. Accessed May 14, 2022.
- 516 U.S. Census Bureau. “Americans Are Visiting the Doctor Less Frequently, Census Bureau Reports.” https://www.census.gov/newsroom/releases/archives/health_care_insurance/cb12-185.html. Accessed May 13, 2022.
- 517 Butsch, W. Scott, Robert F. Kushner, Susan Alford, et al. “Low Priority of Obesity Education Leads to Lack of Medical Students’ Preparedness to Effectively Treat Patients with Obesity: Results from the U.S. Medical School Obesity Education Curriculum Benchmark Study.” *BMC Medical Education*, 20(23), 2020. <https://doi.org/10.1186/s12909-020-1925-z>. Accessed May 13, 2022.
- 518 Adams, Kelly M., W. Scott Butsch, and Martin Kohlmeier. “The State of Nutrition Education at US Medical Schools.” *Journal of Biomedical Education*, 2015. <https://doi.org/10.1155/2015/357627>. Accessed May 13, 2022.
- 519 Morris, George L., Kayla Chapman, David Nelson, et al. “Physician Use of Electronic Health Records in Obesity Management.” *Wisconsin Medical Journal*, 115(3): 140-142, 2016. <https://wmjonline.org/wp-content/uploads/2016/115/3/140.pdf>. Accessed May 14, 2022.
- 520 Hoppenfeld, Mita Shah, Nadeem E. Abou-Arrej, and Michelle E. Hauser. “MON-LB105 Resident Obesity Management: Comfort Correlates With Action.” *Journal of the Endocrine Society*, 4 (Supp. 1), May 2020. <https://doi.org/10.1210/jendso/bvaa046.2106>. Accessed May 14, 2022.
- 521 Kris-Etherton, Penny M., Sharon R. Akabas, Pauline Douglas, et al. “Nutrition Competencies in Health Professionals’ Education and Training: A New Paradigm.” *Advances in Nutrition*, 6(1): 83-7, January 2015. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4288283/>. Accessed May 14, 2022.
- 522 Hoppenfeld, Mita Shah, Nadeem E. Abou-Arrej, and Michelle E. Hauser. “MON-LB105 Resident Obesity Management: Comfort Correlates With Action.” *Journal of the Endocrine Society*, 4 (Supp. 1), May 2020. <https://doi.org/10.1210/jendso/bvaa046.2106>. Accessed May 14, 2022.
- 523 Ibid.
- 524 Vitolins, Mara Z., Sonia Crandall, David Miller, et al. “Obesity Educational Interventions in U.S. Medical Schools: A Systematic Review and Identified Gaps.” *Teaching and Learning in Medicine*, 24(3): 267-272, July 2012. DOI: 10.1080/10401334.2012.692286. Accessed August 10, 2022.
- 525 Mastrocola, Marissa R., Sebastian S. Roque, et al. “Obesity education in medical schools, residencies, and fellowships throughout the world: a systematic review.” *International Journal of Obesity*, 44:269–279, September 2020. <https://doi.org/10.1038/s41366-019-0453-6>. Accessed August 10, 2022.
- 526 Obesity Medicine Association. “Obesity Medicine Education Collaborative.” <https://obesitymedicine.org/omec/>. Accessed July 19, 2022.
- 527 Jensen, Michael D., Donna H. Ryan, Caroline M. Apovian, et al. “2013 AHA/ACC/TOS Guideline for the Management of Overweight and Obesity in Adults.” *Circulation*, 129(25, Suppl 2): S102-38, 2014. <https://www.ahajournals.org/doi/full/10.1161/01.cir.0000437739.71477.ee>. Accessed May 14, 2022.
- 528 U.S. Preventive Service Task Force. “Final Recommendation: Statement Obesity in Children and Adolescents: Screening.” June 20, 2017. <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/obesity-in-children-and-adolescents-screening>. Accessed May 13, 2022.
- 529 U.S. Preventive Service Task Force. “Final Recommendation Statement: Weight Loss to Prevent Obesity-Related Morbidity and Mortality in Adults: Behavioral Interventions.” September 18, 2018. <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/obesity-in-adults-interventions>. Accessed May 13, 2022.
