HHS Public Access

Author manuscript

N Engl J Med. Author manuscript; available in PMC 2024 June 19.

Published in final edited form as:

N Engl J Med. 2024 February 22; 390(8): 681–683. doi:10.1056/NEJMp2313666.

Childhood Obesity Prevention — Focusing on Population Interventions and Equity

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Rates of childhood obesity have continued to increase in the United States, with widening disparities based on race and ethnic group[1] and associated long- term risks of obesity in adulthood, chronic disease, and death. Much attention has been focused recently on new weight-loss drugs, some of which are approved for children 12 years of age or older, with trials in younger children under way. These drugs are expensive (some have list prices of more than $16,000 per year) and have side effects (e.g., nausea and diarrhea), with possible late-onset adverse effects unknown. Evidence supporting their use over extended periods is lacking. Although such pharmacotherapy is important, we believe scholars and policymakers shouldn't lose sight of population-level strategies that can prevent excess weight gain and obesity among children in the first place.

Prevention is critically important, since childhood obesity is difficult to treat and tends to persist into adulthood. A heightened focus on prevention not only could reach large numbers of children but could free up dollars that would otherwise be spent on treating obesity and its health consequences in adulthood. Another advantage of primary prevention is that prevention-focused strategies typically aim to change the broader environment, rather than relying on children or families to modify their behavior, since behavioral changes are hard to make and even harder to sustain. To make progress, we believe it will be necessary to emphasize solutions outside the health care system.

Recent analyses of several federal, state, and local policies designed to improve food environments provide reason for optimism. Here, we examine three policy approaches to preventing childhood obesity. The first two strategies involve better aligning the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) and school meal programs with the Dietary Guidelines for Americans. The third approach involves implementing excise taxes on sugar sweetened beverages. Growing evidence from our

Disclosure forms provided by the authors are available at NEJM.org.

research team and others, including empirical and simulation studies, indicates that these three strategies have been effective at improving nutrition, preventing excess weight gain or reducing obesity risk, and advancing health equity and that they are inexpensive and offer good value for the money. These examples could help guide the development and implementation of similar approaches that could lead to sustainable improvements in children's food environments and diets.

WIC provides supplemental foods to support the nutritional needs of pregnant and postpartum women, infants, and children up to 5 years of age in low- income households. The program serves more than 6 million people per month, including more than one third of U.S. infants. Revisions to WIC food packages in 2009 resulted in improvements in the nutritional quality of foods purchased and in children's diets. An evaluation of this policy change documented a shift in trends in obesity prevalence among WIC participants between 2 and 4 years of age, from an annual increase before the policy was implemented to an annual decrease after implementation.[2]

According to a recent cost-effectiveness analysis, the WIC policy change was associated with 62,700 fewer cases of childhood obesity by 2019, at a cost of about $18 per child participating in WIC per year.[3] Because the effects were seen in children in low-income households served by WIC, with no associated changes in obesity expected in higher-income households, the policy can be seen as advancing health equity. This strategy was cost- effective, having an estimated cost per quality-adjusted life- year (QALY) gained of $10,600.[3] Although there is no universal threshold used to define cost- effectiveness, commonly used thresholds range from $50,000 to $200,000 per QALY gained. Moreover, this estimate assumes effects only on obesity, but improved nutrition among pregnant and postpartum women and children has multiple other benefits. A proposed rule that would again update the WIC food packages is expected to further strengthen WIC's public health benefits. Only half of people who are eligible for WIC participate in the program, however, so maximizing enrollment is essential for realizing its full potential.

Promising changes in obesity rates were also seen after nutrition standards for school meals and snacks were strengthened under the 2010 Healthy, Hunger- Free Kids Act. School meals reach about 30 million children each day and are available to many children in households with low income for free or at a reduced price. An analysis of rates of obesity among children before and after implementation of the law suggests that it was associated with hundreds of thousands fewer children having obesity by 2018. The policy's effects were concentrated among children living in households with incomes below the federal poverty level, so there is good evidence that this change also advanced health equity.[4] The policy was implemented at an estimated cost of $25 per child per year. Interest in increasing funding for school meals is growing. Eight states (California, Colorado, Maine, Massachusetts, Michigan, Minnesota, New Mexico, and Vermont) have implemented permanent programs to provide free meals for all children, not just children from low-income households, in public schools.

Another strategy that has been successfully implemented in a number of U.S. cities and many countries is an excise tax on sugar sweetened beverages. Sugary beverages are a

leading source of added sugar in Americans' diets, are strongly associated with weight gain and obesity in children and adults, and are disproportionately consumed by members of historically underserved populations, who are also at elevated risk for obesity. Randomized experiments and longitudinal studies have shown that reducing intake of sugary beverages can reduce weight gain. Evaluations of taxes on sugar-sweetened beverages implemented in multiple U.S. cities — Philadelphia, Seattle, San Francisco, and Berkeley and Oakland, California — have indicated their effectiveness in reducing sales and consumption of sugary beverages. Cost-effectiveness analyses have found that such taxes can be cost-saving. A recent analysis highlights the likely health and health equity–related effects of a hypothetical statewide excise tax on sugar-sweetened beverages in California.[5] The analysis projected that such a tax would be cost- saving, would prevent 42,700 cases of obesity in children and 223,000 cases in adults statewide over 10 years because of projected reductions in consumption of sugar-sweetened beverages, and would advance health equity by narrowing obesity-related disparities based on both income and race or ethnic group. A $0.02-per-ounce tax is projected to be inexpensive — costing the state $0.09 per resident per year — and to save $112 in obesity-related health care costs for every $1 spent on implementation.[5] In addition, taxes on sugar-sweetened beverages can raise substantial revenue. Such a tax in California could generate more than $1.6 billion in state tax revenue each year. This additional revenue could be used for other programs aimed at improving population health and health equity.

As debates continue about whether insurers should cover weight-loss drugs, it's important not to lose sight of the evidence that investments in prevention can be money well spent. It is not necessary to choose between preventing and treating obesity among children — both goals are important. As debates continue about whether insurance companies should cover weight-loss drugs and trials are under way to expand the age range of children eligible for such medications, it's important not to lose sight of the strong evidence that investments in prevention can be money well spent. A growing body of evidence indicates that there are cost-effective (or even cost- saving), population-level strategies that can prevent obesity in children while also advancing health equity. Leveraging these strategies won't fix the problem of childhood obesity overnight, but it could (and has already begun to) slow the development of new cases, particularly among members of historically under- served populations — a major public health achievement. This knowledge can also inform efforts to achieve the goals of the White House Conference on Hunger, Nutrition, and Health of ending hunger and reducing diet-related diseases and disparities by 2030. Addressing childhood obesity has been an enduring challenge. Researchers and policy- makers should not overlook what is already working well and should continue to pursue promising prevention-focused approaches.

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