New school meal standards significantly increase fruit, vegetable consumption

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New federal standards launched in 2012 that require schools to offer healthier meals have led to increased fruit and vegetable consumption, according to a new study from Harvard School of Public Health (HSPH) researchers. The study, the first to examine school food consumption both before and after the standards went into effect, contradicts criticisms that the new standards have increased food waste.

"There is a push from some organizations and lawmakers to weaken the new standards. We hope the findings, which show that students are consuming more fruits and vegetables, will discourage those efforts," said lead author Juliana Cohen, research fellow in the Department of Nutrition at HSPH.

The study appears online March 4, 2014 in the American Journal of Preventive Medicine.

Some 32 million students eat school meals every day; for many low-income students, up to half their daily energy intake is from school meals. Under the previous dietary guidelines, school breakfasts and lunches were high in sodium and saturated fats and were low in whole grains and fiber. The new standards from the United States Department of Agriculture (USDA) aimed to improve the nutritional quality of school meals by making whole grains, fruits, and vegetables more available, requiring the selection of a fruit or vegetable, increasing the portion sizes of fruits and vegetables, removing trans fats, and placing limits on total calories and sodium levels.

The researchers collected plate waste data among 1,030 students in four schools in an urban, low-income school district both before (fall 2011) and after (fall 2012) the new standards went into effect. Following the implementation of the new standards, fruit selection increased by 23.0%; entrée and vegetable selection remained unchanged. In addition, consumption of vegetables increased by 16.2%; fruit consumption was unchanged, but because more students selected fruit, overall, more fruit was consumed post-implementation.

Importantly, the new standards did not result in increased food waste, contradicting anecdotal reports from food service directors, teachers, parents, and students that the regulations were causing an increase in waste due to both larger portion sizes and the requirement that students select a fruit or vegetable. However, high levels of fruit and vegetable waste continued to be a problem—students discarded roughly 60%-75% of vegetables and 40% of fruits on their trays. The authors say that schools must focus on improving food quality and palatability to reduce waste.

"The new school meal standards are the strongest implemented by the USDA to date, and the improved dietary intakes will likely have important health implications for children," wrote the researchers.


Provided by Harvard School of Public Health

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