- 530 U.S. Preventive Service Task Force. “Final Recommendation Statement: Healthy Weight and Weight Gain In Pregnancy: Behavioral Counseling Interventions.” May 25, 2021. <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/healthy-weight-and-weight-gain-during-pregnancy-behavioral-counseling-interventions>. Accessed May 13, 2022.
- 531 U.S. Preventive Service Task Force. “Final Recommendation Statement: Prediabetes and Type 2 Diabetes: Screening.” August 24, 2021. <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/screening-for-prediabetes-and-type-2-diabetes>. Accessed May 13, 2022.

- 532 Centers for Disease Control and Prevention. “Preventive Services Covered Without Cost-Sharing.” <https://www.cdc.gov/nchhstp/highqualitycare/preventiveservices/index.html>. Accessed May 14, 2022.
- 533 Barlow, Sarah, and the Expert Committee. “Expert Committee Recommendations Regarding the Prevention, Assessment, and Treatment of Child and Adolescent Overweight and Obesity: Summary Report.” *Pediatrics*, 120 (Supp. 4): S164-S192. https://pediatrics.aappublications.org/content/120/Supplement_4/S164. Accessed May 17, 2022.
- 534 American Academy of Pediatrics. “Promoting Food Security for All Children.” *Pediatrics*, 136(5): e1431-e1438, 2015. <https://pediatrics.aappublications.org/content/136/5/e1431>. Accessed May 17, 2022.
- 535 Centers for Disease Control and Prevention. “Support for Breastfeeding in the Workplace.” https://www.cdc.gov/breastfeeding/pdf/bf_guide_2.pdf. Accessed May 14, 2022.
- 536 Harvard T.H. Chan School of Public Health. “Worksite Obesity Prevention Recommendations: Complete List Obesity Prevention On the Job.” <https://www.hsph.harvard.edu/obesity-prevention-source/obesity-prevention/worksites/worksites-obesity-prevention-recommendations-complete-list/>. Accessed May 14, 2022.
- 537 Heinen, LuAnn, and Helen Darling. “Addressing Obesity In The Workplace: The Role Of Employers.” *The Milbank Quarterly*, 87(1): 101-22, 2009. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2879173/>. Accessed May 14, 2022.
- 538 American Hospital Association. “Fast Facts on U.S. Hospitals, 2022.” <https://www.aha.org/statistics/fast-facts-us-hospitals>. Accessed May 14, 2022.
- 539 Internal Revenue Service. “Requirements for 501(c)(3) Hospitals Under the Affordable Care Act—Section 501(r).” <https://www.irs.gov/charities-non-profits/charitable-organizations/requirements-for-501c3-hospitals-under-the-affordable-care-act-section-501r>. Accessed May 16, 2022.
- 540 Health Care Without Harm. “A National Survey of Hospitals.” 2017. <https://noharm-uscanada.org/foodaccessCBsurvey>. Accessed May 16, 2022.
- 541 Nationwide Children’s Hospital. “2019-2021 Community Health Needs Assessment.” <https://www.nationwidechildrens.org/about-us/advocacy-and-government-relations/community-relations/community-health-needs-assessment>. Accessed May 16, 2022.
- 542 Nationwide Children’s Hospital. “Play Strong.” <https://www.nationwidechildrens.org/specialties/sports-medicine/sports-medicine-services/play-strong>. Accessed May 16, 2022.
- 543 Temple University Hospital. “Temple University Hospital Community Benefit Report 2021-22.” <https://issuu.com/templehealth/docs/tuhcommunitybenefitreport2021>. Accessed May 16, 2022.
- 544 Slidell Memorial Hospital. “Community Outreach.” <https://www.slidellmemorial.org/community-outreach>. Accessed May 16, 2022.
