

POLICY BRIEF | July 2011



## Parks and Recreation Programs Help to Reduce Childhood Obesity

### INTRODUCTION

Over the last two decades childhood obesity has risen at an alarming rate in the United States. In 1999, 13 percent of children ages six to 11 and 14 percent of adolescents ages 12 to 19 were overweight. This prevalence has nearly tripled.<sup>1</sup> Now, the number of overweight children in the nation exceeds 12 million.<sup>2</sup>

Evidence shows that children who enter adulthood obese are unlikely to shed the burden.<sup>3</sup> And they also have a higher risk of premature death and disability in adulthood.<sup>4</sup>

Sedentary behavior is partly to blame. Forty-three percent of adolescents watch more than two hours of television each day, according to a federal report.<sup>5</sup> But excessive screen time — whether it's the TV or computer— is only one obstacle that limits children's ability to obtain the one hour of daily exercise recommended by the U.S. Surgeon General.

The built environment surrounding a child's neighborhood and school can also help or hinder physical activity. Research shows that children who live closer to parks and recreational facilities are more active than those who live further away.<sup>6</sup> And active living, along with eating nutritious foods, plays a key role in maintaining a healthy weight.

An important 10-year longitudinal study of more than 3,000 children living in southern California found that those who lived closer to parkland and recreational programs have much lower Body Mass Index (BMI) at 18 years of age than comparable children who lived further away.<sup>7</sup>

*Increasing proximity to parks and recreational programs is part of the solution to reducing childhood obesity.*

More than half the children in the study had no recreational programs within 550 yards of their home — the equivalent of five city blocks. Nearly one-third had no such programs within three miles of their home and 20 percent lacked programs within six miles.

This policy brief summarizes new research that suggests increasing proximity to parks and recreational programs is part of the solution to reducing childhood obesity in Los Angeles and elsewhere in the United States.

Figure 1. Portions of the Los Angeles study area showing the varied distributions of parks



## Methods Summary

In a 10-year longitudinal study, researchers examined the influence of urban parks and recreational resources and their impact on childhood obesity in a cohort of 3,173 children from 12 communities taking part in the Southern California Children’s Health Study. Participants were enrolled beginning in 1993 to determine whether chronic respiratory effects are a consequence of air pollution.

Trained technicians measured the height and weight of all children when they joined the study, then again annually for eight years, to calculate BMI. Participants also completed written questionnaires each year on demographics, physical activity and household characteristics.

Researchers inventoried built environment measures including park space within a little more than a quarter mile of each child’s home and school. They linked this information to their BMI and individual questionnaire.

Next, they measured the number of active recreational programs targeted to those 18 years of age and under within three-mile and six-mile buffers of children’s homes. They restricted their measurement to include age-appropriate recreational courses offered by municipalities or non-profit organizations located at city-owned or city-sponsored sites.

Scientists also predicted BMI trajectories for children ages nine to 19. Predicted values were compared to each participant's actual measurements to assess whether the lack of parkland and recreational programs contributed to BMI growth.

All statistical models controlled for race, ethnicity, gender and community of residence. In addition, researchers took into account many other risk factors that could affect weight gain such as asthma, smoking, second hand smoke and household income. They also controlled for aspects of the built environment that might influence their results, such as proximity to fast food.

### Key Research Findings

- Parkland and recreational programs significantly reduce the risk of overweight and obesity as measured by BMI attained at age 18.<sup>8</sup> Recreational programming affected the children's BMI much more than parkland.<sup>9</sup>
- More than half of children in the study had no recreational programs within 550 yards of their home.<sup>10</sup>
- Researchers estimated that if all children in the study had matching recreational programs near their homes, up to 9.5 percent would move from overweight to normal and approximately 2 percent would move from obese to overweight – a noteworthy result for children's health.<sup>11</sup>

## What Can Policy-makers Do?

The scientific findings summarized in this brief are clear: proximity to parks and recreational programs is a factor in reducing childhood obesity. Local expenditures vary on parks and recreation in California from less than \$1 per capita in the poorest communities to almost \$600 per capita in those most affluent.<sup>12</sup> A critical obesity intervention strategy, therefore, is not only to increase funding from local, state and federal programs, but to spread that funding more evenly to all neighborhoods.

Current federal law provides for such opportunities. For instance, the Land and Water Conservation Fund Act of 1965 (P.L. 88-578) provides matching grants to enable federal, state and local governments to purchase land and open spaces primarily for the purposes of providing recreation opportunities.<sup>13</sup> Over nearly half a century, Congress has appropriated more than \$9 billion for the purchase of seven million acres of land by the National Forest System, which is the largest provider of outdoor recreation sites in the country.

Policy-makers can take additional steps to shape policies designed to reduce obesity and promote active living, such as:

- Creating age-appropriate recreational programs in “park poor” neighborhoods that are close to children's homes;
- Encouraging recreation programs at existing public and non-profit facilities as well as at neighborhood schools — a significantly lower cost option than building new facilities;
- Expanding parks by converting vacant spaces in built-up communities into mini parks, or pocket parks;

- Including public space as a requirement for new building development plans;
- Investing in parkways, street trees and other forms of green cover that promote walking, running and biking outdoors;
- Supporting traffic calming measures such as speed bumps and stanchions to encourage walkable neighborhoods; and
- Investing in crossing guard programs to make it easier for children to commute on foot or by bike to parks and recreation facilities.

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## Sources

<sup>1</sup>Office of the Surgeon General, Overweight and Obesity: at a Glance, [http://www.surgeongeneral.gov/topics/obesity/calltoaction/fact\\_glance.html](http://www.surgeongeneral.gov/topics/obesity/calltoaction/fact_glance.html)

<sup>2</sup><http://www.surgeongeneral.gov/obesityprevention/index.html>

<sup>3</sup>Whitaker RC, Wright JA, Pepe MS, Seidel KD, Dietz WH. Predicting obesity in young adulthood from childhood and parental obesity. *N Engl J Med* 1997; 37(13):869–873.

<sup>4</sup>Serdula MK, Ivery D, Coates RJ, Freedman DS, Williamson DF, Byers T. Do obese children become obese adults? A review of the literature. *Prev Med* 1993; 22:167–177.

<sup>5</sup> World Health Organization website: <http://www.who.int/mediacentre/factsheets/fs311/en/>

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<sup>12</sup>Joassart-Marcelli P. Leveling the playing field? Urban disparities in funding for local parks and recreation in the Los Angeles region. *Environment and Planning A*. 2010;42(5):1174-1192.

<sup>13</sup> <http://www.fs.fed.us/land/staff/LWCF/about.shtml>