

As Child Obesity Surges, One Town Finds Way to Slim

Somerville, Mass., Goes Beyond Schools to Push Exercise, Good Eating

By [TARA PARKER-POPE](#)

SOMERVILLE, Mass. -- Most people think the battle against obesity takes willpower. But the town of Somerville knows it takes the will of an entire community.

Sparked by a desire to curb childhood obesity, this town of 78,000 has undergone a subtle yet dramatic transformation in the past five years. Restaurants have switched to low-fat milk and smaller portion sizes. The school district has nearly doubled the amount of fresh fruit at lunch. The town, just outside Boston, has repainted crosswalks to get more people walking to work or school.

The numbers suggest it works. During the 2003-04 school year, Somerville schoolchildren gained less weight than children in two nearby communities used as a control group, according to a report published today in the medical journal *Obesity*. The difference was statistically significant and translates into preventing about a pound of excess weight gain among children who lean toward the heavy side, the report says.

The Somerville study is believed to be the first controlled experiment demonstrating the value of a communitywide effort. It's only a small dent, but slowing the pace of weight gain among kids is the key to conquering childhood obesity, says lead author Christina Economos, an assistant professor at Tufts University. "It could be the difference between graduating overweight and graduating at a normal weight," she says. "We need to think about how it plays out long term."

The Somerville program, designed primarily by Dr. Economos and fellow researchers at the Tufts Friedman School of Nutrition, offers a surprising blueprint. It didn't force schoolchildren to go on diets. Instead, the goal was to change their environment with small and inexpensive steps. Dr. Economos, a specialist in pediatric nutrition and the mother of two school-age children, has long believed that the battle against obesity can't be fought at the dinner table alone but requires social and political changes.



Christina Economos

For inspiration, she turned to other successful social movements of the past 40 years, analyzing tobacco control, seat-belt use and breastfeeding. All were thorny public-health problems lacking a quick fix, yet significant progress was made on each. In 2002, the Centers for Disease Control and Prevention awarded Dr. Economos a \$1.5 million grant to find out whether the same social forces could work in nutrition.

The goal of the researchers' Shape Up plan was to have Somerville children burn more calories through exercise and take in fewer with a healthier diet, for a total benefit of 125 calories a day.

What was missing from the program at first was a community champion, someone like C. Everett Koop, the surgeon general who railed against tobacco, or Ralph Nader in the battle over car safety. "I knew we needed a sparkplug," says Dr. Economos.

She found it in Somerville Mayor Joseph Curtatone, a lawyer and volunteer football coach at the local high school. Mr. Curtatone says he had gained weight on the campaign trail and was hoping to shed a few pounds when Dr. Economos walked into his office to talk about her hopes for a community-based obesity intervention in Somerville. "I bought into it right away because I could see the potential," says Mr. Curtatone. He figured projects to encourage exercise and good eating could make the city a better place to live regardless of how the experiment turned out.

"We're here to improve the lives of everybody in the city," says the mayor. "It's not about an individual getting a gym membership."

Project Faces Challenges

Shaping up Somerville wasn't going to be easy. Only 3% of the city's 4-square-mile territory is open space. Thousands of cars roar through Somerville every day on their way to Boston, making streets less than friendly for walkers and cyclists. Among the town's first-, second- and third-graders, 44% were already overweight or considered at risk of becoming overweight, based on their body-mass index, according to Dr. Economos. That's above the national figure of about 30%.

Though Somerville isn't among the more affluent Boston suburbs, Mayor Curtatone quickly figured out that the type of changes Dr. Economos envisioned didn't cost a lot of money. For instance, many people couldn't find crosswalks because the paint had faded. The city switched to a longer-lasting reflective paint. It redeployed school crossing guards to areas where children were most likely to walk to school, and the Tufts team gave parents maps of which routes were staffed. The moves resulted in a 5% increase in the number of children who walk to school, according to Jessica Collins, a former Tufts project manager who now directs a Somerville community-health program.

Separately, the Tufts researchers helped the city win a grant from the Robert Wood Johnson Foundation for a bigger-ticket item, an extension of a bike path that will eventually go all the way to Boston. "This little experiment that came here is now tied to many other decisions we have made," says Mr. Curtatone.

Many of the efforts didn't even focus on children. The Tufts researchers held parent meetings in English, Portuguese, Haitian Creole and Spanish to explain the goals of the Shape Up plan. Tufts workers organized City Hall health fairs, a pedometer giveaway and a community fun run that the mayor joined. As the spirit caught on, the City Council came up with its own ideas: reimbursements on gym membership for city employees and dozens of new bike racks for schools and streets.

Twenty-one area restaurants received designation as Shape Up partners in exchange for making small menu changes such as using low-fat substitutes and offering smaller portions. Beth Ann Dahan, co-owner of Soleil Café & Catering, says she was happy to participate because it was good for business. "When Shape Up first started, I remember people would tell me, 'We came here because you were on the list,'" she says.

At the Somerville schools, food-service director Mary Jo McLarney decided the best way to change the eating habits of the district's 5,625 schoolchildren wasn't to focus on calories, but to improve the taste and quality of the food served in school. With help from the Tufts team, she replaced some frozen foods with fresher choices such as pizza made with fresh French bread. To boost fiber intake, cafeteria workers put cheeseburgers on whole-grain rolls, mixed whole-grain pancake batter and shelved french fries in favor of baked-potato wedges with the skin left on.

