

Adolescent Obesity

DEFINITION

Adolescent obesity is the percentage of high school students who report having a body mass index (BMI) at or above the 95th percentile for gender and age. Adolescents with a BMI at or above the 95th percentile are considered to be obese. Children and youth with a BMI between the 85th and 95th percentiles are considered to be overweight or at risk for obesity.¹

SIGNIFICANCE

Children and adolescents who are overweight or obese are at immediate and/or long-term risk of many health problems, including type 2 diabetes, cardiovascular disease, asthma, joint pain, sleep apnea, and other acute and chronic health problems. Over time, these conditions may contribute to a shorter lifespan. They may also experience social and psychological problems, including depression, bullying, and social marginalization. Obese children and youth are also more likely to repeat a grade, be absent from school, and have reduced academic performance than their peers.^{2,3,4,5}

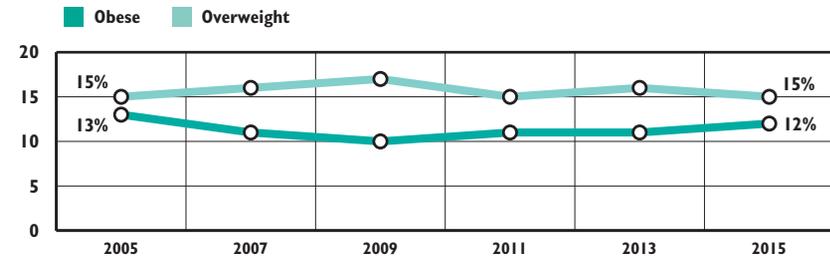
Over the past four decades, the prevalence of childhood obesity in America has more than tripled, and 17% of U.S. children ages 2-19 were obese in 2013-2014.^{6,7} No single factor is driving the increased prevalence of

childhood obesity; rather it is the result of complex interactions among many factors, including excess calorie consumption, genes, metabolism, behavior, environment, and culture.⁸ Low consumption of fruits and vegetables, high consumption of sugar-sweetened beverages and energy dense foods, low levels of physical activity, and high levels of sedentary “screen time” are all associated with obesity.⁹

The health risks of being overweight and obese can be long-lasting.^{10,11} Overweight kindergartners are four times as likely as their healthy-weight peers to become obese by eighth grade, two-thirds of obese fifth graders remain obese in tenth grade, and teenagers who are obese have a greater than 70% risk of being obese as adults.^{12,13,14} Prevention and intervention for at risk, overweight, and obese children should occur early and at all ages.¹⁵

Reducing overweight and obesity will require a comprehensive, multi-system approach. Policy strategies to reduce obesity include improving access to nutritional and affordable foods and beverages, ensuring healthy food in schools, increasing options for physical activity before, during, and after school as well as in early learning programs, and improving access to safe and walkable neighborhoods and recreational areas.¹⁶

Obesity and Overweight Among Rhode Island High School Students, 2005-2015



Source: *Youth Risk Behavior Survey*, Rhode Island, 2005-2015. BMI calculated using self-reported student response.

◆ Rhode Island’s overall high school obesity and overweight prevalence has not significantly improved or worsened since 2005. In Rhode Island in 2015, 12% of high school students self-reported as obese and 15% self-reported being overweight. Hispanic students (19%), males (16%), and Black students (15%) were more likely to report being obese compared to their White (10%) and female (8%) high school peers.¹⁷

◆ In October 2015, the BMI values of 14,025 electronic medical health records of children under age 18 residing in Providence who are active patients of a Providence Community Health Center site were examined. The analysis found 23% of Providence children were obese and 18% were overweight. Obesity varied by age: 20% of children ages two to five, 26% of children ages six to 11, and 22% of children ages 12 to 17 were obese. Among Hispanic children, who accounted for 73% of all patients served, 24% were obese.¹⁸

Nutrition and Eating Habits

◆ The total number of calories a child and adolescent needs varies depending on age, gender, height, weight, and level of physical activity, as well as their need to lose, maintain, or gain weight. Many children and adolescents consume diets with too many calories and not enough nutrients.¹⁹

◆ Among Rhode Island high school students in 2015, 13% reported consuming one or more cans of soda daily (down from 25% in 2007) and 83% reported eating less than the recommended five servings of fruits/vegetables daily.²⁰

