

Food-as-Medicine study finds no improvements in type 2 diabetes patients

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Credit: Nataliya Vaitkevich from Pexels

Research led by the Massachusetts Institute of Technology Sloan School of Management, Cambridge, has found that an intensive food-as-medicine program showed no improvement in glycemic control in

patients with type 2 diabetes and food insecurity.

In their paper, "Effect of an Intensive Food-as-Medicine Program on Health and Health Care Use—A Randomized Clinical Trial," [published](#) in *JAMA Internal Medicine*, the team details a [randomized clinical trial](#) of 349 type 2 diabetes patients with previous food insecurity to assess if short-term access to healthy food options could improve glycemic control and influence health care usage. An [Editor's Note](#) by Deborah Grady on the study was published in the same journal issue.

The study targeted patients with type 2 diabetes and elevated HbA1c levels, providing intensive support and [food supplies](#). Subjects in the treatment group (n=170) were given groceries for 10 healthy meals per week for the household, dietitian consultations, nurse evaluations, health coaching, and diabetes education for one year with a one-year follow-up. A [control group](#) (n=179) did not receive any of the benefits of the treatment program for the first six months.

Hemoglobin A1C (HbA1c) tests six months into the program showed substantial declines in both the treatment (1.5%) and control (1.3%) groups, resulting in no significant difference between groups. This might indicate that factors beyond the program contributed to the [lower blood sugar levels](#), though what these factors might be is unclear.

Access to the program did increase engagement with preventive health care. More dietitian visits, active prescription drug orders, and self-reported improved diets were noted in the treatment group. These increases did not result in improved [glycemic control](#) compared to usual care with food insecurity.

No significant differences between treatment and control were observed in cholesterol, triglycerides, fasting glucose, or blood pressure at six or 12 months. It is unclear why a healthy and secure diet and increased

access to [medical professionals](#) had no effect on any of these measures in the study.

The study seems to show that the damage caused by prolonged food insecurity is not easily reversible. It also suggests that any effort to assist people struggling with [food insecurity](#) and diabetes cannot be helped by diet alone.

According to the Centers for Disease Control, people who experience food and nutrition insecurity are two to three times more likely to have diabetes than people who do not. Healthy eating is essential for managing blood sugar levels and can help prevent type 2 diabetes.

Nutritious foods can be expensive or difficult to find for individuals living below the [poverty level](#), often leaving them dependent on calories from highly processed food sources. For people who already have diabetes, buying healthy foods can compete with health care expenses for medicines, devices, and supplies, creating a dire "treat" or "eat" scenario.

While the study found no significant short-term improvements in the subjects recruited for the study, the problem of food and nutrition insecurity is rising along with a rise in diet-related chronic diseases.

Food-as-medicine programs are gaining popularity, with variations like produce prescription programs and medically tailored meals. The current study may hint that a short-term intervention diet is insufficient in creating clinically measurable change and that longer-term food and nutrition security is required.

More information: Joseph Doyle et al, Effect of an Intensive Food-as-Medicine Program on Health and Health Care Use, *JAMA Internal Medicine* (2023). [DOI: 10.1001/jamainternmed.2023.6670](https://doi.org/10.1001/jamainternmed.2023.6670)

Deborah Grady, Food for Thought—Include Controls in Policy Evaluations, *JAMA Internal Medicine* (2023). DOI: [10.1001/jamainternmed.2023.6659](https://doi.org/10.1001/jamainternmed.2023.6659)

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