

#### Overview

Childhood obesity is associated with many chronic diseases, such as high blood pressure, cardiovascular disease, asthma, and sleep apnea. The American Academy of Pediatrics advises that the body mass index (BMI) of children should be tracked over time, and the Institute of Medicine recommends that school systems track BMI. Since 2009, Massachusetts responded to these recommendations by measuring the BMI of children in grades 1, 4, 7, and 10.

#### Main Questions

- What proportions of students are overweight or obese in Massachusetts public school districts, and how have the proportions changed between 2009-2014?
- How do the proportions of students who are overweight or obese differ by gender, age and income?
- What are the next steps?

#### Study

Public school students in grades 1, 4, 7, and 10 had their body mass index (BMI) calculated in Massachusetts from 2009-2014. This study analyzed trends in overweight and obesity prevalence throughout the state, among districts, and among different gender, age, and income groups.

#### The Bottom Line

The good news is that overall, overweight and obesity actually declined throughout the state's schoolchildren from 2009 to 2014. There were differences, though, when the data were examined more closely. As a group, boys had higher rates of overweight and obesity but their rates also decreased more. In terms of age, the rates of overweight and obesity were highest among 4th and 7th graders, with the highest increase occurring between 1st and 4th grade. The group of children that did not decline, however, was the group of children from school districts with the lowest median household income. Overweight and obesity rates declined in higher-income districts, but either remained the same or actually increased in economically disadvantaged communities. This study points out the need for interventions among elementary school age children in districts where families face more economic hardships.

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#### Source

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#### Spotlight on Results

- **Overall:** Overweight and obesity decreased by 3 percentage points, from 34.3% in 2009 to 31.3% in 2014.
- **Gender:** Boys were slightly more overweight and obese, and also had slightly larger decreases.
- **Age:** 4th graders had the highest rates of overweight and obesity. The greatest increase in rates of overweight and obesity occurred between 1st and 4th grade, with a 17% increase.
- **Higher Income:** School districts with families with higher income (more than \$37,000 per year) had significant reductions in rates of overweight and obesity.
- **Lower income:** More children (about 40%) of children in school districts with lower income were overweight or obese. The rates in these districts either increased or did not change.
- **Disparity:** School districts where families had the lowest income had highest rates of overweight and obesity.

#### Call for Action

Community-based prevention programs should specifically target children in elementary schools in economically disadvantaged communities.