- 545 Hinton, Elizabeth, and Lina Stoylar. “Medicaid Authorities and Options to Address Social Determinants of Health (SDOH).” *Kaiser Family Foundation*, August 2021. [kff.org/medicaid/issue-brief/medicaid-authorities-and-options-to-address-social-determinants-of-health-sdoh/](https://www.kff.org/medicaid/issue-brief/medicaid-authorities-and-options-to-address-social-determinants-of-health-sdoh/). Accessed August 1, 2022.
- 546 Yan, Jing, Lin Liu, Yun Zhu, et al. “The Association Between Breastfeeding and Childhood Obesity: A Meta-Analysis.” *BMC Public Health*, 14(1): 1267, 2014. <https://pubmed.ncbi.nlm.nih.gov/25495402/>. Accessed May 16, 2022.
- 547 “American Academy of Pediatrics Calls for More Support for Breastfeeding Mothers Within Updated Policy Recommendations.” American Academy of Pediatrics press release, June 27, 2022. <https://www.aap.org/en/news-room/news-releases/aap/2022/american-academy-of-pediatrics-calls-for-more-support-for-breastfeeding-mothers-within-updated-policy-recommendations/>. Accessed July 29, 2022.
- 548 National Immunization Survey, U.S. Center for Disease Control and Prevention. “Breastfeeding Among U.S. Children Born 2011–2019, CDC National Immunization Survey.” https://www.cdc.gov/breastfeeding/data/nis_data/results.html. Accessed August 11, 2022.
- 549 Centers for Disease Control and Prevention. “Breastfeeding Report Card: United States, 2020.” <https://www.cdc.gov/breastfeeding/pdf/2020-Breastfeeding-Report-Card-H.pdf>. Accessed May 16, 2022.
- 550 Perrine, Cria G., Katelyn V. Chiang, Erica H. Anstey, et al. “Implementation of Hospital Practices Supportive of Breastfeeding in the Context of COVID-19—United States, July 15–August 20, 2020.” *Morbidity and Mortality Weekly Report*, 69: 1767–1770, 2020. <http://dx.doi.org/10.15585/mmwr.mm6947a3>. Accessed August 8, 2022.
- 551 Baby-Friendly USA. “The Baby Friendly Hospital Initiative.” <https://www.babyfriendlyusa.org/about/>. Accessed May 17, 2022.
- 552 Cullen, Karen Weber, and Tzu-An Chen. “The Contribution of the USDA School Breakfast and Lunch Program Meals to Student Daily Dietary Intake.” *Preventive Medicine Reports*, 5:82-85, March 2017. <https://www.sciencedirect.com/science/article/pii/S2211335516301516>. Accessed August 1, 2022.
- 553 *Food Research and Action Center*. “School Meals are Essential for Student Health and Learning.” August 2019. https://frac.org/wp-content/uploads/School-Meals-are-Essential-Health-and-Learning_FNL.pdf. Accessed August 1, 2022.
- 554 Malachowska, Aleksandra, and Marzena Jeżewska-Zychowicz. “Does Examining the Childhood Food Experiences Help to Better Understand Food Choices in Adulthood?” *Nutrients*, 13(2): 983, March 2021. <https://www.mdpi.com/2072-6643/13/3/983/htm>. Accessed August 1, 2022.
- 555 Yusuf, Zenab I., Deepa Dongarwar, Rafeek A. Yusuf, et al. “Social Determinants of Overweight and Obesity Among Children in the United States.” *International Journal of MCH and AIDS*, 9(1): 22-33, 2020. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7031877/>. Accessed August 8, 2022.
- 556 Office of Disease Prevention and Health Promotion, Office of the Assistant Secretary for Health, U.S. Department of Health and Human Services. “Social Determinants of Health.” <https://health.gov/healthypeople/objectives-and-data/social-determinants-health>. Accessed May 12, 2021.
- 557 Meltzer, David O., and Chen Zhuo. “The Impact of Minimum Wage Rates on Body Weight in the United States.” *National Bureau of Economic Research*, Working Paper 15485, November 2009. <https://www.nber.org/papers/w15485>. Accessed August 8, 2022.
