

## Moving out of high-poverty areas may lower obesity, diabetes risk - CNN.com

By Amanda MacMillan, Health.com

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CNN.com



Research has linked obesity to neighborhood features such as the number of supermarkets and fast-food restaurants.

(Health.com) -- When federal housing officials created a program in the mid-1990s to help single-mother households in poor neighborhoods relocate to low-poverty areas, they

weren't merely interested in providing access to better homes, jobs, and schools. They also wanted to study how the families who moved out changed over time compared to those who stayed put.

After more than a decade, moving from high- to low-poverty areas seems to have had little impact on economic measures such as employment and income. But researchers have discovered an interesting side effect of the program: In a new follow-up study published this week in the New England Journal of Medicine, they report that rates of diabetes and severe obesity are about one-fifth lower in the women who moved than in those who did not.

The apparent improvements in health associated with low-poverty areas are comparable to the typical outcomes seen with programs that encourage healthy eating or exercise, or that provide medications to people with diabetes, says Jens Ludwig, Ph.D., the lead author of the study and a professor of social service administration, law, and public policy at the University of Chicago.

"For this program, health improvements were not the primary goal," Ludwig says. "But the fact that we're seeing effects in the ballpark of what you'd get with very direct, targeted interventions designed for weight loss, for example, [is] pretty striking."

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Several factors could contribute to better health in low-poverty areas, including greater access to healthy foods, a safer environment more conducive to outdoor exercise, and lower levels of psychological stress, Ludwig says. The move "changed a bunch of things at one time for these families, so it's hard to tease out exactly what made a big difference for them," he says. "But all of these things seem like plausible explanations."

Troy Blanchard, Ph.D., an associate professor of sociology at Louisiana State University, in Baton Rouge, who studies health and obesity in poor rural areas, says the findings draw attention to an often-ignored aspect of the obesity and diabetes epidemics.

"Oftentimes, research really focuses on people's decisions, and what they do wrong, and how they are at fault, essentially, for being obese or having a disease or a poor diet," says Blanchard, who was not involved in the study. "This provides evidence that it's not just the individual's decisions, but...also the environment -- the neighborhood -- that really does matter."

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The idea that neighborhoods can have an impact on health is not new. Studies on this topic date back to the 1700s, Ludwig points out, and more recently a growing body of research has linked obesity and other health problems to neighborhood features such as the number of supermarkets and fast-food restaurants. But this is the first time researchers have been able to compare moving out of a neighborhood with staying behind, in the same way that new drugs are compared with placebos in clinical trials.

The relocation program, known as Moving to Opportunity, began in 1994 when the U.S. Department of Housing and Urban Development partnered with local housing authorities to recruit low-income families living in public housing in Baltimore, Boston, Chicago, Los Angeles, and New York.

The families who volunteered for the program were sorted into three groups via random lottery: Some received vouchers that enabled them to move into areas with a low poverty rate (below 10%) at the same rent they were paying in public housing, some received vouchers that could be used anywhere, and some -- the control group -- received no new vouchers or assistance.

Years later, between 2008 and 2010, Ludwig and his colleagues followed up with 3,186 women who participated in the program. The researchers calculated each woman's body mass index, or BMI (a simple ratio of height to weight), and collected blood samples, which they tested for a type of protein that indicates average long-term levels of blood sugar.

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Of the women who stayed in their original neighborhoods, 20% had blood-sugar levels consistent with diabetes and 18% had a BMI of at least 40 (the unofficial cutoff point for morbid obesity). These rates were not measurably different among the women who received unrestricted vouchers. By contrast, just 16% of the women who moved to low-poverty areas had diabetes and just 14% were morbidly obese.

"We went in wondering to what degree a real randomized experiment would confirm -- or not confirm -- what a lot of people already believed," Ludwig says. "The most surprising thing was not that it did confirm the belief, but the significant size of the effect."

The study doesn't claim that moving from a high- to low-poverty area guarantees weight loss or protection from diabetes. The health measures used in the study weren't recorded before 2008, so the researchers weren't able to track how moving affected the health of individuals over time. In addition, all of the Moving to Opportunity participants were volunteers, raising the possibility that they differ in key ways from the average public housing resident. (The volunteers were more likely than their neighbors to be concerned about crime, for instance.)

