

Epidemic Childhood Obesity: Not Yet the End of the Beginning

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After 35 years of unremittingly bad news about childhood obesity, a plateau in overall prevalence and a statistically significant decline among 2- to 5-year-olds had been suggested in national data from earlier this decade.¹⁻³ News reports in 2014 celebrated “the first clear evidence that America’s youngest children have turned a corner in the obesity epidemic.”⁴ Perhaps Michelle Obama’s Let’s Move campaign, the Robert Wood Johnson Foundation’s \$500 million prevention initiative, and growing public awareness had finally begun to pay off.

Unfortunately, this optimistic picture was not to be, according to an article in this issue of *Pediatrics*. Using nationally representative data from 1999 to 2016, Skinner et al⁵ examined changes in body weight status (ranging from overweight to class III obesity [BMI $\geq 140\%$ over the 95th percentile]) among children ages 2 to 19 years. The study revealed that obesity prevalence did not decrease for any age group and continued upward among many subgroups. Of particular concern, previously documented racial and ethnic disparities, especially at the most extreme weight categories, showed no sign of abating. For instance, class III obesity is currently two- to fourfold more prevalent among African American or Hispanic girls and boys compared with their white counterparts.

Although methods for estimating obesity prevalence differ in accuracy and precision among surveys, a strength of this study (in which NHANES was used as the data source)

is direct measurement of height and weight by physical examination at each survey cycle, providing confidence in the estimates of secular trends.

What are the lessons to be learned from these new data? First, we should avoid the tendency to overinterpret short-term trends for complex chronic diseases like obesity, especially among small subgroups. The rapid rise in rates observed in the 1980s and 1990s could not persist indefinitely; as annual rates of change slow, an illusory change in trajectory will more likely arise from statistical flukes.

The second, more fundamental lesson is that our public health approach to the epidemic has largely failed so far. Indeed, a new study, based on life-course growth trajectories adjusted for secular trends through 2014, predicts that the majority of 2-year-olds today will have obesity by age 35 years.⁶ If current rates have not yet plateaued, as suggested in the NHANES 2015 and 2016 survey data, then even this bleak projection may underestimate the magnitude of the problem.

The obesity epidemic threatens to shorten life expectancy in the United States and bankrupt the health care system.⁷ Yet progressive weight gain from one generation to the next is not inevitable. Most children in the United States have had access to abundant food since the end of the Great Depression and were not engaged in heavy physical labor, but obesity rates remained relatively stable until ~ 1980 .

We have deep knowledge of the biological drivers of obesity, which include poor diet quality, excessive sedentary time, inadequate physical



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activity, stress, sleep deprivation, perinatal factors, and probably environmental endocrine-disrupting chemicals. What is lacking is an effective strategy to address these drivers with sufficient intensity, consistency, and persistence. It is not enough for a child to receive more healthful meals at school (which is not always the case) if she encounters a gauntlet of junk food after school and in the home. Anticipatory obesity prevention guidance at well-child visits (if the pediatrician provides it) cannot protect against incessant exposure to manipulative food marketing through conventional media and, increasingly, social media.

The new reports on current and projected obesity rates demand definitive action involving a comprehensive national strategy across all relevant segments of society to prevent a looming public health disaster. As a first step, Washington could form an interagency commission on obesity to align food policy with public health and current science. For example, agricultural policy should be revised to promote underconsumed “specialty crops,”⁸ like vegetables, fruits, and nuts over lower-nutritional-quality commodities (eg, corn for high-fructose corn syrup). Federal food assistance programs like the Supplemental Nutrition Assistance Program could be restructured to place greater emphasis on nutritional quality, not just quantity. And National School Lunch Program regulations (eg, that

allow sugar-sweetened reduced-fat milk but not plain whole milk) require reassessment to reflect the latest science on dietary fats and added sugars.⁹

Ultimately, the burden of obesity-related disease is inextricably linked to income inequality. Poverty predisposes individuals to obesity through multiple mechanisms and to chronic diseases, like diabetes, at any weight.¹⁰ Tax cut legislation pending in Congress, estimated to raise the budget deficit by more than \$1 trillion, may increase pressure to cut the social safety net, including Medicaid and food assistance.¹¹ These are short-sighted actions that would undermine public health and paradoxically increase federal obesity-related medical costs over the long term.

The battle against childhood obesity faces many obstacles, most notably entrenched special interests and a “business as usual” mindset. But with political will and collaboration across key sectors of society, we can hopefully, soon, begin to end this worsening epidemic.

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