PREVENTING CHILDHOOD OBESITY IN RHODE ISLAND

Issue Brief

Obesity is associated with many health problems, including type II diabetes, asthma, sleep apnea, hypertension, heart disease and other acute and chronic health problems.^{1,2} Sixty percent of obese children ages 5-10 years old already have at least one cardiovascular disease risk factor.³ Overweight children are susceptible to psychosocial problems that include depression, negative self-image and low self-esteem that can lead to social isolation and high-risk behaviors. Being overweight during childhood can have lifetime impacts on physical and mental health.^{4,5,6}

The epidemic of childhood obesity that is occurring across the nation is evident among Rhode Island children and youth. In 2003, 27% of Rhode Island children ages 10 to 17 were either overweight (15%) or obese (12%).⁷ The likelihood that overweight in childhood will persist into adulthood increases with the child's age, the severity of the condition, and the presence of obesity in at least one parent.⁸ Overweight adolescents have a 70% chance of becoming overweight or obese adults, who have increased health risks and higher health care costs than those at a healthy weight.^{9,10}

PREVALENCE OF OBESITY^{*} AMONG U.S. CHILDREN AND ADOLESCENTS, AGES 6 – 19, 1963-65 THROUGH 1999-2002

AGE (YEARS)	1963-1965	1971-1974	1976-1980	1988-1994	1999-2002
6-11	4%	4%	7%	11%	16%
12-19	5%	6%	5%	11%	16%

◆ The number of obese children ages 6-19 in the U.S. more than tripled among all racial, ethnic and economic groups between 1963 and 2002.

◆ The prevalence of childhood obesity has increased among all children ages 6-19, but is highest among Hispanics, Blacks and Native Americans.

Nationally, 16% of children ages 6-19 were obese during 1999-2002.
Another 15% were overweight.

Source: National Center for Health Statistics. (2005). *Prevalence of overweight among children and adolescents: United States. 1999-2002.* Hyattsville, MD: U.S. Department of Health and Human Services. The National Health and Nutrition Examination Survey (NHANES) uses measured heights and weights to calculate a body mass index (BMI) for age.

*Obese is defined here as a BMI at or above 95th percentile for gender and age. Overweight is defined as a BMI between the 85th and 95th percentile for gender and age.

Do Source and



According to two recent reports by the National Academies Institute of Medicine and the Princeton-Brookings Future of Children, the increase in overweight children in the United States is the result of complex interactions between social and environmental factors that influence eating and physical activity, including:^{11,12}

• Pressures on families to minimize food costs and/or preparation time that results in frequent consumption of convenience foods that are high in calories and fat.

• Increased consumption of soda, juices and sweetened beverages among children at all ages, beginning in early childhood.

- Reduced affordability of and access to fruits, vegetables and other nutritious foods in some communities.
- Urban and suburban community designs that discourage physical activity, including walking.
- Fewer opportunities for physical activity at school and after school.
- Fewer children walking to school or biking to school.

• Leisure time spent on sedentary activities, including television watching, computer use, and video games, rather than physical activities.

Prevention of overweight begins in infancy and early childhood. The *Feeding Infants and Toddlers Study*, published in 2004, highlighted the need for parents of very young children to receive guidance before poor eating habits are established. In this survey of parents of children ages 4 months to 2 years, the intake of fruits and vegetables in the diet was very low, consumption of fruit drinks and soda was common and the mean calorie intake was 270 calories more than was recommended for age.¹³

DEFINITIONS

In most cases, the terms "overweight children" and "childhood obesity" are used interchangeably. However, standard terms often used in the literature on childhood obesity define two specific groups of overweight children based on the extent to which their body mass index (BMI) is elevated for their gender and age. Body mass index is calculated based on the child's weight and height.

• Children and youth with a BMI at or above the 95th percentile for their age and gender are considered to be obese.

• Children and youth with a BMI between the 85th and 95th percentiles for their age and gender are considered overweight.

According to the American Obesity Association, the 95th percentile is significant because it:

- is recommended as a marker for children and adolescents to have an in-depth medical assessment.
- identifies children that are very likely to have obesity persist into adulthood.
- is associated with elevated blood pressure and lipids in adolescents, and increases their risk of diseases.
- is a criteria for more aggressive treatment.
- is a criteria in clinical research trials of childhood obesity treatments.

