

PROBLEM (<http://www.cdc.gov/obesity/childhood/index.html>). Results from the 2007-2008 National Health and Nutrition Examination Survey, using measured heights and weights, indicate that an estimated 17% of children and adolescents ages 2-19 years are obese. Between 1976-1980 and 1999-2000, the prevalence of obesity increased; between 1999-2000 and 2007-2008 there was no significant trend. Among pre-school age children 2-5 years of age, obesity increased from 5 to 10.4% between 1976-1980 and 2007-2008 and from 6.5 to 19.6% among 6-11 year olds. Among adolescents aged 12-19, obesity increased from 5 to 18.1% during the same period. Obese children and adolescents are at risk for health problems during their youth and as adults. During their youth, they are more likely to have risk factors associated with cardiovascular disease (such as high blood pressure, high cholesterol, and Type 2 diabetes) than are other children and adolescents. And they are more likely to become obese as adults. One study found that approximately 80% of children who were overweight at aged 10–15 years were obese adults at age 25 years. Another found that 25% of obese adults were overweight as children and that if overweight begins before 8 years of age, obesity in adulthood is likely to be more severe.

BEHAVIORAL FACTORS (<http://www.cdc.gov/obesity/childhood/index.html>). Certain behaviors can be identified as potentially contributing to an energy imbalance and, consequently, to obesity.

- **Energy intake:** Large portion sizes for food and beverages, eating meals away from home, frequent snacking on energy-dense foods and consuming beverages with added sugar are often hypothesized as contributing to excess energy intake of children and teens. In the area of consuming sugar-sweetened drinks, evidence is growing to suggest an association with weight gain in children and adolescents.
- **Physical activity:** Participating in physical activity is important for children and teens as it may have beneficial effects not only on body weight, but also on blood pressure and bone strength. Physically active children are also more likely to remain physically active throughout adolescence and possibly into adulthood. Children may be spending less time engaged in physical activity during school. Daily participation in school physical education among adolescents dropped 14 percentage points over the last 13 years — from 42% in 1991 to 28% in 2003.²⁶ Less than one-third (28%) of high school students meet currently recommended levels of physical activity.
- **Sedentary behavior:** Children spend a considerable amount of time with media. One study found that time spent watching TV, videos, DVDs, and movies averaged slightly over 3 hours per day among children aged 8–18 years. Several studies have found a positive association between the time spent viewing television and increased prevalence of obesity in children. Media use, and specifically television viewing, may displace time children spend in physical activities, contribute to increased energy consumption through excessive snacking and eating meals in front of the TV, influence children to make unhealthy food choices through exposure to food advertisements, and lower children's metabolic rate.

ENVIRONMENTAL FACTORS (<http://www.cdc.gov/obesity/childhood/index.html>). Home, child care, school, and community environments can influence children's behaviors related to food intake and physical activity.

- **Within the home:** Parent-child interactions and the home environment can affect the behaviors of children and youth related to calorie intake and physical activity. Parents are role models for their children who are likely to develop habits similar to their parents.
- **Within child care:** Almost 80% of children aged 5 years and younger with working mothers are in child care for 40 hours a week on average. Child care providers are sharing responsibility with parents for children during important developmental years. Child care can be a setting in which healthy eating and physical activity habits are developed.
- **Within schools:** Because the majority of young people aged 5–17 years are enrolled in schools and because of the amount of time that children spend at school each day, schools provide an ideal setting for teaching children and teens to adopt healthy eating and physical activity behaviors. According to the Institute of Medicine (IOM), schools and school districts are, increasingly, implementing innovative programs that focus on improving the nutrition and increasing physical activity of students.
- **Within the community:** The built environment within communities influences access to physical activity opportunities and access to affordable and healthy foods. For example, a lack of sidewalks, safe bike paths, and parks in neighborhoods can discourage children from walking or biking to school as well as from participating in physical activity. Additionally, lack of access to affordable, healthy food choices in neighborhood food markets can be a barrier to purchasing healthy foods.

COOMS SURVEY. The “Child overweight/obesity in Maine Schools” (COOMS) survey was piloted in Spring 2010 by seven Year III (2009-10) participants in the Health Leadership Development (HLD) program of the Daniel Hanley Center for Health Leadership in Portland, Maine. The purpose of the survey was to collect, analyze, and report the perceptions, evaluations, and prescriptions of Maine elementary and middle school staff with regard to child overweight/obesity and its impact on schools. Seven widely dispersed Maine schools participated in the survey. At each school, three classroom teachers, two specialists (physical education and health education), and one administrator (principal or assistant principal) were targeted.