- 558 Leigh, J. Paul, and Juan Du. “Effects Of Minimum Wages On Population Health.” *Health Affairs Health Policy Brief*, October 2018. <https://www.healthaffairs.org/doi/10.1377/hpb20180622.107025/full/>. Accessed August 8, 2022.
- 559 Khullar, Dhruv, and David A. Chokshi. “Health, Income, & Poverty: Where We Are & What Could Help.” *Health Affairs Health Policy Brief*, October 2018. <https://www.healthaffairs.org/doi/10.1377/hpb20180817.901935/full/>. Accessed August 8, 2022.

- 560 Lustig, Adam, and Marilyn Cabrera. "Promoting Health and Cost Control in States." *Trust for America's Health*, February 2019. <https://www.tfah.org/report-details/promoting-health-and-cost-control-in-states/>. Accessed August 8, 2022.
- 561 U.S. Department of Health and Human Services. "Advancing Equity at HHS." <https://www.hhs.gov/equity/index.html#:~:text=HHS%20is%20committed%20to%20addressing.focus%20on%20equity%20over%20time>. Accessed August 1, 2022.
- 562 The White House. "Advancing Equity and Racial Justice Through the Federal Government." <https://www.whitehouse.gov/equity/#health-equity>. Accessed August 1, 2022.
- 563 Hake, M., A. Dewey, E. Engelhard, et al. "The Impact of the Coronavirus on Food Insecurity." *Feeding America*, March 2021. https://www.feedingamerica.org/sites/default/files/2021-03/National%20Projections%20Brief_3.9.2021_0.pdf. Accessed August 8, 2022.
- 564 U.S. Department of Food and Nutrition Services. "SNAP Data Tables." <https://www.fns.usda.gov/pd/supplemental-nutrition-assistance-program-snap>. Accessed August 1, 2022.
- 565 U.S. Department of Agriculture, U.S. Department of Food and Nutrition Services. "Supplemental Nutrition Assistance Program Participation Data." May 2021. <https://fns-prod.azureedge.net/sites/default/files/resource-files/34SNAPmonthly-5.pdf>. Accessed August 16, 2021.
- 566 Food Research and Action Center. "One Year of WIC During COVID-19: Waivers are Vital to Participation and Benefit Redemption." June 2021. <https://frac.org/wp-content/uploads/One-Year-of-WIC-During-COVID-19.pdf>. Accessed August 8, 2022.
- 567 U.S. Department of Agriculture. "USDA Issues Pandemic Flexibilities for Schools and Day Care Facilities through June 2022 to Support Safe Reopening and Healthy, Nutritious Meals." USDA press release, April 2021. <https://www.usda.gov/media/press-releases/2021/04/20/usda-issues-pandemic-flexibilities-schools-and-day-care-facilities>. Accessed August 16, 2021.
- 568 Liu Junxiu, Renata Micha, Yan Li, et al. "Trends in Food Sources and Diet Quality Among US Children and Adults, 2003–2018" *JAMA*, 4(4): e215262, April 2021. <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2778453>. Accessed August 8, 2022.
- 569 Logan, Christopher, Vinh Tran, Maria Boyle, et al. "School Nutrition and Meal Cost Study, Final Report, Volume 3: School Meal Costs and Revenues." *U.S. Department of Agriculture, Food and Nutrition Service, Office of Policy Support*, April 2019. <https://fns-prod.azureedge.net/sites/default/files/resource-files/SNMCS-Volume3.pdf>. Accessed August 8, 2022.
- 570 Food Resource and Action Center. "Community Eligibility: The Key to Hunger-Free Schools School Year 2021–2022." June 2022. <https://frac.org/wp-content/uploads/cep-report-2022.pdf>. Accessed August 8, 2022.
- 571 Segal, Becca. "Why Schools Are Adopting Community Eligibility." *Off the Charts*, Center on Budget and Policy Priorities, May 16, 2014. <https://www.cbpp.org/blog/why-schools-are-adopting-community-eligibility>. Accessed August 8, 2022.
