



## Missouri *State Nutrition, Physical Activity, and Obesity Profile*

Obesity has important consequences on our nation's health and economy. It is linked to a number of chronic diseases, including coronary heart disease, stroke, diabetes, and some cancers (NIH Clinical Guidelines, 1998). Among adults, the medical costs associated with obesity are estimated at 147 billion dollars (Finkelstein, 2009). Many American communities are characterized by unhealthy options when it comes to diet and physical activity. We need public health approaches that make healthy options available, accessible, and affordable for all Americans.

# Missouri - State Nutrition, Physical Activity, and Obesity Profile

CDC's Division of Nutrition and Physical, and Obesity (DNPAO) supports the nation's capacity to address public health in all policies and establish successful and sustainable interventions to support healthy eating and active living. The Division provides support (i.e., implementation and evaluation guidance, technical assistance, training, surveillance and applied research, translation and dissemination, and partnership development) to states, communities and national partners to implement policy, system, and environmental strategies. The goal is to improve dietary quality, increase physical activity and reduce obesity across multiple settings—such as child care facilities, workplaces, hospitals and medical care facilities, schools, and communities.

## State Population of Missouri

- Estimated Total Population 2010<sup>(1)</sup>  
= 5,988,927
- Adults age 18 and over<sup>(2)</sup>  
= 76.2% of the total population in 2010
- Youth under 18 years of age<sup>(1)</sup>  
= 23.8% of the total population in 2010

<sup>(1)</sup> U.S. Census Bureau. State and County QuickFacts. 2011. Available online at <http://quickfacts.census.gov/qfd/index.html>

<sup>(2)</sup> Calculated estimated = 100% minus percent of the total population under 18 years old, using State and County QuickFacts, 2010 data from the U.S. Census.

## Adult Overweight and Obesity

### Overweight and Obesity<sup>(3)</sup>

- 65.2% were overweight, with a Body Mass Index of 25 or greater.
- 30.5% were obese, with a Body Mass Index of 30 or greater.

### Dietary Behaviors<sup>(4)</sup>

- 27.3% of adults reported having consumed fruits at the recommended level of 2 or more times per day.
- 23.0% of adults reported having consumed vegetables at the recommended level of 3 or more times per day.

### Physical Activity<sup>(5)</sup>

- 45.3% of adults achieved at least 300 minutes a week of moderate-intensity aerobic physical activity or 150 minutes a week of vigorous-intensity aerobic activity (or an equivalent combination).
- 26.7% of Missouri's adults reported that during the past month, they had not participated in any physical activity.

#### Source of Adult Obesity Data:

<sup>(3)</sup> CDC. Behavioral Risk Factor Surveillance System: Prevalence and Trend Data—Overweight and Obesity, U.S. Obesity Trends, Trends by State 2010. Available online at <http://www.cdc.gov/brfss/>

#### Source of Adult Fruit and Vegetable Data:

<sup>(4)</sup> CDC. *MMWR* September 2010 State-Specific Trends in Fruit and Vegetable Consumption Among Adults United States, 2000–2009. Available online at <http://www.cdc.gov/mmwr/pdf/wk/mm5935.pdf>

#### Source of Adult Physical Activity Data:

<sup>(5)</sup> CDC. BRFSS Behavioral Risk Factor Surveillance System: Prevalence and Trend Data—Physical Activity, U.S. Physical Activity Trends by State 2009–2010. Available online at <http://www.cdc.gov/brfss/>

## Adolescent Overweight and Obesity

### Overweight and Obesity<sup>(6)</sup>

- 14.4% were overweight ( $\geq 85^{\text{th}}$  and  $< 95^{\text{th}}$  percentiles for BMI by age and sex, based on reference data).
- 14.4% were obese ( $\geq 95^{\text{th}}$  percentile BMI by age and sex, based on reference data).

### Unhealthy Dietary Behaviors<sup>(6)</sup>

- **Fruit consumption:** 72.2% ate fruits or drank 100% fruit juice less than 2 times per day during the 7 days before the survey (100% fruit juice or fruit).
- **Vegetable consumption:** 85.7% ate vegetables less than 3 times per day during the 7 days before the survey (green salad; potatoes, excluding French fries, fried potatoes, or potato chips; carrots; or other vegetables).
- **Sugar-sweetened beverage consumption:** 31.5% drank a can, bottle, or glass of soda or pop (not including diet soda or diet pop) at least one time per day during the 7 days before the survey.

# Missouri - State Nutrition, Physical Activity, and Obesity Profile

## Physical Activity<sup>(6)</sup>

- **Achieved recommended level of activity:** Only 26.7% were physically active\* for a total of at least 60 minutes per day on each of the 7 days prior to the survey.
- **Participated in daily physical education:** 33.1% of adolescents attended daily physical education classes in an average week (when they were in school).

## Physical Inactivity<sup>(6)</sup>

- **No activity:** 14.7% did not participate in at least 60 minutes of physical activity on any day during the 7 days prior to the survey.
- **Television viewing time:** 32.4% watched television 3 or more hours per day on an average school day.