Source: Retrieved 4/27/06 from American Obesity Association, http://www.obesity.org/subs/fastfacts/obesity_youth.shtml



CHILDREN AT GREATEST RISK FOR OVERWEIGHT AND OBESITY

CHILDREN WHO LIVE IN LOW-INCOME FAMILIES

• Children in low-income households are more likely than those living in higher-income households to be overweight or obese. According to the *2003 National Children's Health Survey*, 38% of children in families with incomes less than 200% of the federal poverty level were overweight or obese compared to 26% of children in families with incomes over 200% of the federal poverty level.¹⁴

◆ In Rhode Island, the rate of overweight and obese children is higher among RIte Care enrolled children (29.2%) compared to privately-insured children (21.7%).¹⁵

MINORITY CHILDREN

◆ In the U.S., African American and Hispanic children and youth are more likely than white children to be overweight or obese. Rates of childhood overweight and obesity are 41% for African Americans, 38% for Hispanics, and 27% for White, non-Hispanic children.¹⁶ The higher prevalence of overweight among minorities is partly due to high poverty rates among minority populations. In Rhode Island, almost half of all Black and Hispanic children live in poverty.¹⁷

CHILDREN WHO ARE NOT BREASTFED

◆ Children who are breastfed as infants are less likely to be obese when they are older than children who are not breastfed. Although the mechanism for why this is the case is unclear, there appears to be a small but consistent positive effect of breastfeeding on reduced rates of childhood obesity.¹⁸ In Rhode Island between 2000-2004, just over half (57%) of mothers of newborn infants chose to exclusively breastfeed their child, rather than formula feed (31%).¹⁹

CHILDREN OF OVERWEIGHT PARENTS

• Children who have overweight or obese parents are more likely to be overweight or obese. The family provides a child's major social learning environment. As a routine part of pediatric health care, it is critical to provide anticipatory guidance that addresses child and family habits that promote healthy eating and active living.^{20,21}

◆ Before age 3, parental obesity is a stronger predictor of obesity in adulthood than the child's weight status.²² In 2003, the childhood obesity rate (including all children with a BMI for age greater than or equal to 85%) for low-income young children ages 2 to 5 enrolled in Rhode Island's WIC program was 51% for children whose mother was overweight compared to 39% for children whose mother was not overweight.²³

CHILDREN WHO ARE SEDENTARY

• Sedentary activities such as television and video viewing, video game playing and using the Internet (commonly referred to as "screen time") have been found to be linked to obesity. One study found that each additional hour of television viewing per day increased the prevalence of obesity among children by 2%.²⁴

◆ National survey data indicate that 25% of U.S. children ages 8 to 16 watched at least 4 hours of television per day. Having a television in the bedroom has been reported to be a strong predictor of being overweight, even in preschool children.²⁵



Weight gain occurs when more calories are consumed than are expended.²⁶ Overweight children demonstrate a slow, steady weight gain over several years. Less than 10% of overweight in children is caused by genetic or hormonal problems.²⁷ Instead, most children become overweight through consumption of large portions of energy-dense foods, in combination with sedentary activity, especially television viewing and other screen time.²⁸

UNHEALTHY FOOD CHOICES

◆ The type and amount of foods and beverages consumed are an important part of the obesity equation. Fast foods, sweetened beverages (including soda, juice, and sports drinks), and snack foods (such as chips, candy and baked goods) are being studied for their contribution to overweight and obesity among children and youth; findings have varied as to their relationship according to age, gender, and socioeconomic status.²⁹

SKIPPING BREAKFAST

• Skipping breakfast is associated with higher risk of obesity because it encourages overeating later in the day. Consumption of a balanced breakfast contributes to enhanced academic performance and improved student behavior.³⁰ In Rhode Island, all schools are required to offer school breakfast.

