Building the Evidence to Reverse an Epidemic

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The basic facts of the problem are increasingly well-known, but bear repeating: childhood obesity rates in the United States have risen dramatically over the past 4 decades. Today, more than 33% of children and adolescents—approximately 25 million kids—are overweight or obese.[1] Overweight and obese children are being diagnosed with health problems that previously were considered to be "adult" illnesses, such as type 2 diabetes and high blood pressure.[2] Many studies have confirmed that the rates of overweight, obesity and related health problems are highest and rising fastest for African-American, Latino, Native American, Asian American, and Pacific Islander children living in low-income communities.[1,3]

These disturbing trends point to the real and pressing need for solutions. For some time now, our country has sought to solve the obesity crisis by placing the burden on individuals to change their diet and exercise practices. But the pervasive and entrenched nature of childhood obesity suggests that approaches focused merely on individual behavior will not solve the epidemic. To stop childhood obesity, we have to commit ourselves to comprehensive policy and environmental changes that benefit all of our children and our families.

Reversing the epidemic will require the nation's most massive mobilization ever to protect the health of the public. And that means we all have a role to play. We believe it is critical to work in partnership with other funders—to support research, programs, and policies that will make a difference. At the Robert Wood Johnson Foundation (RWJF) we already have begun to develop important collaborations with other organizations and funding partners, such as The California Endowment, the W.K. Kellogg Foundation, Kaiser Permanente, and Nemours Health and Prevention Services. We also are working with the National Institutes of Health (NIH), the Centers for Disease Control and Prevention (CDC), the U.S. Department of Agriculture (USDA) and other government agencies to prevent childhood obesity and develop real measures of progress.

Along with philanthropy and government, the public also has awakened to the threat of childhood obesity. A survey conducted by the Harvard School of Public Health in 2006 found that 92% of Americans said that childhood obesity is a serious national problem.[4] Fortunately, many schools, communities, businesses, youth and advocacy organizations, and public health agencies are working fervently to find ways to disrupt the trend. At RWJF, our goal is to galvanize the nation to work together in reversing the epidemic by 2015, and we are committed to spending at least $500 million over the next 5 years to begin achieving that goal.

While awareness of the problem is at an all-time high, we are early in efforts to understand its modifiable causes and identify and implement replicable solutions for an epidemic that took all us by surprise. Until we more fully comprehend the complexities and root causes of this epidemic and undertake a coordinated effort to address childhood obesity using strategies that work, we will be left to respond to it with guesswork and inefficiency. And we don't have time for that.

The Foundation's approach to reversing the epidemic includes three interlocking strategies: (1) building solid evidence to unravel the epidemic's root causes and discover how best to address them; (2) putting the most successful strategies into action across the country; and (3) educating parents, public health advocates, schools, and community and national leaders about the problem and solutions, and furnishing the resources and tools to help them implement and sustain effective action. We seek, with the help of others, to accelerate and spread learning from each of these three strategies in order to make our nation healthier and save countless lives.

We are focusing our efforts in two ways: (1) on the low-income and racial/ethnic minority children and families who are at highest risk, and (2) on the environmental and policy factors that place limits on the choices families and children can make. To reverse the childhood obesity epidemic, we have to change the environments in which our children live, learn, and play, and we have to change policies in ways that support parents in their efforts to raise healthy kids. Without giving families and whole communities ubiquitous access to healthy choices by engaging parents and community leaders in efforts to call for that access, we will deal with this epidemic for decades and decades to come.

Many of the Foundation's earliest research investments focused on building a solid evidence base for the widespread policy and environmental factors contributing to the "energy gap" that exists for too many

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children. Claire Wang, Steve Gortmaker, and their colleagues[5] have described this energy gap as the taking in of far more calories than we burn, which leads to unhealthy weight gain. Today's obese teenagers consume between 700 and 1000 calories more per day than what's needed for the growth, physical activity, and body function of a normal-weight teen. Closing the energy gap for American youth will require changing policies and shaping environments in ways that make it easy for children to eat well and be active. This will be especially critical for children at greatest risk for childhood obesity.

Of course, knowing **which** policy and environmental changes to make will require significant and sustained investments in research and a focus on quickly translating the findings from that research into action. Fortunately, such a research movement is coalescing with support from foundations and, increasingly, federal agencies. One need only look to the NIH's Economics of Diet, Activity, and Energy Balance Research Program for an example of an intensive effort to enhance knowledge of how economic factors contribute to obesity and to build scientific evidence to inform decision-making on public health interventions that may reduce obesity in our country.

The research papers in this supplement to the *American Journal of Preventive Medicine*,[6–14] mostly from the Foundation's Bridging the Gap program, are among the first to clarify the powerful role of school, community, and information environments and policies in contributing to the energy gap and thereby fueling the obesity epidemic. These papers provide important information about sociodemographic disparities in overweight and obesity and help define possible solutions to this ongoing problem.