## The 2010 Missouri School Health Profiles assessed the school environment, indicating that among high schools<sup>(7)</sup>

- 28.2% did not sell less nutritious foods and beverages anywhere outside the school food service program.
- 8.8% always offered fruits or non-fried vegetables in vending machines and school stores, canteens, or snack bars, and during celebrations whenever foods and beverages were offered.
- 49.1% prohibited all forms of advertising and promotion of candy, fast food restaurants, or soft drinks in all locations. All school-related locations were defined as in school buildings; on school grounds, including on the outside of the school building, on playing fields, or other areas of the campus; on school buses or other vehicles used to transport students; and in school publications.

### Sources of Adolescent Obesity, Fruit and Vegetable, Sugar-sweetened Beverages, and Physical Activity Data:

\* Physical activity defined as "any kind of physical activity that increases your heart rate and makes you breathe hard some of the time."

<sup>(6)</sup> CDC, Division of Adolescent and School Health. The 2009 Youth Risk Behavior Survey. Available online at <http://www.cdc.gov/HealthyYouth/yrbs/index.htm>

<sup>(7)</sup> CDC, Division of Adolescent and School Health. The 2010 School Health Profiles. Available online at <http://www.cdc.gov/healthyouth/profiles/index.htm>

## Child Overweight and Obesity

### Breastfeeding<sup>(8)</sup>

Increasing breastfeeding initiation, duration, and exclusivity is a priority strategy in CDC's efforts to decrease the rate of childhood obesity throughout the United States.

- 64.2% of infants were Ever Breastfed.
- 35.1% of infants were Breastfed for at least 6 months.

### Body Mass Index<sup>(9)\*</sup>

Among Missouri's children aged 2 years to less than 5 years\*

- 16.2% were overweight (85<sup>th</sup> to <95<sup>th</sup> percentile BMI-for-Age).
- 13.6% were obese ( $\geq$ 95<sup>th</sup> percentile BMI-for-Age).

### Sources of Breastfeeding Data:

<sup>(8)</sup> CDC. Division of Nutrition, Physical Activity, and Obesity Breastfeeding Report Card 2011. Centers for Disease Control and Prevention National Immunization Survey, Provisional Data, 2008births. Available online at <http://www.cdc.gov/breastfeeding/data/reportcard2.htm>

### Sources of Child Obesity Data:

<sup>(9)</sup> CDC. Division of Nutrition, Physical Activity, and Obesity. 2010 Pediatric Nutrition Surveillance System, Table 6 (PedNSS). [http://www.cdc.gov/pednss/pednss\\_tables/tables\\_health\\_indicators.htm](http://www.cdc.gov/pednss/pednss_tables/tables_health_indicators.htm)

\* BMI data only includes low-income children from the PedNSS sample and do not represent all children.

\* BMI data is based on 2000 CDC growth chart percentiles for BMI-for-age for children 2 years of age and older.

## Missouri's Response to Obesity

### Farm to Institution

Missouri increased access to healthy foods through Farm to Institution initiatives. Activities included educating government officials as they worked towards passage of state farm to institution legislation and creating and disseminating an educational campaign to increase awareness of the benefits of local food. Efforts also included providing support and technical assistance to develop local distribution mechanisms and training stakeholders to implement farm to institution programs. Missouri worked with key partners including University of Missouri Extension, Missouri Council for Activity and Nutrition, and Missouri's Department of Agriculture (MDA).

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## Missouri Livable Streets

The Department of Health and Senior Services, through a contract with University of Missouri Extension, worked with the Missouri Department of Transportation (MODOT) on improving the transportation infrastructure of communities. The project focused on incorporating key elements of Complete Streets Design into MODOT's street engineering guidelines and other applicable policies and documents that influence state, regional, and local development and redevelopment of Missouri roadways. Efforts also include providing advocacy training in local communities; creating and disseminating an educational campaign to increase awareness of the benefits of livable streets; and educating transportation professionals and other stakeholders on the importance of livable streets and how to incorporate the concepts in their daily work.

## Legislative Update

The state legislature passed HCR 23 which declares support for Complete Streets policies and urges their adoption at all levels of government. The bill "encourages and urges the United States Department of Transportation, the Missouri Department of Transportation, the governing bodies of Metropolitan Planning Organizations, and Regional Planning Commissions, municipalities, and other organizations and agencies that build, control, maintain, or fund roads, highways, and bridges in Missouri to adopt Complete Streets policies and to plan, design, build, and maintain their road and street system to provide complete, safe access to all road users".

SB 162 creating a Farm to Table Advisory Board was also passed. The mission of the board is to develop recommendations for ways that allow schools and state facilities to more easily purchase products directly from local farms for use in their cafeterias and ways to increase public awareness about locally-produced food and its relationship to healthy communities and people. The act requires the board to investigate existing public and private resources that may be used to accomplish the mission objectives as well as identify barriers to the objectives.

## Contact Information

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## References

NIH. Clinical Guidelines Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report. 1998. Available online at [http://www.nhlbi.nih.gov/guidelines/obesity/ob\\_gdlns.htm](http://www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.htm)

Finkelstein, EA, Trogdon, JG, Cohen, JW, and Dietz, W. Annual medical spending attributable to obesity: Payer- and service-specific estimates. *Health Affairs* 2009; 28(5): w822-w831.

