

'New and improved' supermarkets trim childhood obesity in NYC

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Access to newer supermarkets that offer fresh foods in some of New York City's poorest neighborhoods was linked to a 1% decline in obesity rates among public school students living nearby, a new study shows. The modernized markets were also tied to reductions of between 4% and 10% in the average student BMI-z score, a measure of body weight

based on height for each age group by gender.

Although the differences were small, researchers say the results, if translated into policy changes, could have a meaningful difference if applied to the more than 14 million (19%) American children estimated to be obese, with rates highest among Black and Hispanic children.

To substantially lower death rates from related illnesses, researchers say childhood [obesity rates](#) would have to decline at least three times more than what was observed in the study. A broad health policy approach that also included subsidies for [nutritious foods](#), restrictions on marketing of junk foods, and warning labels could potentially make up the difference.

Led by researchers at NYU Grossman School of Medicine, the new study showed that within a year after opening of newly renovated or new supermarkets, obesity rates dropped from 24.3% to 23.3% among 22,712 [school-age children](#) living within a half-mile of eight such stores. This reduction was compared with no change in obesity rates (steady at 23.3%) among 86,744 students who resided farther away from one of the publicly subsidized stores with more space for [fresh produce](#) and perishable foods. City grants have been available since 2009 to lower the cost of renovating or opening supermarkets in the city's lowest-income neighborhoods.

"Our study highlights that one in four New York City public school kids sampled, predominantly Hispanic and Black, is obese, a worrisome sign of the depth of the problem facing children's health in the city," says study lead investigator and epidemiologist Pasquale Rummo, Ph.D., MPH. Childhood obesity is strongly linked to long-term risk of heart disease, stroke, and diabetes, says Rummo.

Among the study's other key results was that obesity risk scores declined more among students in kindergarten through grade 8 than in students in

grades 9 through 12.

Rummo, an assistant professor in the Department of Population Health at NYU Langone Health, attributes this to the fact that teenagers have greater freedom to travel outside their local neighborhood than younger kids. Teenagers also traditionally have more money to spend on snack food at bodegas or fast-food restaurants.

"These results, however small, demonstrate that supermarket subsidies might play an effective role in addressing the complex problem of childhood obesity in America, especially among our most at-risk Hispanic and Black children," says study senior investigator Brian Elbel, Ph.D., MPH. Elbel is a professor in the Departments of Population Health and Medicine at NYU Langone.

Publishing in the journal *JAMA Pediatrics* online Feb. xx, the new study is the largest investigation to date on the effects of the New York City supermarket development subsidies on childhood obesity. Previous research involved single-store studies, producing mixed results that researchers hoped the current study would help resolve. Other studies also focused on the impact of subsidies on adult obesity, while the new study is the first to focus on children and their weight.

For the investigation, researchers identified at least one supermarket in each of the city's boroughs that from 2009 to 2016 participated in New York City's Food Retail Expansion to Support Health (FRESH) program. As part of FRESH, the city offered grants and tax breaks to renovate or build new nearly two dozen supermarkets in low-income neighborhoods with high unemployment to improve local access to healthy foods.

Researchers then analyzed seven years of public school health records for those students in kindergarten through high school who lived within a mile or more of the FRESH supermarkets. Body weight measurements

were then compared for one year before and for up to a year after the supermarket was redone or newly built.

The research team already has plans to look at the health effects of other [supermarket](#)-based incentives, such as discounted prices for fruits and vegetables, and whether these subsidies increase their consumption and impact [obesity](#) rates. Further investigation is also needed, says Elbel, into what effects, if any, modern supermarkets have on what food students really purchase and consume, data that was not available for the latest analysis.

Elbel stresses that all policy efforts, including FRESH grants, designed to improve public health need to be evaluated for their long-term impact.

More information: Association Between a Policy to Subsidize Supermarkets, *JAMA Pediatrics* (2022). [DOI: 10.1001/jamapediatrics.2022.1153](#)

Provided by NYU Langone Health

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