A number of the supplement papers use the school setting to explore important aspects of the childhood obesity epidemic, with particular emphasis on racial/ethnic and socioeconomic disparities. O'Malley et al.[6] found that, beyond individual-level factors, characteristics of school environments—perhaps cultural factors, peer role modeling and/or differences in school food and beverage policies—facilitate obesity in schools with a high concentration of lower socioeconomic students. And two papers by Johnston, Delva, O'Malley and their colleagues[7,8] found that racial/ethnic minority and low-income youth get less exercise at school from participating in physical education (PE) and school sports, have greater access to soft drinks and to soft drink ads and promotions in their schools, and have less access to certain healthy school foods and snacks. Delva et al.[9] add more to this research vein by documenting that differences in diet and physical activity (both regular exercise and sedentary behavior) are associated with overweight and help to explain higher rates of obesity among 8th and 10th graders in low-income and racial/ethnic minority populations. They conclude that these factors appear to be more important than the family/parenting variables they examined. These findings, among the first of their type, are helping to guide us towards effective broad-based school policy and environmental solutions focused on closing the energy gap and encouraging a healthy balance of nutrition and physical activity.

In similar fashion, several of the papers in this supplement provide a clearer understanding of sociodemographic disparities for childhood obesity at the community level. Powell et al.[10] found that low-to-middle income neighborhoods and black or racially mixed neighborhoods have higher numbers and proportions of fast-food restaurants than higher-income and predominantly white neighborhoods. According to another Powell et al. paper,[11] increased availability of chain supermarkets is associated with lower adolescent body mass index (BMI) and overweight, and greater availability of convenience stores is associated with higher BMI and overweight. And Slater et al.[12] found that less than half of a national sample of local health departments provide programs targeting obesity, physical activity, and healthy eating. These and other key studies in this supplement and elsewhere provide the impetus, direction and mandates needed by government, the public health field, advocates and others at the community level to call for and develop policies and programs that will reverse the childhood obesity epidemic.

Another crucial factor in the epidemic is the information environment, and a final set of Bridging the Gap papers explore certain elements of that environment, particularly food advertisements and health-promoting ads on television. Powell et al.[13] report that African-American boys, who are more likely to be obese, watch more television and are exposed to 1.6 times the number of food ads compared with their peers, and that fast food is the most frequently viewed food product category among adolescents. Emery et al.[14] compare exposure to state and national anti-tobacco and anti-obesity ads and find that lessons learned from tobacco counter-advertising could apply to obesity counter-campaigns and their evaluation. These papers and others highlight the fact that media, advertising, and other elements of the information environment disproportionately affect those with the highest and fastest-rising childhood obesity rates, and they underscore the need for our attention to disparities, as outlined in the Yancey and Kumanyika[15] commentary in this supplement.

In sum, Bridging the Gap—as well as two of the Foundation's other obesity-related research programs, Active Living Research and Healthy Eating Research (see Sallis, Story and Orleans[16] commentary in this supplement)—are identifying the underlying policy and environmental determinants of the childhood obesity epidemic in schools, neighborhoods and communities across the country. The Foundation is committed

to supporting these creative research programs and their rigorous evaluations of promising childhood obesity prevention initiatives.

Earlier in this paper, I noted that we are in the early stages of fully understanding all of the causes of the childhood obesity epidemic. While this is true, the strength of the research presented in this supplement and the growing body of evidence about the factors that drive this epidemic lead us to believe that there are policies that have the potential to make a real difference in the lives of our children and that we need to move on enacting these policies now.

For instance, given what research shows us about the school environment, one could argue that the No ChildLeftBehindAct(http://www.ed.gov/policy/elsec/leg/esea02/107-110.pdf) should make physical education mandatory every day at every grade level and that the USDA should develop and implement nutritional standards for all competitive foods and beverages sold or served in schools. Why not try these approaches as a means to addressing both sides of the energy gap our kids face daily?

At the state and local level, policymakers need to build incentives to bring supermarkets back into underserved communities. The federal government could help local communities by increasing the Food Stamp allowance so people can afford to buy healthy foods.

As for the information environment, the Institute of Medicine (IOM) has called on the food and beverage industry to use their creativity, resources, and full marketing muscle to promote and support more healthful diets for children and youth. Among other recommendations, the IOM has said that, if voluntary efforts to shift advertising during children's television programming toward more healthful foods and beverages are unsuccessful, Congress should enact legislation mandating the change on both broadcast and cable television. RWJF fully supports that recommendation.[17]

Without significant policy changes, our efforts to reverse this epidemic will fail. But those policy changes must be rooted in research that shows us the most effective means for making change. This supplement represents a major achievement—it contributes significantly to our research knowledge in a host of environments that play critical roles in reversing the epidemic. We commend all of the supplement authors for their contributions to the childhood obesity evidence base. Their work is a reminder that sustained and coordinated funding of research, as well as action and advocacy, will be critical to stopping the epidemic in its tracks and improving the health of generations of children.

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