

o c d | Special Report

Childhood Obesity: Alarming Trends, The Risks Overweight Children Face, And How Families, Schools, And Communities Can Help

America is witnessing an alarming rise in the number of children who are overweight. The rates of overweight teenagers has tripled and more than twice the number of 6-11-year-olds are overweight today compared to 30 years ago. Although rates are higher among minorities and the poor, the unhealthy trend threatens children of every race, culture, and economic class.

Too much television and too little exercise, diets heavy with fast food, and parents who are overweight themselves are among the factors that contribute to childhood obesity – a condition that places children at greater risk of experiencing problems ranging from being diagnosed with Type II diabetes to being the target of bullies at school.

Rising childhood obesity is a reversible trend – one that studies report can be effectively addressed by steps taken at home, in schools, and throughout communities to steer children toward better diets, more active lifestyles, and healthier futures.

The Problem

The number of American children who are overweight has risen steadily over the past 30 years, exposing a growing population to serious health consequences and other problems.

Some 15% of children ages 6-19 years old are at or above the 95 percentile of Body Mass Index (BMI), a measure of body weight adjusted for height.¹ Rates among teenagers more than tripled – 5% to 15.5% – from the late 1970s to 2000 and rates among children between the ages of 6-11 years more than doubled from 6.5% to 15.3%.

Childhood obesity rates continued to increase into the

21st century, reaching 16.5% of all U.S. children in 2002.² Even younger children are vulnerable. While the rate of overweight preschoolers age 2-5 years is lower than older children, it is no less alarming at 10.4%.³

Such rates of overweight children rank high in the world. In a study of 14 industrialized nations, the U.S. had the highest rate of 13-15 year olds who were overweight as defined as having a BMI at or above the 95 percentile.

The problem is more acute among minority and low income populations, whose rates of overweight children tend to be higher than overall national rates. More than 26% of African-American girls ages 12-19 are overweight,⁴ for example, and teenagers from low-income families are twice as likely to be overweight than teens from higher income families.

Many Causes

When more calories are consumed than the body uses, children gain weight. In recent years, the average caloric intake of American children has increased by 80 to 230 calories, depending on activity level.⁵

Weight gain may come down to a simple mathematical formula, but the reasons children are consuming more calories and burning off less are complex. Many factors related to eating habits, lifestyles, and family and societal influences are driving the surge in overweight children.

Poor Diet

Studies warn that U.S. children do not eat a healthy diet, consuming less recommended foods and more of the foods that contribute to increased calories and weight gain. For

example:

- Only 2% of children 2-19 years old eat a healthy diet as defined by the Food Guide Pyramid and 75% of all children eat more saturated fats than recommended.⁶
- Children consume twice as much soft drinks than milk.⁷
- Children eat fewer home-cooked meals and more fast food. From 1977-1996, the daily percent of food eaten at home decreased from 74.1% to 60.5%.⁸
- Food children ate at restaurants and fast food chains increased from 6.5% to 19.3% from 1977-1996, suggesting that children are eating higher levels of fats, sugars, and carbohydrates, fewer fruits and non-starchy vegetables, and drinking less milk.

Too Little Activity

Physical activity burns calories. Unfortunately, at the same time calorie intake is increasing among children, they are becoming less active. In fact, the National Health and Nutrition Examination Surveys, which found little increase in the average caloric intake of children from 1976-1994, suggests that lack of physical activity may be the cause of childhood obesity.⁹

The President Council on Physical Fitness and Sports reports that only one half of youths ages 12-21 years get regular physical activity and 25% of youths report no vigorous physical activity.

Such inactivity places children at much higher risk of being overweight. For example, not participating in sports or an exercise program was found related to both girls and boys ages 14-16 years being overweight.¹⁰ Being overweight, in turn, increases the likelihood of being inactive.

Too Much Television

Too many hours in front of television or playing computer or video games contributes to children's weight problems.

- In one study, girls who watched more than four hours of television a day, for example, were more likely to be overweight compared to girls who watched less than four hours of television¹¹— a finding that may be related to the extra 175 calories per day the girls ate while watching five or more hours of television.
- Studies show that the time young children spend watching television increases as they age. One-year-olds, for example, were found to watch 11 hours per week on average and four-year-olds watch on average 18 hours per week. As the number of hours increase, preschoolers' risk of being overweight increases.¹²

- Watching television while eating affects what children eat. Children who eat meals while watching television tend to eat more meat, pizza, snack foods, and caffeinated drinks and less fruits, vegetables, and juices than children who do not eat meals in front of the TV.¹³

Family Factors

Several family factors are associated with childhood obesity.