- **Perceptions** involved how a participant saw something, e.g. when asked to agree or disagree with the statement: *“In my community, child overweight/obesity IS one of the most pressing health concerns we have for children.”*
- **Evaluations** involved how a respondent judged something, e.g. when asked to agree or disagree with the statement: *“In my community, child overweight/obesity SHOULD BE considered one of the most pressing health concerns we have for children.”*
- **Prescriptions** involved what a participant would do about something, e.g. when asked whether s/he would support it or not if the School district were to *“provide support for on-going professional training and development for foodservice staff and teachers in the areas of nutrition and physical activity.”*

The 34-item survey took 30-45 minutes per respondent. Responses were recorded on paper, not tape, one of a number of measures used to protect confidentiality. Items consisted of a statement, with which a respondent could answer along a five-point range from “Strongly agree” to “Strongly disagree.” Each statement was followed with a probe, e.g. “Why do you answer this way?” Respondents were instructed, “Not every probe need be answered.” Occasionally, one type of respondent, e.g. a specialist, was absent the day the interviews were conducted. One superintendent was inadvertently interviewed and subsequently included among the principals. COOMS survey middle school sites (n=3) were located in Department of Health and Human Services (DHHS) district 3 (Western Maine), 4 (Midcoast), and 8 (Aroostock); elementary school sites (n=4) in district 5 (Central Maine), 6 (Penquis), and 7 (Downeast). One was a Reservation school. In less populous settings, the school could be part of a larger school, e.g. a K-8 or k-12 school.

RESULTS: RESPONDENTS. The survey was completed by 41 respondents; of these 8 were located in elementary schools, 9 in middle schools, 11 in elementary plus middle schools, and 13 in k-12 schools. Across respondents (n=40) a total 491 years had been invested in that school (mean 12.28, sd 9.53) and 768 years in all schools (mean 19.21, sd 10.58). For gender, 3-in-4 respondents were female (n=30), 1-in-4 male (n=11). For age, roughly half were under 50 (n=22) and over 50 (n=19); roughly 1-in-8 were, respectively, under 30 years of age and 60 years of age or over. For primary role, 21 were teachers, 9 were principals or assistant principals (including one superintendent), 7 were physical education specialists (a role which was combined with health education at times), and 4 were health education specialists.

RESULTS: PERCEPTION AND EVALUATION. Questions were adapted from Robert Wood Johnson Foundation, Active Education: Physical Education, Physical Activity, and Academic Performance. Research Brief, Summer 2009, at http://activelivingresearch.com/files/Active_Ed_Summer2009.pdf. Of respondents,

- **academic performance:** fully 71% agreed (49% strongly) that “At my school, children who are physically active and fit do tend to perform better in the classroom than children who are not.”
- **overweight/obesity:** fully 83% agreed (29% strongly) that “In my community, child overweight/obesity is one of the most pressing health concerns we have for children” while fully 95% agreed (51% strongly) that it “should be considered” so there.
- **physical activity in school:** only 32% agreed (5% strongly) that “At my school, most children most days do get 60 minutes or more moderate physical activity while in school” while fully 88% agreed (56% strongly) that they “should get 60 minutes or more” there.

- **physical education in school:** only 5% agreed that “At my school, physical education has been substantially reduced or actually eliminated in response to budget concerns or pressures to improved academic test scores” while fully 98% (n=40 of 41 respondents) strongly disagreed that it should be reduced so in the same response.
- **physical education and learning:** fully 88% agreed (66% strongly) that “At my school, we can provide outstanding learning environments at the same time as we improve children’s health through physical education” while fully 95% (n=39 of 41 respondents) strongly agreed that it should be so.
- **school as venue (perception):** only 63% agreed (27% strongly) that “Schools like mine do serve (in fact, in practice) as an excellent venue to provide students the opportunity for daily physical activity” while fully 85% agreed (34% strongly) that such schools do serve so “to teach the importance of regular physical activity for health” and 90% agreed (37% strongly) that such schools do serve so “to build skills that support healthy lifestyles.”
- **school as venue (evaluation):** fully 88% agreed (78% strongly) that “Schools like mine should serve as a venue to provide students the opportunity for daily physical activity,” 90% agreed (78% strongly) that such schools should serve so “to teach the importance of regular physical activity for health,” and 92% agreed (80% strongly) that such schools should serve so “to build skills that support healthy lifestyles.”