SWEETENED BEVERAGES

• Research shows that increased consumption of soft drinks, juice and other sweetened beverages is associated with childhood overweight and obesity. The consumption of soft drinks has increased markedly over the past several decades.³¹ Infants as young as 7 months of age are consuming soft drinks.³²

FAST FOODS

• With parents working longer hours and more jobs, eating meals outside the home has become more common. In the late 1970s, only 2% of daily meals were fast foods compared with 10% of daily meals in the mid-1990s. Children consume fast foods, usually high in fat and calories, at a rate five times greater than in previous decades. One-third of U.S. children eat fast food every day.³³

PORTION SIZES

• Portion sizes of packaged foods and serving sizes at restaurants are much larger now than in the past, with some of the largest offerings now being more than five times their original size. As people have become accustomed to larger portions in restaurants, serving sizes of meals prepared at home have increased as well.³⁴

ACCESS TO FOOD MARKETS IN LOW-INCOME NEIGHBORHOODS

• The lack of access to affordable fresh fruits and vegetables and other nutritious foods may be a factor in the increased prevalence of obesity in low-income and poor communities.³⁵



◆ Regular physical activity can lower the risk of becoming overweight and developing related diseases. Nationally, about half of all children ages 6 to 17 go without sufficient daily exercise.³⁶ Nationally, there has been a 25% decrease in children's time spent playing and a 50% decline in unstructured outdoor activities over the past thirty years.³⁷

• According to the *2003 National Survey of Children's Health*, Rhode Island ranks worst nationally in the percentage of children and teens who exercise regularly. Sixty-one percent of children and youth ages 6-17 reported engaging in fewer than 5 days of vigorous physical activity in the past week in 2003, compared with 52% nationally. States ranged from 40% (best) to 61% (worst).³⁸

◆ In 2005, more than three quarters (76%) of Rhode Island high school students were not engaging in recommended amounts of moderate exercise.³⁹



• Screen time (television, video games, computer and internet time) may affect obesity in several ways, including:⁴⁰

- Reduced time spent on physical activity in favor of sedentary activity.
- Advertising found in the media may increase the child's desire for and consumption of snack foods and/or sweetened beverages.
- Screen time may be accompanied by snacking, leading to higher caloric intake.

Research has demonstrated that obese children who are reinforced for decreasing sedentary activity (and following an energy restricted diet) had significantly greater weight loss than those who were reinforced for increasing physical activity. These findings provide additional support for recommendations to limit television viewing and screen time.⁴¹

NUTRITION AND PHYSICAL ACTIVITY AMONG PUBLIC SCHOOL STUDENTS, RHODE ISLAND, 2004-2005							
	ELEMENTARY	MIDDLE	HIGH				
Ate 5 or more servings of fruits and vegetables yesterday	13%	10%	7%				
Ate breakfast everyday during the past week	72%	48%	29%				
Watched TV for 2 hours or less*	55%	49%	55%				
Played computer/video games for 2 hours or less*	74%	76%	80%				
Regularly participated in after school/weekend intramural or interscholastic sports through school in the past year	32%	35%	38%				
Regularly participated in youth sports or recreation programs in the community in the past year	54%	44%	22%				

*Refers to "on an average school day"

Source: Felner, R. (2005). Rhode Island SALT Survey Reports, Student Reports of Health Care, Nutrition, Sleep, Computer Use, TV Viewing, and Extracurricula Activities by Grade Level. Rockland, IL: National Center on Public Education and Prevention. Retrieved from Information Works at www.infoworks.ride.uri.edu.



PHYSICAL EDUCATION IN SCHOOL

◆ The federal Centers for Disease Control and Prevention, the American Heart Association and the National Association for Sport and Physical Education all recommend that schools require physical education for all students from kindergarten through 12th grade on a daily basis. Weekly recommended amount of physical education is 150 minutes in elementary school and 225 minutes in middle school and high school.⁴² Rhode Island state mandates are much less than these amounts (health education and physical education totalling 100 minutes). Students should be active, classes should be of appropriate size, and teachers should be credentialed and well-trained.⁴³

• Only a third of adolescents in the U.S. are physically active in physical education classes for more than twenty minutes for three or more days each week. Additionally, nearly a third of elementary schools do not schedule recess on a regular basis.⁴⁴

◆ Physical activity in the context of physical education at school can have a major impact on overweight and obesity among students in Rhode Island. One national study found that adding 30 minutes per week of physical education instruction time could reduce the prevalence of obesity among girls by 5% and the prevalence of overweight among girls by 10% and that adding a full hour of physical education instruction time could reduce the prevalence of obesity by 21%.⁴⁵