- 572 U.S. Department of Agriculture Food and Nutrition Service. "SNAP and the Thrifty Food Plan." March 2022. <https://www.fns.usda.gov/snap/thriftyfoodplan>. Accessed August 1, 2022.
- 573 Project Bread. "Barriers to SNAP." August 2021. <https://www.projectbread.org/research/barriers-to-snap>. Accessed August 1, 2022.
- 574 Pan, Liping, David S. Freedman, Andrea J. Sharma, et al. "Trends in Obesity Among Participants Aged 2–4 Years in the Special Supplemental Nutrition Program for Women, Infants, and Children—United States, 2000–2014." *Morbidity and Mortality Weekly Report*, 65: 1256–1260, 2016. <https://www.cdc.gov/mmwr/volumes/65/wr/mm6545a2.htm>. Accessed August 8, 2022.
- 575 Pan, Liping, Sohyun Park, Renata Slayton, et al. "Trends in Severe Obesity Among Children Aged 2 to 4 Years Enrolled in Special Supplemental Nutrition Program for Women, Infants, and Children From 2000 to 2014." *JAMA Pediatrics*, 172(3): 232–238, 2018. <https://www.ncbi.nlm.nih.gov/pubmed/29309485>. Accessed August 8, 2022.
- 576 Pan, Liping, David S. Freedman, Andrea J. Sharma, et al. "Trends in Obesity Among Participants Aged 2–4 Years in the Special Supplemental Nutrition Program for Women, Infants, and Children—United States, 2000–2014." *Morbidity and Mortality Weekly Report*, 65: 1256–1260, 2016. <https://www.cdc.gov/mmwr/volumes/65/wr/mm6545a2.htm>. Accessed August 8, 2022.
- 577 Pan, Liping, Sohyun Park, Renata Slayton, et al. "Trends in Severe Obesity Among Children Aged 2 to 4 Years Enrolled in Special Supplemental Nutrition Program for Women, Infants, and Children From 2000 to 2014." *JAMA Pediatrics*, 172(3): 232–238, 2018. <https://www.ncbi.nlm.nih.gov/pubmed/29309485>. Accessed August 8, 2022.
- 578 Korenman, Sanders, Kristin S. Abner, Robert Kaestner, and Rachel A. Gordon. "The Child and Adult Care Food Program and the Nutrition of Preschoolers." *Early Childhood Research Quarterly*, 28(2): 325–336, 2013. <https://www.ncbi.nlm.nih.gov/pubmed/23687405>. Accessed August 8, 2022.
- 579 Forrestal, Sarah, Ronette Briefel, and James Mabl. "WIC Breastfeeding Policy Inventory: Final Report." *Mathematica Policy Research for the U.S. Department of Agriculture*, January 2015. <https://www.fns.usda.gov/wic/wic-breastfeeding-policy-inventory>. Accessed August 8, 2022.
- 580 Moreno, Megan A. "Breastfeeding as Obesity Prevention." *Pediatrics & Adolescent Medicine*, 165(8): 772, August 2011. <https://jamanetwork.com/journals/jamapediatrics/fullarticle/1107563>. Accessed August 8, 2022.
- 581 Maternal and Child Health Bureau, Health Resources and Services Administration. "Children's Healthy Weight Collaborative Improvement and Innovation Network Fact Sheet." June 2019. <https://mchb.hrsa.gov/training/documents/fs/factsheet-coiin.pdf>. Accessed August 16, 2021.
- 582 Maternal and Child Health Bureau, Health Resources and Services Administration. "Nutrition." Updated May 2022. <https://mchb.hrsa.gov/maternal-child-health-initiatives/nutrition>. Accessed August 8, 2022.
- 583 Fleming-Milici, F., and Harris, J.L. "Television Food Advertising Viewed by Preschoolers, Children and Adolescents: Contributors to Differences in Exposure for Black and White Youth in the United States." *Pediatric Obesity*, 13(2): 103–110, 2018. <https://onlinelibrary.wiley.com/doi/abs/10.1111/ijpo.12203>. Accessed August 8, 2022.