The Shape Up grant from the CDC paid for refrigerated display cases, food processors and fruit juicers to make serving fresh fruits and vegetables easier for the kitchen staff. Dr. Economos persuaded a Whole Foods store to donate about \$35,000 in fresh produce. Now children are allowed to eat as much fruit as they want. One day the mayor joined schoolchildren in the cafeteria to make fresh-squeezed orange juice.

'A Balancing Act'

"It's a balancing act, because it doesn't serve any purpose for us to produce meals nobody will eat," says Ms. McLarney. "It's about giving them the most nutritious, highest-quality meal we're able to, and it's probably more balanced than they're able to bring from home."

In classrooms, teachers taught a nutrition and exercise curriculum designed by Tufts. One part focused on a fruit or vegetable of the month, and children took part in taste tests. During cucumber month they munched on cucumbers and ranch dressing and dill-pickle spears. January was bean month. Beans are a healthy fiber-rich food, but they can be a tough sell with kids. Somerville children sampled bean and cheese quesadillas, red beans and rice, hummus and vegetarian chili, and voted on their favorites. (Quesadillas won, hummus lost.)



City of Somerville, Mass.

Mayor Joseph Curtatone (left) helps a child make fresh-squeezed orange juice at a school in Somerville, Mass.

"The voting alone encourages kids to try the item," says Ms. McLarney. "Kids wanted the chance to have their voice heard so they would try a food just for the chance to put a little piece of paper in a box."

Not every effort succeeded. The food-service department held a contest seeking healthy recipes from parents, and the winner was a salad that included chopped cucumbers, tomatoes, low-fat cheese and beans. It tasted good to contest judges, but didn't draw eaters when placed in large bowls in the cafeteria. The children still grumble about the switch from french fries to potato wedges.

The school district even lost a little money for a while when it eliminated chips, cookies, ice cream and sports drinks from the snack foods sold at lunch. Given the choice of milk or juice (or sherbet once a week), many kids opted to buy nothing. But then a funny thing happened, says Ms. McLarney: Forced to go without a fatty or sugar-rich snack, more children and teachers started buying the healthy lunch food. The schools are selling twice as much fruit in their lunchrooms as they did five years ago, she says.

"Everyone was unhappy," concedes Ms. McLarney. "But we just decided it was in everybody's best interest. Kids have \$1.80 in their pocket and they're choosing between a sundae, Powerade and a bag of chips or a salad or sandwich, what do you think they'll pick?"

Outside of the cafeteria, even art teachers got into the act by encouraging children to paint fruits and vegetables. The Tufts team created an after-school curriculum that included yoga, dance and soccer.

Ruth Grossman, a sixth-grader at Benjamin G. Brown School, says her teacher used to hand out candy bars as a reward for doing well. Now, the teacher hands out passes that allow children to skip homework or a test question. Ruth says she used to snack on potato chips, but has switched mostly to fruit. She also started taking a fitness class, and her mother took up rowing. "I learned that eating the right foods helps you do things," says Ruth. "Eating a good meal before a test helps you focus better and last longer."

Celia Taylor, a second-grade teacher at Arthur D. Healey Elementary School, said she started taking yoga classes after teaching the Shape Up curriculum. And the lessons prompted her to change snack time in her classrooms. In the past, children brought whatever snack they wanted. Now the class has a group snack, brought in by parents and selected from a list of healthy options like cheese and crackers or fruit.

Significant Difference

All the efforts translated into a modest but significant difference. After eight months of the Shape Up program, researchers in May and June 2004 measured the height and weight of 385 first-, second- and third-graders in Somerville. They compared the results with 793 children in two nearby towns that weren't part of the Shape Up program. They took the children's body-mass index and calculated a "z-score," a measure of how much they differed from the typical child of their age and gender.

In the two control towns, the "z-score" barely budged, according to the report in Obesity. In Somerville, the z-score fell, suggesting the children were moving closer to a healthy weight. The average Somerville second-grader gained about four pounds, while a similar child at other schools gained about five pounds.

Earlier efforts to reduce childhood obesity usually focused solely on the school day. While some have produced modest results, others have failed to lead to measurable changes in body weight. A CDC task force recently concluded that there's insufficient evidence to determine what type of school-based interventions are effective against childhood obesity.

Dr. Economos hopes Somerville's changes will be sustainable because they involve the entire community, not just the schools.

After the initial \$1.5 million grant expired, the Tufts researchers helped Somerville secure an additional \$1.5 million in new grants to keep up the effort. Today, a Department of Homeland Security grant is providing fitness equipment at fire stations and chefs to train the firefighters about nutrition and healthy meals. A doctor sponsors the community fun run. The City Council is discussing whether to give some workers bicycles instead of government-funded cars.

Now, Dr. Economos is working with the Save the Children Foundation to adapt and test some of the Shape Up initiatives for rural schoolchildren in the Mississippi Delta, Appalachia and California's Central Valley.

"A lot of people making a few small changes added up to this huge thing," says Dr. Economos. "We couldn't go to the kids and say you have to change your lifestyle. We had to change the environment and the community spirit first."

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