RESULTS: PRESCRIPTIONS. Questions were based upon Maine Department of Education, Sample School Wellness Policy, Revised 6-19-09, at http://www.healthymainekids.org/wellness_policies/ (to [Maine Sample Wellness Policy](#)). Of respondents,

- **school board-level wellness policy:**
 - fully 100% agreed they would support it (93% strongly) were their School Board “As a policy statement ... to **RECOGNIZE** that student wellness and good nutrition are related to students’ physical and psychological well being and their readiness to learn;”
 - 100% agreed they would support it (90% strongly) were the same Board “As a policy statement ... to **COMMIT** to providing an environment that supports student wellness, healthy food choices, nutrition education, and regular physical activity;”
 - 98% agreed they would support it (90% strongly) were the same Board “As a policy statement ... to **AFFIRM** that students who learn and practice healthy lifestyles in their formative years may be more likely as adults to be conscious of the importance of good nutrition and exercise, practice healthy habits, and reduce their risk of obesity, diabetes, and other chronic diseases.”
- **school district-level nutrition standards:**
 - fully 93% agreed they would support it (61% strongly) were their School District to “**IMPLEMENT** Nutrition Guidelines to ensure that all foods and beverages served, offered, or sold to students meet or surpass the parameters of Chapter 51* and promote appropriate single serving sizes, including those foods outside of the federally regulated child nutrition programs such as celebrations and fundraisers.”

*In 2005, Maine adopted a state-wide nutrition rule, Chapter 51, which stated no sale of “foods of minimal nutritional value” (FMNV) was to be allowed at any time on school property. Sale of FMNV was permitted to staff, to the public at events, and in culinary arts programs if approved.
- **school district-level nutrition education:**
 - fully 98% agreed they would support it (76% strongly) were their School District to have nutrition education “**INTEGRATED** into the instructional program through the health education program and/or the curriculum as aligned with the content standards of Maine’s system for Learning Results:”
 - 98% agreed they would support it (83% strongly) were their School District to have nutrition education “**FOCUSED** on skills students need to adopt and maintain healthy eating behaviors;”

- 98% agreed they would support it (90% strongly) were their School District to have nutrition education *“PROVIDE students with consistent nutrition messages throughout the schools including classrooms, cafeteria, and school home communications.”*
- **school district-level physical activity:**
 - fully 98% agreed they would support it (80% strongly) were their School District to have *“SCHOOL UNITS provide all students developmentally appropriate opportunities for physical activity during instructional classroom time, physical education classes, recess periods for elementary school students, and extracurricular activities such as clubs, intramural and interscholastic athletics;”*
 - 100% agreed they would support it were their School District to have *“SCHOOL PROGRAMS build and maintain physical fitness and promote healthy lifestyles;”*
 - 100% agreed they would support it were their School District to have *“SCHOOLS encourage parents to support their children’s participation in physical activities, including available before- and after-school programs”*
- **school district-level teacher and school personnel wellness:**
 - fully 98% agreed they would support it (78% strongly) were their School District to *“HIGHLY VALUE the health and well being of every staff member and plan and implement activities and policies that support personal efforts by staff to maintain a healthy lifestyle;”*
 - 100% agreed they would support it were their School District to *“PROVIDE support for on-going professional training and development for foodservice staff and teachers in the areas of nutrition and physical activity;”*
 - 93% agreed they would support it were their School District to *“ENGAGE teachers, school personnel, students and parents to serve as models in practicing healthy eating and being physically active.”*
- **school district-level wellness policy implementation, monitoring, and evaluation:**
 - fully 80% agreed they would support it (56% strongly) were their School District to *“MAKE the Superintendent/designee responsible for the implementation of the wellness policy, for monitoring efforts to meet the intent of this policy, and for reporting to the School Board and community on an annual basis;”*
 - 93% agreed they would support it (76% strongly) were their School District to *“HAVE the District Superintendent appoint a local wellness policy committee or designate an existing school health committee/leadership team that includes parents, students, food service staff, teachers, representative of the school board and/or administration as well as community members;”*
 - 88% agreed they would support it (66% strongly) were their School District to *“HAVE this local wellness policy committee meet and develop a 5 year plan of activities focused on improving student and staff wellness. The plan will identify measures for evaluation of the activities and policy;”*
 - 83% agreed they would support it (61% strongly) were their School District to *“HAVE the appointed local wellness policy committee make annual recommendations to the District Superintendent and the School Board for revisions to the activities plan and/or to the local wellness policy, administrative guidelines, and practices. And HAVE a report submitted at least annually to the District Superintendent and the School Board;”*
 - 95% agreed they would support it (78% strongly) were their School District to *“BROADLY COMMUNICATE both the local wellness policy and the activities plan to school staff, students, parents and community members;”*
 - 87% agreed they would support it (78% strongly) were their School District to *“PERMIT the wellness policy committee, with prior approval of the Superintendent/designee, to survey parents, students and the community and/or to conduct focus groups or community forums.”*

DISCUSSION