Promoting Increased Physical Activity

- ◆ **Recess** is an important component in optimizing a child’s social, emotional, physical, and cognitive development.²¹ The Institute of Medicine recommends schools offer at least 20 minutes of recess per day for elementary and middle school students and prohibit withholding it.²² In Rhode Island in 2015, 10 of 39 school districts required 20 minutes or more and 70% of surveyed elementary school principals reported withholding recess for discipline.^{23,24}
- ◆ **Physical Education (PE)** curriculum and instruction are designed to develop age-appropriate motor skills, knowledge and behaviors of physical fitness, sportsmanship, emotional intelligence, self-efficacy, and active living.²⁵ In Rhode Island, students are required to receive an average of 20 minutes per day of health and PE instruction.²⁶ Nationally, the daily recommended amount of PE alone is 30 minutes in elementary school and 45 minutes in middle and high school.²⁷
- ◆ **Regular physical activity**, including school-based, has been show to have physical, cognitive and academic benefits, including improved grades and standardized test sores.^{28,29} In Rhode Island in 2015, 27% of middle school students and 20% of high school students reported being physically active every day for at least 60 minutes, which is the recommended amount to optimize health and development.^{30,31}

**Physical Activity and Sedentary Behavior,
Rhode Island Middle School and High School Students by Gender, 2015**

	MIDDLE SCHOOL			HIGH SCHOOL		
	MALE	FEMALE	ALL STUDENTS	MALE	FEMALE	ALL STUDENTS
2 or Fewer days of Physical Education Weekly	50%	51%	50%	42%	39%	41%
3 or Fewer Days of Physical Activity* Weekly	30%	39%	34%	40%	54%	47%
3 or More Hours of TV on School Days	29%	30%	30%	23%	22%	22%
3 or More Hours of Computer** Time/Video Games on School Days	46%	50%	48%	40%	40%	40%

Source: 2015 Rhode Island Youth Risk Behavior Survey, Rhode Island Department of Health, Center for Health Data and Analysis. *Defined as at least 60 minutes per day. **Non-school related.

Obesity in Young Children in Rhode Island

Children Enrolled in Head Start

◆ **Head Start** is a federally-funded comprehensive early childhood program for low-income preschool children and their families.³² In Rhode Island during the 2014-2015 school year, 2,742 children aged three to five were enrolled in a Head Start program. Of those enrolled, 20% were obese and 25% were overweight.³³ Comparable national data show that 16% of children enrolled in Head Start were obese and 13% were overweight during that time.³⁴

Children Participating in WIC

- ◆ **The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)** is a federally-funded preventive program that provides eligible participants with nutritious food, nutrition education, and access to health care and social services.³⁵ In Rhode Island in 2015, 12,871 children ages two to four were enrolled in WIC, 17% of whom were obese and 43% of whom were overweight.³⁶
- ◆ Since 2011, there has been a 24% decline in the number of Rhode Island children ages two to four participating in WIC who are obese. This decline is partially attributed to new federally-mandated food standards as well as availability and use of nutrition education and assessments.³⁷

- ◆ **WIC** also tracks the number of children under age five who have a biological parent who is obese (i.e., have a BMI over 30). In 2015, 23% of infants and 13% of children ages one to four had a biological parent who was obese.³⁸

References

- ¹ Centers for Disease Control and Prevention. (2015). *About child and teen BMI*. Retrieved March 2, 2016, from www.cdc.gov
- ²¹⁰ *Overweight children and youth*. (2014). Washington, DC: Child Trends.
- ⁵ Halfon, N., Larson, K., & Slusser, W. (2013). Associations between obesity and comorbid mental health, developmental, and physical health conditions in a nationally representative sample of US children aged 10 to 17. *Academic Pediatrics*, 13(1), 6-13.
- ⁴¹⁶ *Accelerating progress in obesity prevention: Solving the weight of the nation*. (2012). Washington, DC: Institute of Medicine of the National Academies.
- ³¹¹ Centers for Disease Control and Prevention. (2015). *Childhood obesity causes and consequences*. Retrieved March 2, 2016, from www.cdc.gov

(continued on page 177)