

New analysis finds successes, gaps in community-based diabetes prevention programs

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Lifestyle interventions designed to reduce the risk of developing type 2 diabetes can work well in group-based, community settings, conclude authors from the University of Chicago Medicine in a new report issued by the New York State Health Foundation (NYSHHealth) on March 25, 2015.

The report, supported by NYSHHealth and the Robert Wood Johnson Foundation, evaluated evidence from 46 studies that used interventions such as diet, exercise or medication to prevent or delay [diabetes](#) in at-risk participants. The findings showed comprehensive, community-based programs that included both exercise programs and diet counseling were more effective than those that used a single approach, or even those that administered medication alone.

"This report shows that it is still worth pursuing these diabetes prevent programs in the community," said lead author Chia-Hung Chou, PhD, research associate/assistant professor in the Section of General Internal Medicine. "However, before we really pour a lot of money into them, we want to know more about how they should be structured, how they can be adapted to different settings and how we can include more participants from the most vulnerable populations."

While most diabetes [prevention programs](#) were moderately successful at reducing the risk for developing the disease, researchers found that only

four studied primarily African-American or Hispanic subjects, despite the high prevalence of the disease in those communities. Lack of standardization in the implementation and documentation of such programs also makes it difficult to assess their costs and long-term effectiveness.

Type 2 diabetes is the most common form of the disease, yet it is preventable. It already affects more than 29 million Americans—almost 1 in 10—and the Centers for Disease Control and Prevention projects this to increase to 1 in 5 Americans by 2050. Prevalence of diabetes is particularly high among racial and ethnic minority groups. Native Americans are twice as likely to have diabetes as non-Hispanic whites, while African-Americans and Hispanics are 1.7 times as likely.

Clinical trials conducted in controlled research settings have shown strong evidence that lifestyle interventions can prevent or delay the onset of diabetes. The gold standard for such trials is the Diabetes Prevention Program, which was launched by the National Institutes of Health in 2002. That study included more than 3,200 participants, nearly half of whom represented minority groups. Participants who received intensive counseling about diet and exercise cut their risk of diabetes by half. Those who took oral medications cut their risk by one-third.

Since then, many research studies have implemented similar prevention programs in real-world community settings. The new report evaluates the effectiveness of this broad range of programs at reducing the risk or delaying the onset of diabetes.

The report authors identified 46 such prevention programs and calculated how likely the intervention was to reduce the risk of developing diabetes compared with other studies. The analysis found:

- 23 studies, or 50 percent, implemented full lifestyle interventions

of both physical activity and diet; 19 studies, or 41 percent, focused on treatment with medications. The remaining four studies, or 9 percent, introduced diet or physical activity only. Only four of the studies included primarily African-American or Hispanic subjects.

- There is modest evidence that full lifestyle interventions, including both diet modifications and exercise, can reduce the risk of diabetes. Meanwhile such programs typically can be modified to take place in groups.
- Programs that focused on either diet or exercise, but not both, do not show much promise for preventing diabetes. Full [lifestyle interventions](#) were also more successful than those using medications.
- Long-term effects of such programs are unclear, due to lack of resources for follow-up.
- Average costs for the programs are also unclear due to a lack of standardization in study design and documentation.
- All of the studies that were assessed took place between 2002 and 2013.

To address these gaps, the report's authors urge health care policymakers to support larger studies assessing the effectiveness of full lifestyle intervention programs in community settings, with a particular focus on recruiting participants from racial and ethnic minority populations that are most vulnerable. The group also recommends further efforts to standardize the design and documentation of community-based prevention programs in order to evaluate their results more consistently and ease implementation in varied settings.

"It may not be possible to ask different research groups to implement prevention programs in a uniform, standardized way," said Chou.

"However, if they are able to follow the same procedure to report their findings and document their study's implementation and costs, then we

will have enough information to know how that program can be implemented again. If we know which parts worked and which parts didn't, other groups in similar communities can learn from them."

Provided by University of Chicago Medical Center

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