



An Ounce of Prevention,

a Pound of Cure

By Michael S. Broder

On the eve of launching a national campaign against childhood obesity, First Lady Michelle Obama described the trend toward higher body mass index as a “threat to the future of this nation”—and with good reason. Since the 1970s, childhood obesity has increased by 300 percent in the United States. As a result, one in three of today’s children will develop diabetes in his or her lifetime. Heart disease factors, such as high blood pressure and lipids—previously rare in anyone but middle-aged to older adults—are now being identified in children as young as six years of age. Adult obesity is also on the rise: In every state, over 15 percent of adults are obese, and in nine states, the figure is over 30 percent. With so many chronic diseases associated with obesity, the consequences for Americans’ health and for the entire U.S. health care system are staggering.

What has changed over the past few decades that could account for this unprecedented surge in obesity rates? What are some of the barriers today that keep people from eating well and being physically active? Most importantly, what can we do to prevent the current health crisis from becoming a future health catastrophe?

Eating on the go

“In the ‘old days,’ we had meals, we had desserts, and we even had full-fat milk—and children still weren’t heavy,” says **Patricia Crawford** Dr.P.H. ‘94, R.D., director of the Dr. Robert C. and Veronica Atkins Center for Weight and

Health, a joint center of the School of Public Health and the College of Natural Resources at UC Berkeley.

But one thing we didn’t have, says Crawford, was the dizzying array of snacks and sugar-sweetened beverages that are available today. “The whole dietary pattern was different,” she says. “We haven’t increased the fat in our food supply that much, but we have switched from more meat and dairy fat to a type of fat that’s in all of the snack foods and the processed foods that kids are now eating.”

Snack food consumption is on the rise thanks in part to our fast-paced modern lives, which encourage us to eat on the go. “All you need to do is look at the types of things that are sold for children,” says Crawford. “If you look at

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car seats and strollers now, they all have cup holders and snack trays, so we seem to have a culture now where we like to make it convenient to be able to offer foods to children when they're in the riding position. It's a whole different approach. Before, we ate in a meal-type setting in the home."

Sodas and Snacks 101

So where is the best place to begin to address children's eating habits? It might seem logical to begin in the home, but Crawford believes that the schools are a more effective venue for intervention. That's where the Center for Weight and Health concentrates many of its efforts.

"We don't want to mandate parents to eat a certain way, or tell parents what to do," says Crawford. "We'd like to educate parents on the importance of good nutrition, and one of the ways to educate parents is to set a good example." In fact, she says, in focus



groups conducted by the center, young mothers in California often expressed that they looked to their children's schools for nutritional guidance.

Schools offer an opportunity for a larger-scale impact; small changes can affect a large population of children. Kids spend half of their waking hours there, and it's a place where nutritional improvements are very much needed. "If you haven't been to a school cafeteria in a few decades, you're in for a shock," says Crawford. "You might think you were in a food court at the mall." Not only have school foods been commercialized, but unhealthy snack foods and beverages—full of empty calories, with little to no nutritional value—compete with the school meals for

the children's food allowance. Even children who are not overweight or obese are consuming diets that don't meet USDA's Dietary Guidelines.

California has made great strides in limiting the high-fat, high-sugar snack foods—sodas, chips, and candy—sold on the school campuses. State legislation that limits sales of these snack foods from kindergarten through 12th grade was signed into law in 2005. The Center for Weight and Health played an instrumental role in providing the science-based evaluation data that facilitated passage of the bill. The center continues to evaluate a variety of school-based programs, analyze data, and provide information and recommendations to policymakers. More than half of U.S. states now have legislation similar to California's, and federal policy, led by California's example, is also being developed.

Even though some unhealthy foods have been removed from schools, Crawford and her colleagues at the

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Center for Weight and Health continue to look forward. "There's more we can be doing to promote healthy food options in schools," she says, "such as removing the sports drinks, energy drinks, vitamin waters, and other sweetened beverages that are not sodas, but are nearly as high in sugar as sodas...and the baked chips and snack foods that barely meet the current guidelines for school foods. They're healthier than some snack foods—but they don't meet the spirit of the law, which is to really provide foods that are helping children meet nutritional guidelines."

Crawford would also like to expand nutrition interventions to other venues where children gather. "We also need to be thinking about preschool, childcare, and afterschool settings. All of these are places where children can learn healthy eating habits.

Children still do not have adequate diets. So this is the beginning, not the end, in making improvements in child health through healthful eating.”

Trix are for kids

Another radical change in the food environment over the years has been the way that food companies have ramped up marketing efforts directed at children.

“Companies really, really want to be in the children’s market,” says **Marion Nestle** Ph.D., M.P.H. ’86, a professor of nutrition, food studies, and public health at New York University. And she knows a thing or two about the food industry: Nestle, a 2011 UC Berkeley Public Health Hero and the School’s 2004 Alumna of the Year, is the author of numerous acclaimed books on the subject, including the landmark *Food Politics: How the Food Industry Influences Nutrition and Health*.

