CLINICAL DECISIONS

Regulation of Sugar-Sweetened Beverages

This interactive feature addresses the approach to a clinical issue. A case vignette is followed by specific options, neither of which can be considered either correct or incorrect. In short essays, experts in the field then argue for each of the options. In the online version of this feature, available at NEJM.org, readers can participate in forming community opinion by choosing one of the options and, if they like, providing their reasons.

CASE VIGNETTE

Mr. and Mrs. Landon take their 12-year-old daughter, Meredith, to her pediatrician for an annual wellness visit. Meredith has no history of medical illness, and she has received all the age-appropriate vaccinations. Meredith enjoys reading books, watching television, and playing computer games. She does not participate in any organized sports and does not engage in regular physical activity other than her school gym class, which lasts for 30 minutes twice a week. She lives in an apartment building with an elevator, and she takes the bus to school each morning. While at school, Meredith purchases lunch from the cafeteria and usually has a sweetened fruit-flavored beverage with her lunch. Often after school, she goes to the convenience store with her friends and purchases a carbonated soft drink and a snack.

Meredith is 59 in. (1.5 m) tall and weighs 110 lb (50 kg), which places her in the 87th percentile of body-mass index (the weight in kilograms divided by the square of the height in meters) for girls her age. Her pediatrician tells Mr. and Mrs. Landon that their daughter is overweight and that she is at risk for obesity and the development of medical complications.

Which one of the following approaches to the broader issue do you find appropriate? Base your choice on the published literature, your own experience, recent guidelines, and other sources of information.

1. **Support government regulation of sugar-sweetened beverages.**
2. **Do not support government regulation of sugar-sweetened beverages.**

Choose an option and comment on your choice at NEJM.org

To aid in your decision making, each of these approaches is defended in the following short essays by experts in the field. Given your knowledge of the patient and the points made by the experts, which option would you choose? Make your choice and make recommendations for the patient at NEJM.org.

OPTION 1

Support Regulation of Sugar-Sweetened Beverages

Thomas Farley, M.D., M.P.H.

Meredith's decisions to drink sugary drinks at school or in the afternoons are not entirely her own. They occur in an environment that is very much shaped by food-industry marketing.

Beverage companies use all the "P's" of marketing to increase sales: product, promotion, packaging, placement, and pricing.[1] Sugary drinks are products that are designed to appeal to humans' powerful preference for a sweet taste. They are promoted with nearly $1 billion a year in advertising, much of which is seen by children.[2] They are packaged in single-serving, easy-to-open, reclosable containers to facilitate immediate and continued consumption and in portion sizes that have grown by a factor of 3 to 5 in recent decades.[3] They are placed within easy reach to promote impulse purchases, in vending machines, coolers of convenience stores, and end-aisle displays and checkout lines in grocery stores — and of course in schools. And they are priced with volume-based discounting to encourage consumers to "trade up" to larger sizes. These marketing techniques work synergistical-

ly, and over the past few decades, consumption of sugary drinks has more than doubled.[4]

It is not only children who are obese. Nearly 70% of adults in the United States are obese or overweight.[5] This epidemic continues to grow, despite the personal suffering it causes, despite the costs it imposes on our society, despite the near-universal awareness that the excess consumption of calories is a huge contributing factor, and despite the fact that 40% of Americans want to lose weight.[6] A reasonable conclusion is that food and beverage marketing practices overwhelm the ability of many adults to resist. It is unrealistic, then, to expect a 12-year-old to overcome these pressures.

If a harmful chemical in schools were causing our children to get sick, people would demand government regulation to protect them. It is therefore difficult to argue against a government response to an epidemic of obesity that kills more than 100,000 persons a year in the United States and has an environmental origin.[7]

Federal, state, and local governments already regulate the food system, from farm to retail, in many ways and for many purposes, ranging from support of agriculture to prevention of foodborne illness. The question is not whether we should regulate food, but rather whether we should update food regulations to address this new epidemic.

