

# Diet quality low but steadily improving among US kids

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On the whole, the diet of U.S. children improved markedly between 1999 and 2012 but it remains poor, said the authors of a new study that examined diet quality data from more than 38,000 kids. Moreover, disparities remain among key subgroups.

The bottom-line measure in the study, published in the *American Journal of Clinical Nutrition* is the standard, 100-point Healthy Eating Index (HEI-2010) score. Over the study period the average HEI-2010 rose to 50.9 from 42.5 as children ate more healthy foods, such as whole fruit, and became increasingly likely to avoid "empty calories," such as sugary drinks. The latter improvement explained about a third of the total improvement.

"I am encouraged by the gains," said study lead author Xiao Gu, a master's student in epidemiology in the Brown University School of Public Health. He collaborated with corresponding author Katherine Tucker of the University of Massachusetts Lowell on the study, which analyzed data gathered from 38,487 children aged 2 to 18 in the National Health and Nutrition Examination Survey (NHANES).

"Although we showed several components still need to be improved ... our paper provides evidence that we are on the correct track," Gu added.

Indeed, many of the components that make up the overall HEI-2010 score improved significantly: empty calories; whole grains; dairy; whole fruit; total fruit; seafood and plant proteins, greens and beans, and fatty

acids; total protein foods; and refined grains. Sodium consumption, however, got a bit worse and in many cases the component scores improved from poor levels, suggesting that nutrition among U.S. children needs to improve further.

"The average score for whole grains is only 2, which is far below its maximum of 10, even though we observed a significant increasing trend," Gu said. "For whole fruit the optimal is 5 but the average we observed is 2.1. I think the increasing trend is encouraging but the current dietary quality level is disappointing."

NHANES gathered the data by surveying thousands of different participating children (or their caregivers) every two years, asking each member of that nationally representative sample to recall what food they ate the prior day. Gu and Tucker used that nutrition intake data to calculate the HEI scores.

## **Demographic disparities**

Every demographic subgroup of children shared in the gains, but the pace varied and disparities remain.

The score among non-Hispanic black children improved to 48.4 in 2012 from 39.6 in 1999, but over the same period the score for non-Hispanic whites rose to 50.2 from 42.1. While the gap narrowed somewhat, a clear disparity persists.

Gu and Tucker also looked at economic correlates of nutrition. They found that as household wealth increased, so did the degree of gains. HEI-2010 scores rose 23.8 percent among the wealthiest third of the sample, 19.2 percent among the middle third, and 18.2 percent among the least wealthy third.

The authors also analyzed [diet quality](#) among children in federal nutrition assistance programs. Over the course of the study period, the HEI-2010 scores of children in families receiving Supplemental Nutrition Assistance Program (SNAP) benefits began to lag those of children not receiving such benefits, while children benefitting from the Women Infants and Children (WIC) program pulled further ahead of [children](#) not receiving that assistance.

That difference might in part relate to how the two programs are structured, Gu said. In SNAP, because consumers can buy almost any food they might buy less healthy ones if they are less expensive. WIC, on the other hand, limits food choices to ones that adhere to dietary guidelines.

## **An overall policy success?**

The broad-based quality gains evident in the average American child's diet so far this century may stem from sound policymaking, Gu said. Over the same period researchers, policymakers and non-governmental organizations have worked well together, for example, to improve nutritional guidelines. Ballot initiatives may have helped further, Gu said, by passing soda taxes in several cities that could further discourage empty calorie consumption.

"We should continue improving our policies and programs along with doing more research because that has really made Americans healthier," Gu said.

**More information:** *American Journal of Clinical Nutrition*, [DOI: 10.3945/ajcn.116.135095](#)

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