- 584 Adeigbe, Rebecca T., Shannon Baldwin, Kip Gallion, et al. "Food and Beverage Marketing to Latinos: A Systematic Literature Review." *Health Education & Behavior*, 42(5): 569–582, 2015. <https://journals.sagepub.com/doi/abs/10.1177/1090198114557122?journalCode=hebc>. Accessed August 8, 2022.

- 585 American Heart Association, Voices for Healthy Kids. "Philadelphia Uses Sweetened Beverage Revenue to Invest \$2 Million in Pre-K Programs." August 2020. <https://voicesforhealthykids.org/news/philadelphia-uses-sweetened-beverage-revenue-to-invest-usd2-million-in-pre-k-programs>. Accessed August 16, 2021.
- 586 American Heart Association, Voices for Healthy Kids. "Seattle's Sugary Drink Tax Helps Feed Local Families Hit Hardest by COVID-19." July 2020. <https://voicesforhealthykids.org/impact/success-stories/seattle-sugary-drink-tax-helps-feed-local-families-hit-hardest-by-covid-19>. Accessed August 16, 2021.
- 587 Lee, Matthew, Jennifer Falbe, Dean Schilling, et al. "Sugar-Sweetened Beverage Consumption 3 Years After the Berkeley, California, Sugar-Sweetened Beverage Tax." *American Journal of Public Health*, 109: 637-639, April 2019. <https://ajph.aphapublications.org/doi/10.2105/AJPH.2019.304971>. Accessed August 8, 2022.
- 588 Roberto, Christina A., Hannah G. Lawman, Michael T. LeVasseur, et al. "Association of a Beverage Tax on Sugar-Sweetened and Artificially Sweetened Beverages With Changes in Beverage Prices and Sales at Chain Retailers in a Large Urban Setting." *JAMA*, 321(18): 1799-1810, 2019. <https://jamanetwork.com/journals/jama/article-abstract/2733208>. Accessed August 8, 2022.
- 589 CHOICES Project, Harvard University, T.H. Chan School of Public Health. "Choices Childhood Obesity National Action Kit." <https://choicesproject.org/work-with-us/childhood-obesity-national-action-kit/>. Accessed July 23, 2020.
- 590 Wang, Y. Claire, Pamela Coxson, Yu-Ming Shen, et al. "Three Interventions that Reduce Childhood Obesity Are Projected to Save More Than They Cost to Implement." *Health Affairs*, 34(11): 1932-1939, 2015. <https://www.healthaffairs.org/author/Wang%2C+Y+Claire>. Accessed August 8, 2022.
- 591 National Policy and Legal Analysis Network to Prevent Childhood Obesity, ChangeLab Solutions. "Understanding Healthy Procurement: Using Government's Purchasing Power to Increase Access to Healthy Food." 2011. https://changelabsolutions.org/sites/default/files/Understanding%20Healthy%20Procurement%202011_20120717.pdf. Accessed August 16, 2021.
- 592 Muth, Natalie D., William H. Dietz, Sheela N. Magge, et al. "Public Policies to Reduce Sugary Drink Consumption in Children and Adolescents." *Pediatrics*, 143(4): e20190282, 2019. <https://pediatrics.aappublications.org/content/pediatrics/143/4/e20190282.full.pdf>. Accessed August 8, 2022.
- 593 Hornbuckle, Lyndsey M. "Running While Black: A Distinctive Safety Concern and Barrier to Exercise in White Neighborhoods." *Preventative Medicine Reports*, 22: 101378, April 20, 2021. <https://www.sciencedirect.com/science/article/pii/S2211335521000681>. Accessed August 8, 2022.
- 594 Raifman, Matthew A. and Ernani F. Choma. "Disparities in Activity and Traffic Fatalities by Race/Ethnicity." *American Journal of Preventive Medicine*, 63(2): 160-167, August 2022. [https://www.ajpmonline.org/article/S0749-3797\(22\)00155-6/fulltext](https://www.ajpmonline.org/article/S0749-3797(22)00155-6/fulltext). Accessed August 31, 2022.
