

# Defining “Success” in Childhood Obesity Interventions in Primary Care

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In “Brief Primary Care Obesity Interventions: A Meta-Analysis,” Sim and coauthors find that primary care interventions are not associated with a clinically significant effect on BMI.<sup>1</sup> This lack of effect is particularly striking given their use of only published trials; many more ineffective trials were probably never reported. Ultimately, they conclude that current guidelines recommending universal BMI surveillance and counseling for those with high BMI should be revised. This well-conducted meta-analysis compels us as responsible clinicians, researchers, and policymakers to take a hard look at our interventions. After all, primary care is not free. However, this study also compels us to pass that same level of scrutiny over the targeted outcome. Is BMI the right measure of screening success?

Let us reconsider the purpose of primary care–based screening and the expected outcomes. BMI is a screening tool, like vision charts or the Modified Checklist for Autism in Toddlers. The number of conditions we could screen for is limitless; therefore, well-established criteria help sort out which are most likely to improve the health of populations. A good screening test should identify an important health problem in an early stage; be inexpensive, easy to perform and interpret, and accurate and reliable; and lead to a treatment that is effective and cost-effective. Tobacco use screening and counseling, for example, is 1 of the most effective preventive services delivered in the clinical setting. The US Preventive Services Task Force has reaffirmed the strength of the evidence multiple times and

concludes that asking about tobacco use and providing tailored counseling consistently and significantly reduces tobacco use.<sup>2,3</sup>

BMI fits these criteria, although imperfectly, as a screening tool. No one will argue against the fact that childhood obesity is an important health problem. Although BMI has flaws in detecting excess adiposity,<sup>4</sup> we are learning that it is a reliable surrogate for elevated risk of cardiometabolic morbidity and mortality, perhaps even at lower cutoff points than we currently use.<sup>5</sup> Reduction of BMI in adolescence to a normal adult BMI reduces cardiovascular risk and nearly reverses the risk for type 2 diabetes.<sup>6</sup>

Effective obesity treatments that reduce BMI are limited to intensive (nonprimary care) behavioral interventions, medications, and surgery. Yet these interventions are not accessible to all children. BMI screening with primary care counseling is considered “clinically insignificant” because it results in only a small reduction in a child’s BMI. However, just as changes in smoking behavior lead to reduced morbidity from chronic obstructive pulmonary disease and lung cancer, so improved diet and activity behaviors lead to improved glucose tolerance, lipid profiles, and blood pressure.<sup>7</sup> Primary care nutrition and activity counseling should improve nutrition and activity behaviors. Failing to reduce BMI should not be equated with failing to adopt healthier behaviors.

The authors also appropriately address the potential harms of

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screening children for obesity, including “stigma, dieting, binge-eating, and risk for eating disorders.” Consideration of harms is important, both for screening and for not screening. A significant body of evidence has demonstrated that nonjudgmental weight status conversations in the context of a trusted medical home are desired by parents,<sup>8</sup> do not increase the likelihood of unsafe dieting practices,<sup>9</sup> and lead to increased stated desire to change behaviors.<sup>10</sup> However, the authors’ statement that “the lack of measurement of potential harms across the majority of studies is a considerable oversight” should be noted as the obesity field moves forward. Assessing potential harms is a critical component of any intervention study and should be measured by researchers and funded by sponsors.

Using BMI as an outcome also implies a much greater depth of knowledge about childhood obesity than we currently have. There is much we do not understand about how children respond to weight management interventions. We treat obesity as a single condition, probably a misguided approach. We do not know whether BMI changes lag behind behavior changes and whether that sequence varies by age or developmental stage. We do not understand the trajectory of BMI stabilization or reduction and the rate of change that correlates with long-term reductions in morbidity and mortality. Saying a child’s BMI did not achieve a “clinically significant” decline in 6 months does not tell us much about that child’s health or his or her change in behaviors over that time period. What we risk is missing the chance to express concern to a family who is motivated to make changes. We risk

them leaving thinking everything must be fine if we do not mention our concern for the child’s weight and health. We risk an opportunity to provide information, and by using BMI as our only yardstick of success, we miss the chance to congratulate and encourage families who have made positive changes.

Lastly, we wholeheartedly agree with Sim and colleagues that the science of obesity treatment must advance rapidly, to provide front-line clinicians with resources and tools to offer families. It is disappointing that only 10 randomized controlled trials were found for this meta-analysis after an epidemic that has spanned nearly 50 years. Yet there is good cause for hope: in the past 5 years we have identified promising avenues for treatment of childhood obesity, including digital health, community partnerships, and tertiary care interventions. We believe moving the field will require not only “methodologically rigorous” randomized controlled trials but the use of innovative designs, such as pragmatic trials, to determine the effectiveness of obesity care and the use of networked data systems to better understand the development and trajectories of obesity in children.

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