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Generating evidence to support health promotion policies: the case of added sugar labeling

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The mandatory labeling of added sugar content on packaged foods and beverages in the United States could generate substantial health gains and cost savings, based on a study that we published today in the American Heart Association's journal *Circulation*.

In collaboration with colleagues at the University of Liverpool, we used a validated microsimulation model and nationally representative data to estimate the health effects, costs, and cost-effectiveness of the new added sugar label on the Nutrition Facts label.

We found that, over the next 20 years (2018 to 2037), the impact of added sugar labeling to nudge consumer choices could prevent nearly 1 million cases of cardiovascular disease and type 2 diabetes, save \$31 billion in net healthcare costs, and save \$62 billion in societal costs. Importantly, if the added sugar label also prompts the food industry to reformulate a portion of products to have fewer added sugars, our model estimated that these health and financial benefits could be doubled. Considering net costs vs. savings, this policy was estimated to be cost-effective within five years and cost-saving within seven years.

As impressive as these potential health and cost-saving benefits are, they may be underestimated because our model used conservative assumptions about industry reformulation. In addition, we only included the potential effects on cardiovascular disease and diabetes, but there may be additional benefits of sugar reduction related to other health outcomes.

Our study is the first to calculate the potential health and cost-saving benefits of added sugar labeling, a new food label requirement that the FDA announced in May 2016 as part of its first major revision to the Nutrition Facts label since 1993. Although some manufacturers are already disclosing added sugar content on their labels, the policy's official compliance date has been delayed to 2020 for large manufacturers and to 2021 for small manufacturers.

Quantifying policy impact with simulation modeling

Unhealthy diets are well-recognized major contributors to chronic diseases and their associated healthcare costs. Yet, we still don't know as much about the strategies that are most effective (in terms of better health outcomes) and cost-effective (in terms of costs vs. health gains) to improve diets. We know that individual-level approaches such as education and counseling can help some people, but population-level strategies such as policy and environmental changes have greater potential for a more far-reaching, sustained, and equitable impact.

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Simulation modeling is a useful analytical approach for estimating the average population effects of large-scale policy changes. The evidence this approach generates can support practice change and help policymakers prioritize options to improve diets and health. Our study used the validated US IMPACT Food Policy Model developed in our project in collaboration with the University of Liverpool, which inputs nationally representative data on population demographics, risk factors, eating habits and disease, along with the best available evidence from meta-analyses of the impacts of dietary changes on disease risk, to estimate the potential health and cost effects of different food and nutrition policies. More information on our methods, policies evaluated, and other publications can be found at www.food-price.org.

Although our modeling approach can't prove the effects of the added sugar labeling policy, our findings provide the best available estimates, as well as uncertainty, of potential health and cost impacts. The results emphasize the need for timely implementation of the new label as well as the potential for major benefits of responsive industry reformulation so that maximum health and economic gains can be realized. As we continue to use simulation approaches to generate data and evidence on the potential impact of policy changes, we'll identify the "best buy" strategies with greatest promise for improving Americans' diets and health and reducing healthcare costs.

Note: This study was conducted as part of a research initiative called Food-PRICE: Food Policy Review and Intervention Cost-Effectiveness (www.food-price.org), a National Institutes of Health-funded collaboration led by Tufts University.