

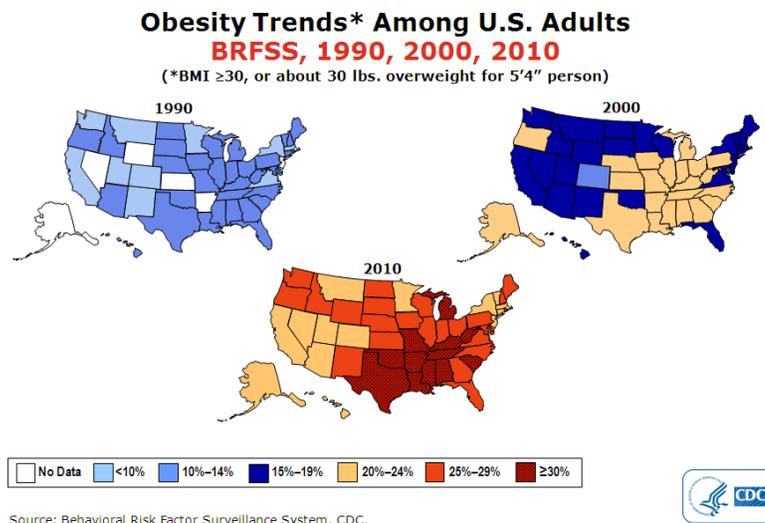
## The Obesity Epidemic

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Across the United States, the proportion of the population that is either obese or overweight has grown to epidemic proportions. The Centers for Disease Control (CDC) began to monitor body mass index (BMI) of adults through the Behavioral Risk Factor Surveillance System (BRFSS) in 1985. BMI is calculated from an individual's height and weight ( $BMI = \text{weight [kg]} / \text{height [m]}^2$ ). A BMI of 25 or more is considered to be overweight, and a BMI of 30 or more is considered to be obese.

### Obesity Rates

The rapid growth in obesity has been remarkable. Between 1985 and 1990, out of the states participating in the BRFSS, no state had an obesity rate *over* 14 percent. Only ten years later, by the year 2000, only Colorado had an obesity rate that was *under* 15 percent. The rest of the states were divided between those with obesity rates between 15 and 19 percent and those with rates in the 20 to 24 percent range. By 2010, not only had twelve states surpassed the 24 percent rate, but several states had obesity rates at 30 percent or higher. (See figure to the right.)



Approximately 65 percent of Arizona adults age 18 and over are either overweight (40 percent) or obese (25 percent), and those with lower incomes, less education, and Hispanics are more likely to be obese.<sup>1</sup> Among those with incomes below 130 percent of the federal poverty level (the income eligibility level for the Supplemental Nutrition Assistance Program (SNAP), formerly known as food stamps), 70 percent were either overweight (39 percent) or obese (31 percent).<sup>2</sup> This is especially significant since recent economic trends have resulted in a higher percentage of Arizona residents living in poverty.

In 2010, 17.4 percent of all people in Arizona lived in poverty (incomes less than \$22,050 for a family of four), with 8.3 percent living in extreme poverty (incomes less than 50 percent of the federal poverty level). Twenty-four percent of Arizona children under the age of 18 live in poverty. There has been a significant increase in the proportion of Arizona households receiving SNAP benefits from 6.9 percent in 2007 to 13.2 percent in 2010.<sup>3</sup> The Arizona Department of Economic Security reported over one million Arizona adults and children received assistance through SNAP in July of 2011.

Among high school students<sup>4</sup> in Arizona, 28 percent were either overweight (15 percent) or obese (13 percent). Boys were more likely to be either overweight or obese (31 percent of boys compared to 24 percent of girls). Thirty percent of the children age two through four participating in the Arizona Women, Infants and Children (WIC) program in 2009 were either obese (14 percent) or overweight (16 percent).

<sup>1</sup> Note: Arizona data on CDC map for 2010 is based on data prior to a correction in weighting.

<sup>2</sup> Arizona Department of Health Services, Arizona Behavior Risk Factor Survey, 2010

<sup>3</sup> U. S. Census Bureau, American Community Survey, accessed September 30, 2011 at <http://fact-finder.census.gov>.

<sup>4</sup> Centers for Disease Control and Prevention, Youth Online: High School YRBS, Arizona 2009 and United States 2009 Results, accessed October 10, 2011 at <http://www.cdc.gov/HealthyYouth/yrbs/index.htm>.

Among Hispanic children in WIC, 33 percent were either overweight (17 percent) or obese (16 percent), and 38 percent of American Indian/Alaskan Native children were either overweight (18 percent) or obese (20 percent).

## **Costs and Consequences**

The consequences of being overweight or obese to an individual's health and wellbeing range from quality of life issues to a host of health conditions, including increased risk for stroke, heart disease, certain cancers, diabetes, osteoarthritis, respiratory problems and other chronic conditions. In 2010 1,828 Arizona residents were discharged from the hospital with morbid obesity (ICD-9-CM 278.01) listed as their principle diagnosis, which is the reason for the hospitalization. Many of these patients received gastric bypasses or gastric restrictive procedures, such as gastric bands. There were another 31,228 hospitalizations in which morbid obesity was listed as a complication or co-morbidity.