ACCESS TO HEALTHY FOODS IN SCHOOL

◆ In addition to the food provided by their families, schools play an important role in the nutritional intake of children. Millions of children in the U.S. receive meals through the National School Lunch Program and the School Breakfast programs supported in part by the US Department of Agriculture (USDA), including a daily average of 19,500 children in Rhode Island.⁴⁶

• While schools are required to follow the USDA's Dietary Guidelines for these programs, they are not required to use those standards for the myriad of food choices available to students, including those sold \dot{a} *la carte* in the cafeteria or elsewhere on campus (e.g. in student stores), food sold in snack bars or through vending machines or fundraisers.⁴⁷

◆ Most school food service programs are self-supporting, meaning that they do not receive federal, state or local funds toward their operation (except for meals provided to students eligible for free and reduced price breakfast and lunch programs). Therefore, cafeterias may offer the same foods, snacks and beverages found in vending machines. These funds may go to cover the costs of the food service program or to the overall general budget of the school. In fact, schools experiencing financial pressures have increased availability of junk food in middle and high schools.⁴⁸

◆ Access to vending machines in schools have increased over the past decade. In the U.S., student access to vending machines increased between 1994 and 2000 from 61% to 67% in middle schools and from 88% to 96% in high schools.⁴⁹

• Eleven school districts in Rhode Island indicated they have contracts with soft drink companies. Approximately two-thirds (64%) of districts received a specific percentage of the sales. In addition, soda companies provide sports equipment and other non-cash incentives to schools in exchange for the placement of soda machines in their schools.⁵⁰



Family environment is critical to preventing and reducing overweight among children and teens.^{51,52,53} Eating is a learned behavior and parents are a child's first teachers. In general, infants and toddlers learn to like food that they are exposed to repeatedly. The home environment is one of the strongest influences on children's eating habits and physical activity patterns. Recommended strategies to prevent childhood obesity include:

- Encourage and model healthful eating and regular physical activity.
- Provide and promote healthy food choices and appropriate portion sizes.
- Set aside time to eat meals together as a family.
- Breastfeed your infant for at least the first year and exclusively for at least the first six months.

• Respect your child's appetite and encourage them to self-regulate their food intake. Children do not need to finish every bottle or meal.

• Reduce or eliminate the use of sweetened beverages, including soda, juice and sports drinks.

• Limit television viewing and other recreation screen time to less than two hours a day. The American Academy of Pediatrics recommends that children under age 2 watch no TV at all.

• Encourage physical activity, including unstructured play at home, in school, in child care settings and in the community.

• Establish regular family activities such as walks, ball games or other outdoor activities.

• Discuss weight status with your child's health care provider. Realize that an appropriate goal for many overweight children is to maintain their current weight while growing normally in height.



COMMUNITY ENVIRONMENT

• Children's eating habits and their physical activities are affected by the built environment in their community. The built environment is comprised of the neighborhoods, roads, buildings, food sources and recreational facilities in which people live, work, are educated, eat and play.⁵⁴

◆ The current food environment includes increasing reliance on fast food restaurants and dining away from home. Restaurant portions are typically larger than those at home, and are higher in fat and calories and lower in nutrients.⁵⁵

• Children are walking and biking less and are instead riding in cars, often because it is more convenient for the family schedule. Also, children no longer walk or bike to school or other activities because the school is too far away, there is a lack of safe walking routes, and parents fear that their children may be abducted or harmed while walking or bike riding.⁵⁶

• Children and youth who have access to recreational programs and facilities are more physically active than those who do not have such access.⁵⁷

◆ In Rhode Island, only 26% of low-income middle school children regularly participate in youth sports or recreation programs in the community compared with 51% of higher-income children.⁵⁸



CURRENT INITIATIVES TO REDUCE OVERWEIGHT AND OBESITY

RHODE ISLAND'S INITIATIVE FOR A HEALTHY WEIGHT

◆ The Rhode Island Department of Health's Initiative for a Healthy Weight (IHW) coordinates, supports and implements activities to promote lifelong healthy eating and active living among all Rhode Islanders.