Children in low-income families are more likely to be overweight. This may be related to the economics of food. Poverty and food scarcity are associated with eating fewer vegetables and fruits and more less-expensive, energy-dense foods such as those made with refined grains and added sugars and fats.¹⁴ Children from low-income families also spend more time watching television compared to children from higher income families.

Studies also suggest that having obese parents raises a child's risk of being obese. Among prepubescent girls, for example, having two obese parents is associated with having a BMI that is twice that of girls with two lean parents.¹⁵ For children under the age of 10 years, having an obese parent doubles their risk of being obese as adults.¹⁶

The Risks

Overweight children face heightened risks to their physical and emotional health—risks that jeopardize their well being today and later, as adults. Children are not the only ones affected. Risks related to childhood obesity raise medical costs for both families and taxpayers.

Immediate Risks

One of the most serious health risks related to childhood obesity is early onset Type II diabetes, which, if diagnosed by age 10, reduces a child's life expectancy by 19 years on average. Type II diabetes among U.S. adolescents increased tenfold between 1982-1994.¹⁷

Studies warn that overweight children face other elevated health risks and related problems.

- They have higher levels of cholesterol and blood pressure, and more orthopedic problems caused by the extra weight carried by growing bones and joints, compared to children who are not overweight.¹⁸
- Overweight youths are more likely to report smoking and drinking alcohol¹⁹ and more likely to report extreme dieting, skipping breakfast, and increased television watching compared to peers who are not overweight.²⁰
- Obese children miss an average of four days per month of school, which could lead to lower school performance.²¹



Overweight children are also at risk of experiencing a number of social-emotional problems. For example, overweight teens are 2.5 times more likely to be diagnosed as having oppositional defiant disorder, depression, anxiety, ADD/ADHD, poor interpersonal relationships, and low self-esteem.²² Overweight teenage boys and girls are also more likely to be victims of bullies.

Risks As Adults

Being overweight as a child doubles a child's chances of being overweight as an adult. The risk is even greater if a child is obese at the age of 15-17 years.²³

As overweight adults, these children will face higher rates of illness and disability, including Type II diabetes, chronic low back pain, joint pain and deterioration, cardiovascular diseases, respiratory problems, depression, and some cancers.²⁴

Higher Health Costs

As the number of overweight children rises in the U.S., so do the economic costs paid by families and taxpayers.

- Hospital charges related to obesity for children ages 6-17 years increased threefold from 1979-1981 to 1997-1999, rising from \$35 million to \$127 million.²⁵
- Obesity costs taxpayers an estimated \$175 per person each year or about \$39 billion due to Medicare and Medicaid expenditures.²⁶
- Prevention saves money. It is estimated that an overweight person who loses 10% of his or her body weight can reduce their lifetime medical expenses by \$2,200-\$5,300.²⁷

Prevention/Intervention

Plenty can be done to reverse the weight-gain trend among children. While prevention starts at home, a number of steps can be taken by schools, communities, pediatricians, and others to direct children toward a healthier path.

The American Academy of Pediatrics, in calling for prevention and early identification of childhood obesity, offered a number of recommendations for pediatricians, including regularly tracking each patient's risk, calculating and plotting BMI yearly, encouraging breastfeeding, and encouraging parents to promote healthy eating habits, physical activity, and limits on television.

What Families Can Do

Families can take several steps to reduce the risks of their children becoming overweight. In some cases, prevention can begin just after a child is born.

Breastfeeding a baby for at least six months, for ex-

ample, reduces the risks. In one study, 13.6% four years olds were overweight if they were not breastfed or breastfed one month or less compared to 11.3% of those children breastfed 6-11.9 months.²⁸

When it comes to promoting a healthy diet, examples set by parents and other family members are important. In a randomized study of 27 families who received educational materials for the family and support, parents who increased fruits and vegetable in their diets and ate less fat and sugar had children who did the same.²⁹

Other steps families can take to reduce the risk of childhood obesity include:

- Keep less healthy foods out of the house to reduce the need for food rules. Research suggests children of food-controlling parents are more likely to binge on unhealthy foods when available and are more likely to overeat.
- Reduce the amount of juice, which tends to be high in calories. Substituting low-fat milk and water is a better choice.
- Eat together as a family. Adolescents, for example, eat more fruits, vegetables, and dairy products during a family meal and are less likely to skip breakfast.
- Keep offering rejected healthy foods.
- Do not use food as a reward or punishment and offer dessert occasionally in small quantities.
- Do not encourage children to diet. Children who diet may gain weight due to metabolic changes caused by food restrictions.³⁰
- Adopt a physically active lifestyle.
- Reduce the amount of television and video time and do not let children eat meals in front of the television.
- Encourage children to be physically active a total of 60 minutes per day with each session being at least 15 minutes in length. And discourage long periods of inactivity that last two hours or more.
- Encourage children to participate in sports.