Arizonans also made 6,188 visits to hospital emergency rooms for morbid obesity-related problems, including unintentional injuries, falls, chest pain, sprains and strains, back pain and other spinal or musculoskeletal disorders. Billed charges for all of this inpatient and outpatient hospital activity totaled approximately \$2 billion in 2010.

## **The Solution**

In some ways, solving the obesity epidemic seems simple: Eat less, move more, turn off the TV, eat your fruits and vegetables, drink 1 percent or fat-free milk, and eat whole grains. However, the 2010 BRFSS found that 10 percent of Arizona adults reported getting no physical activity at all, and another 36 percent reported an insufficient amount. Fifty-four percent reported getting the recommended amount of either 30 minutes of vigorous activity five days per week or 20 minutes of vigorous activity three days per week. Only one in four said they ate the recommended five servings of fruits and vegetables each day.

Healthy foods can be more costly than less nutritious food, and some families have trouble stretching their incomes to cover the costs of basics. The Food Research and Action Center reported that one in five Arizona households (20.8 percent) in 2010 reported not having enough money to buy food that they needed during the prior twelve months, while 29 percent of households with children did not have enough money to buy food.<sup>5</sup> It may seem counterintuitive, but this kind of food insecurity is associated with a higher risk for obesity. In addition, some families live in neighborhoods that do not have supermarkets and large grocery stores where fruits and vegetables tend to cost less. There are also neighborhoods that do not have sidewalks, parks, or appropriate outdoor play areas nearby.

Knowing the right thing to do is important, but it is often not enough. No single approach to combating obesity is likely to succeed on its own. Public health strategies must target obesity throughout the life cycle, aiming interventions at the individual, family, and community levels. Strategies must take a life-course perspective and promote policies that make the healthy choice the easy choice. To be effective and to extend the reach of interventions, it is important to foster partnerships with health care providers, schools, and businesses. In general, the role of public health is to make information available to potential partners, including information on trends, disparities, and evidence-based interventions; identify and foster opportunities to collaborate with partners, and continuously evaluate progress towards meeting outcomes. The following are examples of public health initiatives at various levels and life stages to combat obesity.

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<sup>5</sup> Food Research and Action Center, Food Hardship in America 2010, Households with and without Children August 2011, accessed September 10, 2011 at [http://frac.org/pdf/aug2011\\_food\\_hardship\\_report\\_children.pdf](http://frac.org/pdf/aug2011_food_hardship_report_children.pdf).

## **Interventions**

Breastfed babies are less likely to become overweight than formula-fed babies. Increasing the initiation and duration of breastfeeding is a low-cost, readily available strategy to combat obesity. However, hospital administrators and staff are often unaware of ways to create a more supportive hospital environment to encourage breastfeeding. The Communities Putting Prevention to Work (CPPW) Program works with hospital staff to implement policies incorporating five “Baby Steps” that have been identified as being cost neutral and effective in increasing initiation and duration of breastfeeding: 1) Initiate breastfeeding within the first hour after birth; 2) Avoid giving infants fluids or solids other than breast milk unless medically necessary; 3) Promote 24-hour rooming-in, encouraging the family to recognize and respond to infant’s cues; 4) Avoid using pacifier or artificial nipple; and 5) Give mothers the telephone number of the 24-hour, 7-day per week Breastfeeding Hotline to call with questions or problems.

The WIC program intervenes on an individual level with low-income women and children by providing supplemental nutrition, education, and counseling. Vouchers for nutritious foods are supplied, as well as breastfeeding education and support. The Arizona Nutrition Network provides nutrition education to people who are receiving assistance through SNAP as well as the larger low-income population who is eligible for SNAP.

The EMPOWER program at the Arizona Department of Health Services (ADHS) is an example of how public funds were leveraged (through a reduction in licensing fees) to change daycare practices to help reduce obesity. Participating centers adopt ten standards that encourage healthy behaviors including structured physical activity, limiting screen time (TV and video games), encouraging family-style meals (which encourage children to decide how much to eat) and serving 100 percent fruit juice and one percent and fat-free milk, in addition to smoke free campuses and tobacco education for families.

The CPPW works with the Arizona Department of Education and individual schools to increase access to healthy food and drinks, limit unhealthy food and drink availability, and increase access to physical education and physical activity in schools. The program encourages school communities to form School Health Advisory Councils, which assess their environment and act to make changes. One tool utilized is the Active School Neighborhood Checklist, which looks at ways to increase the number of students using active transport to school, such as walking or biking.

Employers can combat obesity in their workforce through policies that support breastfeeding mothers and provide opportunities for employees to make healthy food choices and be physically active. The ADHS serves as a model for policies that promote health and wellness. Breastfeeding mothers are able to bring their babies to work, and clean, private places for mothers to nurse and to pump milk when they are separated from their babies are available. Physical activity is promoted through regularly scheduled classes every day of the week. Lunch and learn sessions provide opportunities for people to learn about healthy eating, and have even included cooking demonstrations. Employers who have cafeterias may want to consider adjusting portions to reasonable sizes, and listing nutritional content so that employees can make wiser choices.

Preventing obesity is a key public health strategy to improve the overall health and wellness of the population. This is clearly a case where prevention is much more cost effective than dealing with the inevitable costs and consequences of obesity. Relatively simple, evidence-based strategies can be leveraged to reverse the trends. This is a winnable battle.