Despite the study's limitations, Ludwig and his colleagues conclude that public health programs that target obesity and diabetes in high-poverty neighborhoods "could generate substantial social benefits." This message is important for policymakers and community organizers, but also for individuals living in these neighborhoods, Blanchard says.

"It shows that being active in your community and working to make safer, healthier environments can really affect the health of the people who live there," he says. "Not everyone can move out of their neighborhood, but maybe there's a chance to improve what's there."

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# Study: Better neighborhood lowers obesity, diabetes risk

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By **Nanci Hellmich**, USA TODAY

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Low-income moms who move from very poor neighborhoods to less disadvantaged ones lower their risk of becoming extremely obese and developing type 2 diabetes, a study reveals.

"This research shows how important the environment can be for people's health," says the study's lead author, Jens Ludwig, a professor of social service administration, law and public policy at the [University of Chicago](#).

Obesity increases people's risk of developing type 2 diabetes, heart disease and other serious health problems. People in poorer neighborhoods are at a higher risk of becoming too heavy because they may not have access to grocery stores that are well-stocked with healthy fare such as fresh fruits and vegetables, often don't have safe places to be physically active and may have greater concerns about safety, which could impact their psychological stress and eating habits, Ludwig says.

By Jim R. Bounds, AP

Vickie Webb lived in the projects in Durham, N.C., for several years before a housing agency helped relocate her and her husband to a better neighborhood.

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The study is the first to use data from a randomized experiment to learn about the connection between neighborhoods and risk of obesity and diabetes, he says.

Ludwig and colleagues studied about 4,500 women with children who lived in public housing in high-poverty areas (40% or more of the residents had incomes below the federal poverty level) in Baltimore, Boston, Chicago, [Los Angeles](#) and [New York City](#). The majority were either black or Hispanic.

The poverty level for a single mother with two children is currently about \$17,500 a year.

The participants were all part of a long-term housing study by the Department of Housing and Urban Development (HUD). From 1994 to 1998, the families who volunteered to participate were randomly assigned to different groups. One group received rent-subsidy vouchers so they could move to a higher-income neighborhood — where about 10% of the residents were below the poverty level. Other women were assigned to the control group and didn't get the rent subsidy.

From 2008 to 2010, researchers did follow-up health assessments including blood testing for diabetes. Among the findings, which appear in today's *New England Journal of Medicine*:

- 14.4% of women who were offered the opportunity to move to better neighborhoods were extremely obese (a body mass index, or [BMI](#), of 40 or greater) at follow-up vs. 17.7% of women in the control group.
- 16.3% of women who had the chance to move had diabetes vs. 20% of women in the control group.

Overall, about 7% of U.S. women are extremely obese. About 14% of black women are in that category. A 5-foot-4 woman who is extremely obese weighs 235 pounds or more, Ludwig says.

Having diabetes increases medical spending by \$5,000 annually per person, he says, so this research suggests "that investing in neighborhood environments could substantially reduce health care spending over the long term."

Ludwig says the difference between the cost of public housing and the rent-subsidy vouchers for private housing is negligible, but both are expensive. The number of people living in high-poverty neighborhoods is going up, he says. "This may explain part of the increase in obesity and diabetes," Ludwig says.

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Robert Whitaker, a public health and pediatrics professor at Temple University in Philadelphia and a researcher on this study, says, "People's health habits are often constrained by the choices they face in their neighborhoods."

"This study is one of the strongest pieces of evidence yet that improving the environments where low-income families live can have a meaningful impact on their risk of chronic disease."

William Dietz, director of the Centers for Disease Control and Prevention's Division of Nutrition, Physical Activity and Obesity, says that this report emphasizes "that place matters. What's striking is that there is a significant impact on severe obesity."

Stephanie Broyles, an assistant professor and researcher at the Pennington Biomedical Research Center in Baton Rouge, says these latest findings show "we can't just ask individuals to change their behaviors; we have to change the environment as well."

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