

Obesity and the Environment

The National Institute of Environmental Health Sciences (NIEHS) is taking an active role in identifying environmental factors that contribute to obesity, one of the nation's most serious health trends. Environmental factors being considered include:

- community designs that discourage physical activity,
- limited access to affordable and healthy food choices,
- lifestyles that rely on convenience foods,
- increased time spent in sedentary activities such as viewing television and using computers,
- chemicals in the environment that may affect weight gain,
- interactions between genes and the environment that favor weight gain.



*On average, children spend 5.5 hours a day watching TV, using the Internet, and playing video games. Children that watch more than 5 hours of television per day are 4.6 times more likely to be overweight.**

The NIEHS supports research that seeks to understand the many causes of excess weight and identify ways to address them.

Research and Grants

Grants are awarded by NIEHS for research related to the built environment and obesity. The built environment includes physical structures like homes, offices, schools, roads and transportations systems, as well as land use practices and waste management. The grants encourage research that will (1) further our understanding of how the built environment may cause or worsen obesity, or (2) develop, implement, and evaluate built environment interventions to reduce obesity. Information on grants is available at: www.niehs.nih.gov/dert/fundopp.htm

The NIEHS is conducting research to evaluate how estrogens and other compounds that get into the environment affect the risk for obesity. Also, researchers are examining gene-environment interactions that favor weight gain.

Public-Private Partnership

In partnership with the Robert Wood Johnson Foundation, the NIEHS is evaluating the effectiveness of the Foundation's Active Living by Design program. The program focuses on community approaches to increase physical activity that involve city planning, transportation, crime prevention, traffic safety, and land use. The NIEHS will examine the impact of this program in 25 communities and compare physical activity, obesity, and other health indicators with communities that are not engaged in the program. At the



end of five years, this evaluation should show which community management strategies effectively promote physical activity and reduce obesity. The model that results could help communities throughout the country to facilitate healthier lifestyles for residents.

Outreach and Education

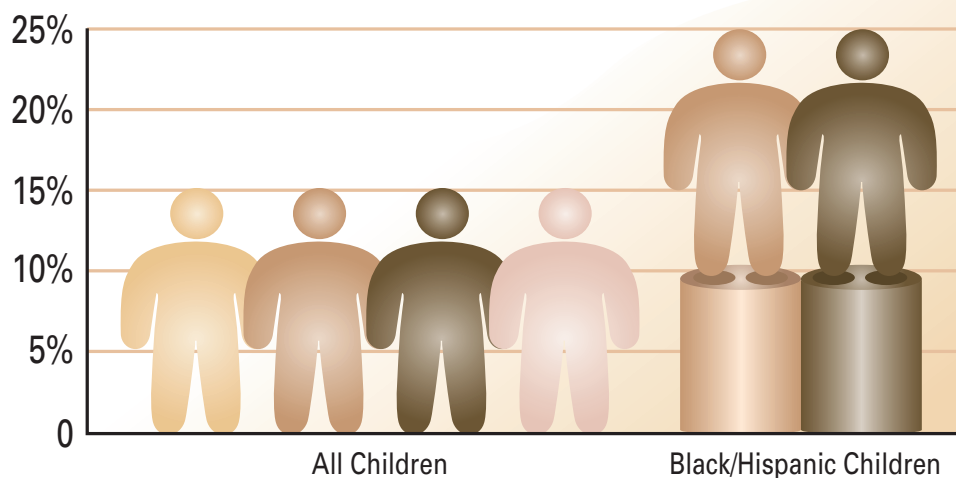
The NIEHS sponsors national conferences on Obesity and the Environment, providing an opportunity to develop research strategies for addressing the epidemic of obesity through environmental approaches. In 2004, the conference registered more than 700 participants including health researchers, health care providers, educators, community planners, and policy makers. Information on the 2004 workshop, "Improving Public Health through Community Design," can be found at www.niehs.nih.gov/drcpt/beoconf/. For information on the 2005 conference, "Environmental Solutions to Obesity in America's Youth," visit www.niehs.nih.gov/drcpt/events/oe2005/.



The NIEHS funded "Fitness Fighters," a unique, interactive educational tool created to teach children to develop good habits that help prevent obesity. "Fitness Fighters" uses a combination of animated characters and live action actors, plus original music and songs, to convey an entertaining story about the importance of exercise and good nutrition. The pilot project can be expanded to a series for educational television, schools, or other venues.

Obesity: A Problem in Children and Minorities

Estimates show that 15% of all children in the U.S. are overweight, and nearly 25% of Black and Hispanic children weigh too much.



The Federal Response

The role of NIEHS in addressing obesity is part of a larger federal effort to address the nation's growing problem with excess weight. Several public health agencies within the Department of Health and Human Services (DHHS), including the National Institutes of Health (NIH) and the Centers for Disease Control and Prevention (CDC), are working to identify and implement strategies to reverse weight problems among Americans. Obesity has reached epidemic proportions in this country and shows no sign of slowing down. The National Health and Nutrition Survey from 1999 – 2000 found that 65% of U.S. adults are overweight and that 31% are obese.

Obesity contributes greatly to rising health costs, increasing rates of disease and disability, while decreasing productivity and quality of life. Obesity is linked to increased risk for many serious diseases including type-2

diabetes, several cancers, and osteoarthritis. While obesity is a health threat for all Americans, it is a particular problem for children and minorities. Estimates show that 15% of all U.S. children are overweight, and nearly 25% of black and Hispanic children weigh too much. The implications for disease burden, quality of life, and health care costs are disturbing. As these children become adults, disease complications like amputation, blindness, kidney failure, and heart attacks may rise dramatically. Our children's future health requires that we support research to untangle the complex interactions of genes, environment and behavior that lead to excessive weight gain, and that we implement strategies to reverse this serious national trend.