

# 'Dialing for Diabetes Control' helps urban adults lower blood sugar

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Periodic telephone counseling can be a highly effective, low-cost tool for lowering blood-sugar levels in minority, urban adults with uncontrolled diabetes. The findings are the result of a clinical trial led by researchers at Albert Einstein College of Medicine and their collaborators at the New York City Department of Health and Mental Hygiene (Health Department). The study published online today in the *American Journal of Preventive Medicine*.

"The study's take-home message is that medications and printed self-management materials are necessary, but not sufficient to improve [diabetes control](#)," said Elizabeth A. Walker, Ph.D., R.N., principal investigator and professor of medicine and of epidemiology & population [health](#) at Einstein. "People with [diabetes](#) need ongoing counseling about problem-solving and goal-setting for behavior change." She credits much of the study's success to its health educators—non-clinical individuals who received specific training in telephone counseling and expert supervision related to diabetes self-management. "We chose women and men from the community with warm, caring voices and who spoke the language of the people they called," she adds.

According to the Centers for Disease Control and Prevention more than 29 million Americans have diabetes. Black, Hispanic and American Indian/Alaska Native adults are about twice as likely to have diagnosed diabetes as non-Hispanic white adults.

The study involved 941 adults with diabetes living in the South Bronx.

Participants were predominantly Latino (68 percent) or non-Latino black (28 percent), with 70 percent foreign born and 55 percent Spanish speaking. All were recruited through the Health Department's A1c Registry and provided their consent before participating. A1c is a measure of long-term blood-sugar levels. For those diagnosed with diabetes, a level of 7% or below is a common treatment target, though this should be individualized. Those with a level of 9% and above are more likely to experience serious complications, such as blindness, kidney disease, and lower-limb amputations.

All 941 adults were mailed printed diabetes self-management materials. Additionally, half (443) were randomized to receive telephone calls from the Health Department health educators about the importance and rationale for adhering to their medication regimens, maintaining good nutrition and exercising. Telephone-group participants who had moderately elevated blood A1c levels (between 7 and 9%) could receive up to four phone counseling sessions over one year; those with extremely elevated A1c levels (above 9%) could receive up to eight calls. After one year, the researchers assessed participants' A1c change through the A1c Registry.

The greatest difference in A1c levels involved people who initially had extremely elevated A1c levels: For those getting telephone intervention (completing an average of 6.3 calls), their A1c levels decreased an average of 2.1 percentage points (from 11.3% to 9.2%—an 18.6 percent reduction) versus an average A1c decrease of 1.3 percentage points among print-only group individuals with extremely elevated A1c levels (from 11.0% to 9.7%—an 11.8 percent reduction).

Phone calls were less helpful for people in the moderately elevated A1c group—possibly because they completed too few phone-counseling sessions (an average of 3.4 calls). On average, their A1c levels didn't change over the course of the year, while A1c levels increased by 0.2

percentage points (from 7.8% to 8.0%—a 2.6 percent increase) among print-only participants with moderately elevated A1c levels.

Overall, those in the telephone group decreased their A1c by 0.4 percentage points more than those in the print-only group, which was a statistically significant difference. Such an improvement is comparable to what some diabetes medications achieve. The findings are particularly important as they demonstrate the value of an intervention that is culturally-sensitive and individually tailored for a low-income and non-English speaking population.

"Meeting people where they are and working on a long-term plan together is the best way to make gains in chronic disease," said Shadi Chamany, M.D., M.P.H., lead author and director of science, division of prevention and primary care at the Health Department. "An intervention like this can be adopted by health systems and other organizations looking to improve diabetes outcomes through diabetes self-management interventions."

**More information:** The study is titled "Telephone Intervention to Improve Diabetes Control: A Randomized Trial in the New York City A1c Registry."

Provided by Albert Einstein College of Medicine

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