These companies, says Nestle, want children to recognize and be loyal to particular brands as early in life as possible. They want kids to pester their parents to buy the product. (The industry actually calls it the “pester factor.”) Their methods are not limited to advertisements, but also include things like games, prizes, and logos on school supplies.

And they want to promote the idea that kids should eat special kid foods. “They aren’t supposed to eat that icky, boring food that parents eat,” Nestle says. “They’re supposed to eat unidentified food objects in funny colors with cartoons on the package. What this does is transfer responsibility and authority for what kids are eating away from the parents and to the kids themselves.”

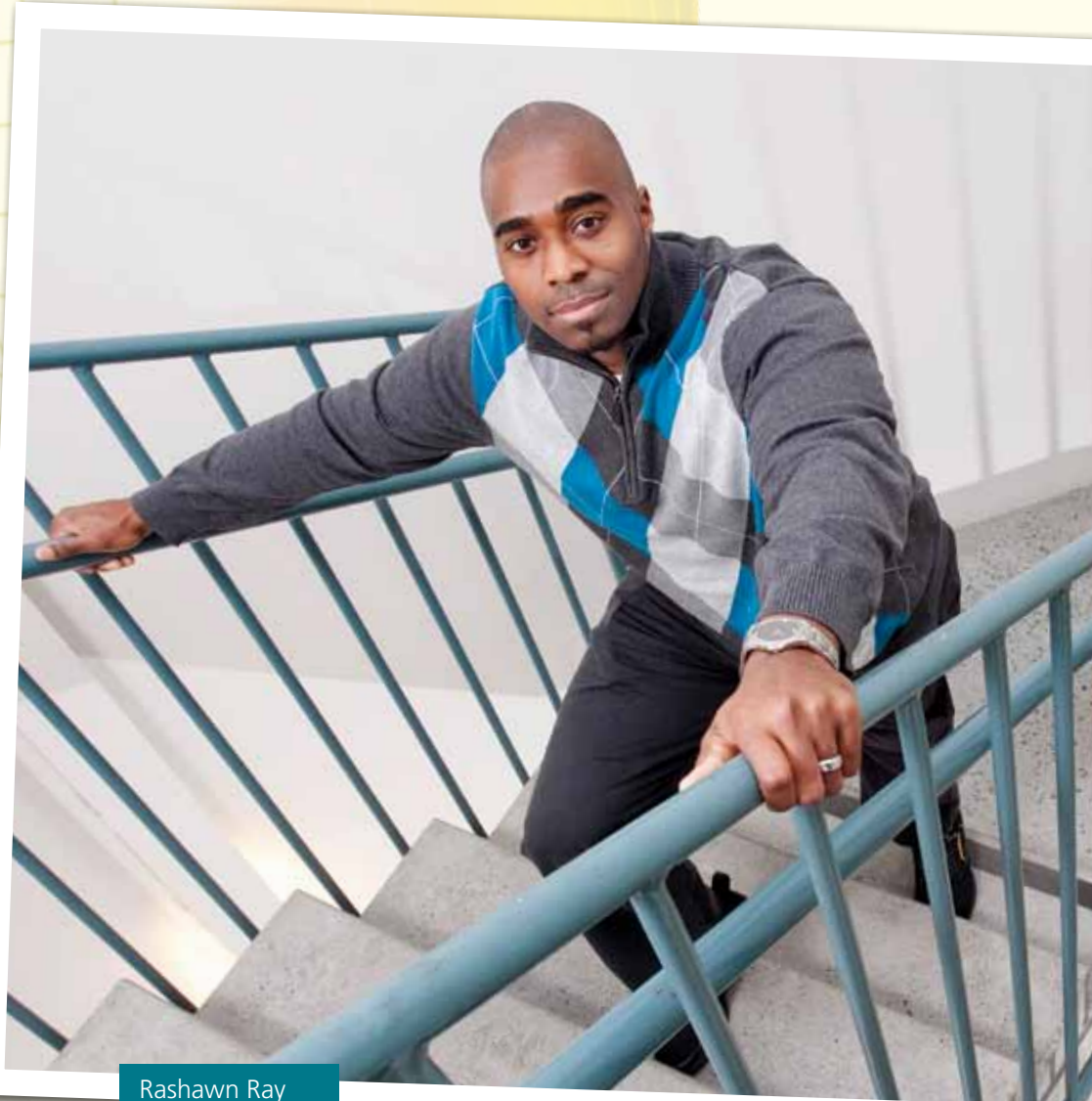
Nestle firmly believes that the marketing of food to children must be regulated. “Let’s hold the food industry accountable,” she says. “Parents can’t fight the food industry on their own. Without regulation, we’re not going to make any progress at all. But it will take time. Think how long it took to regulate cigarettes.”

Let’s get physical

Diet is one part of maintaining a healthy weight; physical activity is the other. We all know we should exercise, but what keeps some people from being physically active? Are the reasons different depending on a person’s race or socioeconomic status? These are questions that intrigue **Rashawn Ray**, an assistant professor of sociology at the University of Maryland and currently a Robert Wood Johnson Scholar in Health Policy Research at the UC Berkeley School of Public Health.

