

Built environments don't play expected role in weight gain

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The UW-led study, published earlier this month in the *International Journal of Obesity*, found that people living in neighborhoods with higher residential and population density weigh less and have less obesity than people living in less-populated areas. Credit: Chris Yunker/Flickr

People don't gain or lose weight because they live near a fast-food

restaurant or supermarket, according to a new study led by the University of Washington. And, living in a more "walkable," dense neighborhood likely only has a small impact on weight.

These "built-environment" amenities have been seen in past research as essential contributors to losing weight or tending toward obesity. The idea appears obvious: If you live next to a fast-food restaurant, you'll eat there more and thus gain weight. Or, if you have a [supermarket](#) nearby, you'll shop there, eat healthier and thus lose weight. Live in a neighborhood that makes walking and biking easier and you'll get out, exercise more and burn more calories.

The new study based on anonymized [medical records](#) from more than 100,000 Kaiser Permanente Washington patients did not find that living near supermarkets or fast-food restaurant had any impact on weight. However, [urban density](#), such as the number of houses in a given neighborhood, which is closely linked to neighborhood "walkability" appears to be the strongest element of the built environment linked to change in body weight over time.

"There's a lot of prior work that has suggested that living close to a supermarket might lead to lower [weight gain](#) or more weight loss, while living close to lots of fast-food restaurants might lead to weight gain," said James Buszkiewicz, lead author of the study and a research scientist in the UW School of Public Health. "Our analyses of the food environment and density together suggests that the more people there are in an area—higher density—the more supermarkets and fast-food restaurants are located there. And we found that density matters to weight gain, but not proximity to fast food or supermarkets. So, that seems to suggest that those other studies were likely observing a false signal."

The UW-led study, published earlier this month in the *International*

Journal of Obesity, found that people living in [neighborhoods](#) with higher residential and population density weigh less and have less obesity than people living in less-populated areas. And that didn't change over a five-year period of study.

"On the whole, when thinking about ways to curb the obesity epidemic, our study suggests there's likely no simple fix from the built environment, like putting in a playground or supermarket," said Buszkiewicz, who did his research for the study while a graduate student in the UW Department of Epidemiology.

Rather than "something magical about the built environment itself" influencing the weight of those individuals, Buszkiewicz said, community-level differences in obesity are more likely driven by systematic factors other than the built environment—such as income inequality, which is often the determining factor of where people can afford to live and whether they can afford to move.

"Whether you can afford to eat a healthy diet or to have the time to exercise, those factors probably outweigh the things we're seeing in terms of the built environment effect," he said.

The researchers used the Kaiser Permanente Washington records to gather body weight measurements several times over a five-year period. They also used geocodable addresses to establish neighborhood details, including [property values](#) to help establish socioeconomic status, residential unit density, population density, road intersection [density](#), and counts of supermarkets and fast-food restaurants accessible within a short walk or drive.

"This study really leverages the power of big data," said Dr. David Arterburn, co-author and senior investigator at Kaiser Permanente Washington Health Research Institute. "Our use of anonymized health

care records allows us to answer important questions about environmental contributions to obesity that would have been impossible in the past."

This study is part of a 12-year, joint UW and Kaiser Permanente Washington research project called Moving to Health. The goal of the study, according to the UW's project website, is to provide population-based, comprehensive, rigorous evidence for policymakers, developers and consumers regarding the features of the built environment that are most strongly associated with risk of obesity and diabetes.

"Our next goal is to better understand what happens when people move their primary residence from one neighborhood to another," Arterburn said. "When our neighborhood characteristics change rapidly—such as moving to a much more walkable residential area—does that have an important effect on our body [weight](#)?"

More information: James H. Buszkiewicz et al, Does the built environment have independent obesogenic power? Urban form and trajectories of weight gain, *International Journal of Obesity* (2021). [DOI: 10.1038/s41366-021-00836-z](https://doi.org/10.1038/s41366-021-00836-z)

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