

# Combining exercise and economics in the study of childhood obesity

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(Medical Xpress)—The medical costs of obesity for the current cohort of children and adolescents in Maine could reach an estimated \$1.2 billion over the next 20 years, according to a new study by a University of Maine economist.

UMaine professor of economics Todd Gabe's study suggests that the incidence of obesity is likely to increase from 7.8 percent of Maine's kids and teens to an estimated 25.7 percent as they grow into adults.

"We've all heard about the nationwide [obesity epidemic](#)," says Gabe, "and these figures bring the problem—especially the challenge facing our children as they become adults—closer to home."

In his study, Gabe used statistics from the U.S. [Centers for Disease Control and Prevention](#), and data on upward of 2,000 school-aged

children in Maine, compiled by [physical education](#) teachers in 18 schools across the state.

The data on schoolchildren was collected during the last three years as part of ongoing research in the UMaine College of Education and Human Development, led by physical education professors Steve Butterfield and Robert Lehnhard, with statistician Craig Mason, kinesiology and physical education master's graduate Sarah Livingstone, and exercise science graduate student Aaron Runner.

The physical education research team began collecting fitness data on Maine schoolchildren after training [physical education teachers](#) in the use of a standardized periodic fitness test called PACER (Progressive Aerobic Cardiovascular Endurance Run), designed by the Cooper Institute.

The physical education project, funded in part by the Betterment Fund in Maine, is one of the first of its kind in the nation, Butterfield says, and could become a national model for quantifying the extent and cost of obesity.

"A project combining exercise science and economics helps us examine an important issue facing our state, and it's a good example of the growing interdisciplinary research happening at UMaine," Mason says.

Last year, the [medical costs](#) of obesity for all age groups in Maine were an estimated \$452.7 million, with most of these costs due to adult obesity.

The concern, say Butterfield and Lehnhard, is that obese children and adolescents are much more likely than their non-obese peers to become obese adults, when the medical costs are very high.

"If anything, these cost numbers are conservative," says Gabe, whose study was funded, in part, through a partnership between the Maine Association for Health, Physical Education, Recreation and Dance; the Maine Department of Education; and UMaine's College of Education and Human Development.

"These are medical costs related to obesity, and do not count indirect costs due to early mortality or morbidity. Other studies have uncovered non-medical costs from reduced workforce productivity that are more expensive to the economy than the medical costs of [obesity](#)," Gabe notes.

Provided by University of Maine

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