◆ Rhode Island's IHW is working toward building and sustaining partnerships; building community capacity through technical assistance, training and resource development; developing and supporting policy and environmental improvement initiatives for healthy communities; and implementing CDC supported targeted interventions in selected populations. Rhode Island is one of 28 states funded by the Centers for Disease Control's (CDC) State-based Nutrition and Physical Activity Program to Prevent Obesity and other Chronic Diseases.

• An emphasis on childhood obesity is one of the initial priorities for action in the Initiative for Healthy Weight's obesity prevention plan, *Rhode Island's Plan for Healthy Eating and Active Living.* Specifically, Rhode Island's IHW action teams have set two goals related to childhood obesity and they are as follows:

• By 2015, reduce by 50% the number of children entering kindergarten who are overweight or obese.



◆ By 2015, reduce by 50% the number of children entering 7th grade who are overweight or obese.

◆ In the 2004-2005 school year, one in five (20.3%) Rhode Island children entering kindergarten was obese with a BMI for age greater than 95%th percentile. Overweight and obese children are at high risk for health problems throughout childhood and into adulthood.

Source: Immunization Program, Division of Family Health, Rhode Island Department of Health, School years, 2001-2002 through 2004-2005. Data are based on recorded heights and weights at kindergarten entry.

• Rhode Island was the first state to coordinate the management of the **Coordinated School Health Program** and the **Child Nutrition Program** in one office. The Rhode Island Department of Education and the Rhode Island Department of Health jointly run the state's Coordinated School Health Program, with a particular emphasis on physical activity and nutrition in schools.

EXAMPLES OF PROGRAMS TO REDUCE CHILDHOOD OBESITY

◆ Kids First provides education and training to improve the nutritional and physical well-being of children. Kids First provides technical assistance to educational settings in customizing programs to complement the regular classroom curriculum or after school program, as well as workshops for teachers on integrating food and nutrition into their existing curriculum, food safety and personal wellness.

◆ Hasbro Children's Hospital, The Division of Pediatric Gastroenterology, Nutrition, and Liver Diseases has initiated Kids On The Move, RI, a group weight management program providing comprehensive evaluation and group treatment for overweight children 3 to 17 years of age and their families. Evaluation of individual families by a pediatrician, behavioral psychologist and nutrition specialist is followed by a group treatment program which offers nutrition education by a nutrition specialist, behavioral guidance by a child psychologist, and physical activity facilitated by a physical therapist.

◆ Kent Hospital offers an 8-week Kids Choose To Be Healthy program, which offers nutrition education, behavior modification and exercise, and holds classes for children ages 6-10 who have been identified as overweight and their parents. Each session is taught by a team consisting of registered dietitians and an exercise physiologist.

◆ Chad Brown Health Center, in partnership with BCBSRI, offers the Mark, Set, Go! Nutrition and Exercise Program. The program promotes healthy eating and exercise among 5th and 6th grade students at Veazie Street Elementary School and the Paul Cuffee Middle School. Minority staff and high school students from the MET High School are involved as peer health educators in the classroom. Program goals are to increase the physical activity, nutrition awareness and fruit and vegetable consumption of the participating students and their families.

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SCHOOL HEALTH AND WELLNESS COMMITTEES

There is a new federal requirement that all school districts in the U.S. who participate in the National School Lunch and/or School Breakfast Programs must establish a School Wellness Policy. The districts must involve a broad range of stakeholders to set and measure goals for physical activity, nutritional standards of foods available in the cafeterias and vending machines at schools; nutrition education; and other school-based wellness promotion initiatives.

A Rhode Island state law that went into effect on August 1, 2005, requires that every school committee establish a School Health and Wellness Committee responsible for – but not limited to – the development of policies and strategies that meets these new federal requirements. A member of the school committee must chair the committee. Each school district must develop a strategic plan for wellness prior to the 2006-2007 school year. The plans must include strategies to decrease obesity and improve the health and wellness of students and employees through nutrition, physical activity, health education and physical education.



PREVENTION STRATEGIES AND RECOMMENDATIONS

Reducing the number of Rhode Island children who are overweight will require a comprehensive, multi-system approach shared among families, health care providers, communities and schools. Strategies that would help to reduce overweight and obesity among children in Rhode Island include:

FAMILIES

◆ Families can significantly improve their children's health by encouraging healthy eating and regular physical activity, providing and promoting healthy food choices, limiting television viewing and other recreational screen time to less than two hours a day, and discussing their own weight status and that of their children with the family's health care providers.

