



Prevention Research Centers

Planet Health for Obesity Reduction in School Children— Readily Accepted and Cost-Effective

Harvard University
Prevention Research Center on Nutrition and Physical Activity

Background

Between 1980 and 1999 the prevalence of overweight in the United States nearly tripled (from 5% to 14%) among adolescents and nearly doubled (from 7% to 13%) among children 6 to 11 years of age. This trend forecasts an increase in chronic disease as the younger generation ages. Little is known about effective ways to reverse this alarming trend, although its root cause of insufficient physical activity in relation to excess calories consumed is well known. Because most children spend a substantial portion of their day in school, the school environment is a promising venue for educational and experiential lifestyle interventions.

Planet Health

- Physical activity and nutrition lessons woven into existing middle school curriculum
- Effective in reducing TV viewing time in both boys and girls and decreasing obesity in girls
- Readily adopted by teachers; Boston Public Schools expand its use
- Cost-effective and projected to save money in later life

Context

Focusing on how to increase physical activity and improve dietary habits, researchers at Harvard University's CDC-supported Prevention Research Center (PRC) developed* an interdisciplinary curriculum (called Planet Health) for public middle schools, in explicit collaboration with teachers and school principals. The curriculum was designed to fit easily into existing language, math, science, social studies, and physical education classes; to foster basic educational competencies required by the state of Massachusetts; and to provide materials easy for teachers to use. The content emphasizes increasing consumption of fruits and vegetables, decreasing consumption of high-fat foods, decreasing television viewing, and increasing physical activity.

Methods And Results

Phase I

A 2-year randomized controlled trial* of the curriculum in 10 public middle schools in Boston yielded a significant reduction in television watching for both girls and boys, and a significant decrease in the prevalence of obesity among girls.

Phase II

After the Boston Public Schools (BPS) expressed interest in disseminating Planet Health, a partnership was formed to pilot test how feasible and sustainable the curriculum could be in public school settings where resources are constrained. Using the model of community-based participatory research, a project advisory board representing the key stakeholders within the BPS and the Harvard PRC guided the partnership from its inception. The BPS selected a sample of six inner-city middle schools to participate, while the PRC provided the Planet Health curriculum, training workshops for more than 100 teachers, small stipends for teacher coordinators within each of the participating schools, and research expertise to assess diffusion of the program.

The diffusion study demonstrated that 76% to 100% of teachers found the curriculum highly acceptable and 78% to 100% planned to continue using it. More than 90% found the curriculum effective and believed that it made a positive contribution to their classes.

Consequences

Satisfied that its criteria for success were met, BPS endeavored to sustain and expand use of the Planet Health curriculum through independent funding. It first secured funding from the U.S. Department of Education's Physical Education for Progress for pilot expansion to 12 schools in 2002–2003. Subsequently, BPS received financial support for further expansion from the Boston Public Health Commission under the auspices of the new STEPS to a Healthier U.S. project, sponsored by the U.S. Department of Health and Human Services.

Impact And Potential Impact

Planet Health is being implemented in more than 120 schools in Massachusetts, and in the past two years, more than 1,000 teachers have been trained to use it. In addition, 2,000 copies of the curriculum have been purchased by interested parties in 48 states and 20 countries, potentially benefiting many thousands of children.

An independent economic analysis of Planet Health was conducted based on an estimated program cost of \$14 per student per year and an obesity reduction of 1.9% persisting into adulthood among girls. Based on these assumptions, the program was found to be highly cost-effective—in fact, more cost-effective than commonly accepted preventive interventions such as screening and treatment for hypertension. Furthermore, the program was projected to save money via avoided medical costs and productivity losses later in life. For every dollar spent on the program in middle school, \$1.20 in medical costs and lost wages would be saved when the children reach middle age.

Planet Health has demonstrated effectiveness, feasibility, acceptability, and sustainability in a public school environment. The curriculum has been found to be cost-effective and, dollar for dollar, to save society money in the long run.

References

Gortmaker SL, Peterson K, Wiecha J, Sobol AM, Dixit S, Fox MK, Laird N. Reducing obesity via a school-based interdisciplinary intervention among youth: Planet Health. *Archives of Pediatrics and Adolescent Medicine* 1999;153:409–18.

Wang LY, Yang Q, Lowry R, Wechsler H. Economic analysis of a school-based obesity prevention program. *Obesity Research* 2003;11:1313–24.

Wiecha JL, El Ayadi AM, Fuemmeler BF, Carter JE, Handler S, Johnson S, Strunk N, Korzec-Ramirez D, Gortmaker SL. Diffusion of an integrated health education program in an urban school system: Planet Health. *Journal of Pediatric Psychology* 2004;29:467–74.

*The original efficacy study was conducted under the auspices of the National Institutes of Health.

For more information, please contact
Centers for Disease Control and Prevention
National Center for Chronic Disease Prevention and Health Promotion
Mail Stop K-45, 4770 Buford Highway NE, Atlanta GA 30341-3717
(770) 488-5395
cdcinfo@cdc.gov
<http://www.cdc.gov/prc>

