

# Hispanic individuals benefit from skills-based stroke prevention intervention

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A blood clot forming in the carotid artery. Credit: American Heart Association

A culturally tailored program used when discharging stroke patients from the hospital helped to lower blood pressure among Hispanic individuals one year later, finds a new study led by researchers at NYU

College of Global Public Health. The almost 10 mm Hg reduction in systolic blood pressure measured in this study has been linked to a nearly 40-percent reduction in the risk of having another stroke in previous studies.

The findings, published in *JAMA Neurology*, point to a unique approach: teaching patients actionable skills, rather than just knowledge, to help reduce their risk for stroke, and doing so in a culturally appropriate way.

"Our findings show the promise of focusing on skills that people can really use—enhancing communication with their physician, or clarifying their medication regimen—so they feel they can do something to reduce their risk of stroke. By training patients to take ownership of controlling risk factors, this intervention allows the process to be sustainable beyond the health care system," said Bernadette Boden-Albala, professor of epidemiology and senior associate dean of research and program development at NYU College of Global Public Health and the study's lead author.

Approximately 200,000 of the 800,000 strokes that occur each year in the United States are recurrent strokes, meaning that the person has already had at least one stroke. Recurrent strokes are particularly fatal and disabling, and disproportionately affect African American and Hispanic individuals. Previous educational interventions to prevent stroke have largely focused on changing patients' knowledge of their risk factors; however, studies show that knowledge alone may not be enough to get people to change their behaviors. This study tested the Discharge Educational Strategies for Reduction of Vascular Events (DESERVE) intervention, one of the first stroke prevention programs to take a skills-based approach.

DESERVE focuses on developing strategies and tools that empower patients to actively communicate with their physicians, reduce barriers to

medical adherence, and enhance their vascular health. Before being discharged from the hospital, a community health coordinator leads a stroke patient in an interactive educational session and uses a workbook and video to develop these skills. The patient then receives follow-up phone calls at three points after being discharged: three days, one month (typically right before a neurology appointment), and three months. In these conversations, the community health coordinator may, for example, help patients identify areas of confusion about their treatment or create a checklist of questions for their physicians.

Added to the challenges of behavior change is culture—where people come from, how they interact, and how they prioritize things in the world. To address these complexities as well as disparities in [stroke risk](#), DESERVE was developed in partnership with community members and tailored to different cultures. For example, recovery after stroke is framed as a matter of self-determination for African Americans, while stroke survivorship is framed in the context of faith and spirituality for Hispanic individuals using bilingual materials and community health coordinators. To study the efficacy of DESERVE, the researchers recruited 552 white, black, and Hispanic stroke patients at four New York City hospitals. Participants were randomized to receive either the DESERVE intervention or the usual discharge instructions and stroke pamphlets. A year after being discharged from the hospital, researchers followed up with participants to measure their blood pressure.

After one year, the researchers saw a reduction in [systolic blood pressure](#) in both the DESERVE and usual care groups, but the difference between the groups (2.5 mm Hg lower in the DESERVE group) was not statistically significant. However, Hispanic individuals who participated in DESERVE had a clinically and statistically significant reduction in blood pressure compared with the usual care group (9.9 mm Hg lower in the DESERVE group), translating into a nearly 40 percent reduced risk of recurrent stroke. There were no significant differences in blood

pressure between groups among white and black participants.

"Hispanic individuals—the fastest growing immigrant population in the United States—are at an increased risk for stroke, but are less likely to be aware of whether they have hypertension and less likely to adhere to their medication. The fact that we saw a reduction in [blood pressure](#) among Hispanic participants suggests that the intervention addressed some of these gaps," said Boden-Albala, who also holds appointments at NYU Langone Health and NYU College of Dentistry.

The researchers conclude that culturally tailored, skills-based interventions could lead to significant reductions in racial and ethnic disparities in stroke incidence and recurrence, an important advance given that few behavioral interventions have had significant long-term effects in reducing [stroke](#) risk. Their next research focus is on designing interventions that leverage family and friend networks as a way to support a skills-based approach to risk reduction.

**More information:** *JAMA Neurology* (2018). [DOI: 10.1001/jamaneurol.2018.2926](https://doi.org/10.1001/jamaneurol.2018.2926)

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