

Even motivated dieters need close access to healthy food

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You're obese, at risk for diabetes and cardiovascular disease, and so motivated to improve your diet that you've enrolled in an intensive behavioral program. But if you need to travel more than a short distance to a store that offers a good selection of healthy food, your success may be limited.

A new study from UMass Medical School and the Massachusetts Department of Public Health finds that not having close access to healthy foods can deter even the most motivated dieters from improving their diet, suggesting that easy access to healthy food is as important as personal motivation and professional guidance from [health care providers](#).

"Community health programs should be evidence based, but many studies have showed conflicting associations between the distance to grocery stores and lower or higher prevalence of obesity and diabetes," said principal investigator Wenjun Li, PhD, associate professor of medicine and director of the Health Statistics and Geography Lab in the Division of Preventive and Behavioral Medicine at UMMS and senior author of the study.

"Our study is different. It looks at whether neighborhood environment becomes a limiting factor when a person wants to improve their diet. If you live far away from a grocery store, and you are trying to change your diet, will that affect you or not? To our knowledge, this is the first study to look at that," said Dr. Li.

Published online by the *American Journal of Preventive Medicine* October 6, "Access to Healthy Food Stores Modifies Effect of a Dietary Intervention" was conducted in Worcester County with 240 obese adults with metabolic syndrome who participated in a randomized clinical trial comparing two dietary interventions, the American Heart Association Dietary Guidelines or an exclusive focus on increasing fiber intake.

"They were referred by their physicians to make lifestyle changes, including dietary changes. They are highly motivated," said Li. "Even if they live far away from [our clinic], they travel long distances to learn how to change their lifestyles."

But even among these motivated individuals, those who travelled a shorter distance from home to the nearest food store with adequate healthy food choices, defined as at least one item in each of 20 categories, achieved greater gains in dietary fiber consumption and total fruit and vegetable servings.

Data from these patients, who participated in the intensive 14-session behavioral weight management program at UMass Memorial Medical Center, was correlated with extensive data on the availability of healthy food in their communities. Li noted that the multifaceted study design led to accurate, reliable results based on both high-quality individual nutritional data and community environment data.

"The strong informatics support from the UMMS Information Technology Department made it possible for us to cost-effectively process community food environment data," Li noted. "The results reflect a fresh look at the environmental impact on healthy eating by a multidisciplinary team comprising statisticians, a geographer, nutrition scientists, a psychologist, a cardiologist and a [public health](#) officer."

The effect of living closer to a healthy food store remained constant

regardless of other factors including age, race, education and income. Eighty-nine percent of participants were white; almost half had at least a bachelor's degree; one-third reported household income exceeding \$75,000 a year; and almost all owned cars.

But with almost 40 percent of stores in the study area not meeting criteria for healthy choices, "The striking finding is that in order for a [dietary intervention](#) to be effective, the participant needs a supportive neighborhood environment," said Li.

Understanding the relationship between supportive neighborhood environments and individual efforts to combat obesity can inform [community health](#) improvement efforts including the DPH's Mass in Motion initiative, as well as other federal, state and private programs.

"The findings of this study support a cornerstone theory of the Mass in Motion program that supportive environments can facilitate behavior change and ultimately improve health," said co-author Thomas Land, PhD, director of the Department of Public Health's Office of Data Management and Outcomes Assessment. "DPH is committed to Mass in Motion and the promise of improved community health that it delivers."

With this and further investigations, Li and DPH partners hope to provide the evidence that is lacking to shift public policy in order to provide coordinated, multifaceted interventions for obesity that take into account the community environment as well as the individual.

For example, communities with limited access to [healthy food](#) stores could provide public land and tax incentives to attract business owners.

"Changing the environment alone cannot produce results. However, efforts to try to change a person will be very limited without improving the environment," Li concluded. "This is why both aspects should be

pursued at the same time with coordinated efforts."

Provided by University of Massachusetts Medical School

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