• Parents can advocate to be sure that all places where children are cared for and learn, including child care settings, school districts, before- and after-school programs and camps, establish policies regarding physical activity, nutrition education, and the availability of healthy foods and beverages.

HEALTH CARE SYSTEM

• Pediatric health care professionals in Rhode Island should regularly track children's height and weight for age and Body Mass Index (BMI) for age and offer relevant anticipatory guidance. Physician-supervised treatment plans should include a weight goal, emphasis on family involvement, and recommendations for dietary management, decreased screen time, and increased physical activity.

◆ All hospitals in Rhode Island should become "baby-friendly," a designation awarded to hospitals that foster breastfeeding over formula feeding according to stringent criteria. Baby-friendly hospitals are a demonstrated best practice and would serve to increase the percentage of children in Rhode Island who are exclusively breast-fed.

• Health plans should explore benefits that cover effective obesity prevention and treatment strategies, such as age-appropriate nutrition counseling and physical activity programs.

• Health care providers and community leaders can develop opportunities in every community for family education and for programs that work with children and youth to reduce the risk of overweight. This would enable pediatricians to refer overweight and obese children to a community-based program for ongoing education and support.

COMMUNITIES

• Local governments, health agencies and community groups can expand opportunities for physical activities and recreation. Communities can be redesigned to include recreational facilities, sidewalks and bike paths.

• Rhode Island communities, particularly the urban centers, can adopt and implement "complete street" or "safe street" policies that ensure safe and convenient roadway access for people who walk, bicycle or use wheelchairs.

• Communities can foster the development of local farmers' markets, which increase access to fresh, nutritious foods. Grocery stores that offer produce and other fresh, healthy items must be available in all neighborhoods in Rhode Island.

• Government and business leaders can provide financial incentives to community groups, businesses, and non-profit organizations for the implementation of strategies to promote healthy eating and active living, particularly in low-income communities.



PREVENTION STRATEGIES AND RECOMMENDATIONS

SCHOOLS

• Institute a comprehensive statewide nutrition guidance system for all schools and child care settings that would apply to all food available to children throughout the school day. The nutrition guidance system would include state-endorsed nutrition guidelines, an approved product list, and education and training for school and child care staff.

• A variety of healthy foods should be served in school cafeterias, in vending machines and through activities and events sponsored by the school district. Eliminate unhealthy foods and beverages from schools and child care settings.

◆ All schools should encourage full participation of eligible students in the National School Breakfast Program.

◆ The new physical education standards endorsed by the Rhode Island Board of Regents in 2003 should be put into practice by all schools in Rhode Island. All physical activities should be provided with an equal opportunity for all children to participate, regardless of their physical disabilities and/or socioeconomic status.

• All children in Rhode Island should receive physical education that meets minimum standards for quality, duration, and frequency. Students should be active, classes should be of appropriate size, and teachers should be credentialed and well-trained.

• High quality physical education should be required and integrated into the curriculum of all schools.

• School recreational facilities should be made available for after-hours use by children and families, especially in neighborhoods that lack adequate, safe and accessible park and recreational facilities.

CHILD CARE AND AFTER-SCHOOL PROGRAMS

• Nutrition education programs should be available for staff of child-serving organizations and institutions in order to build their knowledge and skills in providing balanced meals with adequate nutrition for the children enrolled in their programs and in integrating it with all subjects.

◆ All child care settings, not just Early Head Start and Head Start programs, should follow USDA recommendations for foods provided to children in their care.

DATA

◆ State agencies, such as the Rhode Island Department of Health and the Rhode Island Department of Education, should institute a statewide comprehensive surveillance data system for childhood overweight in order to inform policy change and measure program success.

• Height and weight measurements should be added to the KIDSNET system in Rhode Island. Children are regularly weighed and measured as part of routine health care visits. Most pediatricians already enter health-related data into KIDSNET. Providers would enter data that they are already collecting into a system that is familiar to them, which would help to identify areas for potential intervention.



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