Prevention In Schools

Schools have the capacity to help reduce the risk of childhood obesity with educational initiatives, healthier food choices, and by promoting physical activity.

To some extent, schools can influence what children eat while in school and point them toward healthier choices.

For example, replacing sodas in vending machines with water, milk, vegetable juice, and sports drinks is a step supported by the American Pediatric Association.

Another option is to make inexpensive, low fat snacks available. Reducing the price of low-fat snacks by 10%, 25%, and 50% increased their sales by 9%, 39% and 93%, respectively, and more teens choose low-fat snacks when the prices are lower than high-fat snacks.³¹

Making sure that all eligible students participate in the National School Lunch and Breakfast Programs (NSLP and NSBP) is another step that studies suggest promotes healthier eating. Teenagers in those programs have been found to drink more milk and eat more fruit and vegetables and less sugar than students not in the program.³² However, students who participate in NSLP and NSBP also tend to eat more fat.

Other steps schools can take to reduce the risk of childhood obesity include:

- Integrate intervention and prevention obesity information within the school curriculum not just in physical education classes but also language arts, math, science and social studies. One program, Planet Health, reduced the rate of obesity among female students by adopting this approach using information and stories focused on reducing time watching television and limiting high fat foods, as well as increasing fruit and vegetable consumption and vigorous exercise.³³
- Keep track of students' health with a health report card, which schools can use to track students' body-mass index and send the numbers home to parents along with information on how to decrease and prevent obesity.
- Support physical education.
- Modify physical education classes to increase level of activity and encourage active participation from all students. Research found, for example, that replacing softball with soccer and modifying rules so everyone plays, led students to spend more time in moderate to vigorous physical activity and increased aerobic capacity.³⁴
- Increase sports teams and intramural activities.
- Provide exercise equipment in the schools to increase activity and aerobic fitness levels. One study found that 400 students had an average 5% decrease in body fat over one term using donated exercise equipment from the Lead-

ership in Fitness Training (LIFT) program, which provides funding for exercise equipment.³⁵

Other school initiatives that seek to increase physical activity among students and improve their eating habits include programs such as Billions of Steps for Healthy Students, which promote walking by providing students with pedometer and encouraging them to walk 10,000 steps a day. Studies report that school children eat 92-93% of the fruit and vegetable snacks offered by the U.S. Department of Agriculture's expanded Fruit and Vegetable Program, suggesting that students will eat such snacks when choices are limited to such healthy choices when that is all that is offered.³⁶

What Communities Can Do

Communities also have a role to play in reducing childhood obesity.

Some communities report success in adopting mass media campaigns and community-wide interventions to promote an active healthy lifestyle. Steps include multi-media messages that promote taking part in physical activities, self-help groups, walking trails, and community events to support physical activity. Studies report a 14% increase in physical activity among residents of cities that adopted multi-dimensional programs.³⁷ Even small measures appear to help. Use of stairs increases, for example, when signs urging people to take stairs are placed near elevators.

Other recommended community-wide measures include:

- Reduce barriers to physical activity for children by offering low-cost or free activities, holding activities near bus lines or providing transportation to children who need it. The CDC reports that parents of children aged 9-13 years say the biggest barriers to their children being physically active are transportation problems and expense.
- Reduce marketing of unhealthy food choices to children and increase marketing of healthy foods and lifestyles. Children view an average of 40,000 television ads per year mostly marketing candy, cereal, and fast food and these significantly influence children's food choices and parents' food purchases.³⁸
- Restructure communities to add sidewalks or improve existing sidewalks, add bike paths and lanes to existing streets, create auto-free zones for children to ride bikes

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and skateboard, and change zoning laws to create a mix of residential and commercial areas that encourage residents to walk to neighborhood stores.

- Encourage restaurants to provide healthy eating choices and encourage consumers to support such efforts by ordering the health options.
- Support the expansion of VERB, a CDC multi-media campaign to increase physical activity among young teens used in nine U.S. cities that markets physical activity to children ages 9 to 13 years through upbeat ads, teen star endorsement, and community activities.

Recognizing that the rising number of overweight children is a nationwide problem is the first step toward reversing the trend. The good news is that several preventive measures have been identified that allow families, schools, and communities to address the problem effectively.

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Announcements...

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The University of Pittsburgh Office of Child Development is offering a series of easy-to-use parenting guides offering information and advice on 50 parenting topics. These guides are available free of charge to parents and organizations, agencies and professionals who work with children and families.

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