Public health proposals to reduce the consumption of sugary drinks, which are implicated as a major contributor to the obesity epidemic,[8] are designed to counteract the environmental risk of beverage marketing. Besides restrictions on sales in schools, proposals include volume-based excise taxes, which encourage customers to switch to zero-calorie beverages or choose smaller portion sizes; a prohibition on the use of Supplemental Nutrition Assistance Program benefits to purchase them, which removes an inappropriate government subsidy; and an upper limit on portion size in restaurants, which encourages moderation. Each of these proposals would help people reduce their intake of sugary drinks while still allowing them the freedom to consume as much as they truly want.

Education is often presented as an alternative to policy-based solutions to health problems, but neither is a substitute for the other. Education about the risks of obesogenic foods and beverages is absolutely necessary, but the continued growth of the obesity epidemic makes it clear that education alone will not solve this problem. If we are to end this epidemic, we will also need a "food environment" that does not entice children into drinking sugary drinks in school or on the way home.

Disclosure forms provided by the author are available with the full text of this article at NEJM.org.

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OPTION 2

Do Not Support Regulation of Sugar-Sweetened Beverages

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There is no debating the increasing toll that childhood obesity takes in the United States, and sugar-sweetened beverages continue to contribute to the problem. Since the dissemination of health information has a limited effect on children's behavior, it may instead be very appealing to regulate the content, price, availability, or marketing of sugar-sweetened beverages. After all, what could go wrong? If we pass laws saying that children can't have soft drinks, they won't.

Yet instead of expecting a proud success, we should heed a note of caution. We have gone down such paths before, with more evidence to back us than there is in the case of sugar-sweetened beverages (and with fewer potential costs in terms of freedom), and we have failed to change behavior.[9] Prohibition, for instance, was intended to wipe out the ills of alcohol, but it could not withstand the violent backlash, subversion, and illegal consequences that quickly followed. We raise three potential pitfalls that must be considered before any regulation that imposes on either consumers or producers of sugar-sweetened beverages is implemented.

First, consumption of other choices will not remain constant when we tinker with what is available to eat or drink. In the language of economists, ceteris paribus ("with all other things constant") does not hold. If we remove soft drinks from the set of possible choices, other food choices that children make will not remain the same. For instance, our recent "Coke to Coors" study showed that taxing soft drinks in Utica, New York, led beer-buying households to increase

their purchases of beer.[10] We would expect analogous substitutions among children. If soft drinks are not available, they may drink more high-calorie fruit juice or eat more cookies or candy, which are similarly dense in calories. Consider what happens when schools ban chocolate milk: total milk consumption declines precipitously in favor of less nutritious choices.[11]

Second, "A man convinced against his will is of the same opinion still," Ben Franklin poetically said. The same is true with children. When authority figures dictate children's diets, children show reactance — resistance against regulation.[10] In this case, we have observed that a preference for less healthful foods, including sugar-sweetened beverages, strengthens when it appears that a tax is being used to restrict consumption. It would be disheartening if policies restricting soft-drink consumption by children fueled a generation of devoted soft-drink lovers.

Third, and most important, there is a way forward that has fewer risks and that can place children squarely in our corner. The use of simple behavioral nudges, such as making soft drinks less visible and less convenient, can have a big effect on consumption, while still allowing the children's (or their parents') own choice.[9,12] Because these changes are subtle and nonrestrictive, they often go unnoticed. There are opportunities to work with the soft-drink companies to find ways to encourage better consumer habits without creating the potential backlash (e.g., healthy-habit loyalty cards for zero-calorie beverages). Behavioral approaches have also been successful in guiding children to eat more fruits and vegetables by simply making them more visible and attractive, by associating them with exciting names (e.g., x-ray–vision carrots), or by associating them with a well-known fictional character (e.g., Elmo or Batman). These voluntary approaches are much more likely than regulations to create long-term behavioral habits and much less likely to create a class of soft-drink freedom fighters.

We must also recognize that the universe of foods that contribute to childhood obesity is much larger than sugar-sweetened beverages. Such a narrowly defined approach would have minimal chance for overall success. Rather, we must consider approaches that will involve parents, schools, and pediatricians in leading children toward more healthful eating habits and increased physical activity. In truth, we cannot hope to create regulations that restrict behavior holistically. The child in the vignette would benefit most from an individualized approach to healthful lifestyle choices that strengthens her ability to make her own healthful and reasoned decisions.

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