To find answers, one might first look to the physical environment. Says Ray, “If you live in a neighborhood where you don’t have proper lighting, where you don’t have sidewalks to walk on, where you don’t have

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Rashawn Ray



Edmund Seto

Ounce of Prevention, continued

safe places to ride your bike or walk your dog, and if you're less conveniently located to a park or a gym, then you're less likely to be physically active."

But there are social factors in play as well. Noting that rates of obesity are much higher among minority populations, Ray explains his goal: "I want to find out, what are the most important barriers—and who are they important for?" He began his investigation by interviewing a racially diverse sample of fitness trainers, asking for their thoughts on why people might not come to the gym.

He also conducted two focus groups of middle- and working-class African American women—one in an urban environment, and the other rural—and asked them what kept them from going to the gym. He chose

this population in part because African American women have the highest rates of obesity in the United States: 51 percent of African American women are obese, and another 29.5 percent are overweight.

What he found was that trainers' speculations focused largely on cultural assumptions—that minority women don't want to mess up their hair or lose their shape, for example. But the women reported different barriers: They said they couldn't find time when they were working and taking care of children. They were too tired. Or there wasn't a gym nearby. Ray concluded that hair is an overrated explanation for physical inactivity in comparison to income, environment, time, convenience, lack of energy, and motivation. He next plans to survey middle-class respondents, both African American and white, about their barriers to physical activity and compare their responses.

"The next part of this is figuring out what the incentives are," says Ray. "How do we motivate people to be physically active?" Economists are looking at financial incentives offered by employers, such as bonuses and additional time off. Some large employers have on-site fitness facilities. "Companies are doing this for two main reasons," he says. "One, they found out that they can lower health care costs if their employees are physically active. The second thing is, their employees are more likely to be productive when they're healthier."

There's an app for that

While Ray looks at barriers and incentives, **Edmund Seto** Ph.D. '00, associate adjunct professor at the School of Public Health, is acquiring data on physical activity using a device that most people already own and use every day. Working with a team of Berkeley undergraduates and Ruzena Bajcsy, UC Berkeley professor of electrical engineering and computer science, Seto has helped develop a smartphone app that can tell us quite a bit about a person's movement. The Android app, called CalFit, makes use of the smartphone's built-in accelerometer—the same mechanism that makes it possible to rotate the phone display from portrait to landscape—to get objective measures of energy expenditure. It also employs the phone's GPS capabilities to tell where physical activities are occurring.

Seto and colleagues have given the app to research subjects in order to track their behaviors and analyze their activity patterns. In Barcelona—"a wonderful city that has lots of opportunities for active living,

and even a city-funded bicycle-share program,” says Seto—40 people are now using the app.

“This understanding of where and when physical activities occur can be very useful in terms of designing intervention programs that might help people have better access to environments that are conducive to physical activities,” says Seto. “Smartphones are wonderful devices for tracking people. There are a ton of other health-related applications that we’re also exploring with CalFit.”

Once the app has been fully tested and research results are in, Seto and colleagues are planning to release it to the general public so people can use it to track their progress toward their exercise goals. They’re also looking at ways to increase its appeal for young people, by adding a gaming component, for example.

“We have this awareness now that if you can intervene on obesity at a young age, it prevents the progression into health effects later in life. So we’re trying to create games that entice children to have more physical activity,” says Seto.

Taking the next steps

With an environment that discourages physical activity and healthy eating in so many ways, what will it take to turn back obesity rates?

“We need to alter people’s perceptions about physical activity,” Ray offers. “A lot of people think they need to go to a gym, which they might find intimidating, or wear certain clothes—but they don’t. They can take the steps at work, walk during their lunch breaks, and park at the back of the parking lot when they go to the grocery store—incorporate it into their daily lives.”

Nestle has another idea: “Teach kids to cook!” she says. “You’ve got to start with the new generation. Then they know what food is, they learn where food comes from, and they learn a completely different kind of taste sensibility.” She would also like to see more people grow their own food. “I think anybody who’s growing their own food has opted out of the food system. And lots of people are growing their own food. So that makes me hopeful.”

Nestle and many others are encouraged by the leadership shown by Michelle Obama. “We have, for the first time, a First Lady who has taken on a public health issue as her primary area of interest. Here is a national figure speaking about childhood obesity in a way that’s never been done before,” she says. The First Lady has no policymaking authority, Nestle points out, but she does have power of persuasion.

Crawford shares Nestle’s optimism. She points to positive developments like worksite wellness programs where parents can learn about healthy lifestyles; communities that are building trails and installing bicycle racks; and the inclusion of calorie information on



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restaurant menus. “When you put all of these things together, there is a much greater likelihood that we’re actually going to see the body mass index shift,” she says.

“We know the answers,” says Crawford. “We know the ways in which we can modify children’s behaviors in the direction for health. But we need the societal will, and the time, and the leaders in the effort to do it.”