

More than half of US children will have obesity as adults if current trends continue

November 29 2017



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If current trends in child obesity continue, more than 57% of today's children in the U.S. will have obesity at age 35, according to a new study from Harvard T.H. Chan School of Public Health.

The study also found that excess weight in childhood is predictive of adult [obesity](#), even among young children, and that only children currently at a healthy weight have less than a 50% chance of having obesity as [adults](#). The findings were based on a rigorous simulation model that provides the most accurate predictions to date of [obesity prevalence](#) at various ages.

The study will be published in the November 30, 2017 issue of the *New England Journal of Medicine*.

"Adult obesity is linked with increased risk of diseases such as diabetes, heart disease, and cancer," said Zachary Ward, programmer/analyst at Harvard Chan School's Center for Health Decision Science and lead author of the study. "Our findings highlight the importance of prevention efforts for all children as they grow up, and of providing early interventions for children with obesity to minimize their risk of serious illness in the future."

The researchers used new computational methods and a novel statistical approach to account for long-term population-level trends in weight gain. They pooled height and weight data from five nationally representative longitudinal studies of 41,567 children and adults. Using these data, they created 1,000 virtual populations of 1 million children up to age 19 that were representative of the 2016 U.S. population. They then projected height and weight trajectories from childhood to age 35.

The results showed that obesity will be a significant problem for most children in the U.S. as they grow older. Of the children predicted to have obesity as adults, half will develop it as children, according to the study simulations. Excess [weight](#) gained during childhood can put children on a trajectory that is difficult to change, the authors said. For example, the study found that 3 out of 4 two-year-olds with obesity will still have obesity at age 35. For children with severe obesity—a condition that

currently affects 4.5 million children in the U.S.—the risks are even greater: At age 2, these children have only a 1 in 5 chance of not having obesity at age 35; at age 5, that chance drops to just 1 in 10.

Even children without obesity face a high risk of [adult obesity](#). The study estimated that for youth ages 2-19 in 2016, over half will have obesity at age 35—and that most of these youth do not currently have obesity.

The study also found that racial and ethnic disparities in obesity are already present at age 2 and persist into adulthood, with non-Hispanic black and Hispanic individuals more likely to have obesity than white individuals at all ages from ages 2-35.

Given the high risk posed to [children](#), senior author Steven Gortmaker, professor of the practice of health sociology at Harvard Chan School, said, "It is critically important to implement policies and programs to prevent [excess weight](#) gain, starting at an early age. Plenty of cost-effective strategies have been identified that promote healthy foods, beverages, and physical activity within school and community settings."

More information: Zachary J. Ward et al, Simulation of Growth Trajectories of Childhood Obesity into Adulthood, *New England Journal of Medicine* (2017). [DOI: 10.1056/NEJMoa1703860](https://doi.org/10.1056/NEJMoa1703860)

Provided by Harvard T.H. Chan School of Public Health

Citation: More than half of US children will have obesity as adults if current trends continue (2017, November 29) retrieved 31 March 2023 from <https://medicalxpress.com/news/2017-11-children-obesity-adults-current-trends.html>

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