- 595 Whitfield, Geoffrey P., Susan A. Carlson, Emily N. Ussery, et al. "Trends in Meeting Physical Activity Guidelines Among Urban and Rural Dwelling Adults—United States, 2008–2017." *Morbidity and Mortality Weekly Report*, 68: 513-518, 2019. <https://www.cdc.gov/mmwr/volumes/68/wr/mm6823a1.htm>. Accessed August 31, 2022.
- 596 Abamu, Jenny. "ESSA's Flexible Accountability Measures Give PE Teachers (and Entrepreneurs) Hope." *EdSurge*, April 11, 2017. <https://www.edsurge.com/news/2017-04-11-essa-s-flexible-accountability-measures-give-pe-teachers-and-entrepreneurs-hope>. Accessed August 8, 2022.
- 597 Yañez, Elva, Manal J. Aboelata, and Jasneet Bains. "Park Equity, Life Expectancy, and Power Building." *Prevention Institute*, September 2020. https://preventioninstitute.org/sites/default/files/uploads/PI_Park_Equity_Policy_Brief.pdf. Accessed August 8, 2022.
- 598 U.S. Department of Health and Human Services. "New HHS Data Show More Americans than Ever Have Health Coverage through the Affordable Care Act." HHS press release, June 5, 2021. <https://www.hhs.gov/about/news/2021/06/05/new-hhs-data-show-more-americans-than-ever-have-health-coverage-through-affordable-care-act.html>. Accessed August 8, 2022.
- 599 Cha, Amy E, and Robin A. Cohen. "Demographic Variation in Health Insurance Coverage: United States, 2020." *National Center for Health Statistics, National Health Statistics Reports*, 169, February 2022. <https://www.cdc.gov/nchs/data/nhsr/nhsr169.pdf>. Accessed August 1, 2022.
- 600 Agency for Healthcare Research and Quality. "Six Domains in Health Care Quality." Updated November 2018. https://www.ahrq.gov/talkingquality/measures/six-domains.html#_ftn1. Accessed August 8, 2022.
- 601 Inflation Reduction Act of 2022, Public Law 117-169. <https://www.congress.gov/bill/117th-congress/house-bill/5376/text>. Accessed August 31, 2022.
- 602 Lueck, Sarah, and Tara Straw. "Recovery Legislation Should Build on ACA Successes to Expand Health Coverage, Improve Affordability." *Center on Budget and Policy Priorities*, April 2020. <https://www.cbpp.org/research/health/recovery-legislation-should-build-on-aca-successes-to-expand-health-coverage>. Accessed August 8, 2022.
- 603 U.S. Preventive Services Task Force. *Final Recommendation Statement: Weight Loss to Prevent Obesity-Related Morbidity and Mortality in Adults: Behavioral Interventions*. U.S. Preventive Services Task Force, September 2018. <https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/obesity-in-adults-interventions1>. Accessed July 24, 2020.
- 604 For a summary of HEAA, see: "The Health Equity and Accountability Act of 2020 Section-by-Section." <https://drive.google.com/file/d/1Fh6ypyQsnTAgux5dMJCq2a39xISW5ZNy/view>. Accessed July 24, 2020.
- 605 Morgan-Bathke, Maria, Suzanne Domel Baxter, Tanya M. Halliday, et al. "Weight Management Interventions Provided by a Dietitian for Adults with Overweight or Obesity: An Evidence Analysis Center Systematic Review and Meta-Analysis." *Journal of the Academy of Nutrition and Dietetics*, June 2022. <https://doi.org/10.1016/j.jand.2022.03.014>. Accessed August 8, 2022.
- 606 Wilfley, Denise E., Amanda E. Staiano, Myra Altman, et al. "Improving Access and Systems of Care for Evidence-Based Childhood Obesity Treatment: Conference Key Findings and Next Steps." *Obesity*, 25(1): 16-29, January 2017. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5373656/>. Accessed August 8, 2022.



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