

Recognizing Signs and Symptoms of Stroke

Arkansas Stroke Registry



Billboards in Arkansas highlight the signs and symptoms of stroke.



Since 2001, CDC's Paul Coverdell National Acute Stroke Program has supported state-based stroke registries across the country. The program works to ensure that all Americans receive the highest-quality care for stroke and to reduce deaths and disabilities from stroke.

Challenge

Stroke is the fifth leading cause of death in the United States and the fourth leading cause of death in Arkansas. In 2013, 1,637 Arkansans died from a stroke or stroke-related complication, representing a 3% decrease in the age-adjusted stroke death rate from the previous year. This indicates that although the number of deaths due to strokes has fallen slightly, 1 of 20 people in Arkansas dies from a stroke. Knowing the signs and symptoms of stroke is crucial to reducing deaths and preventing disability. In response to this issue, CDC is working to increase the number of adults who understand the early signs of stroke and the importance of seeking emergency care. This is critically important, as many Arkansans are unaware of how to identify the initial signs of stroke. In an effort to address stroke mortality, the Arkansas Department of Health (ADH) established the Arkansas Stroke Registry (ASR) with the objective of increasing awareness of and responses to the onset of stroke.

Background

To educate Arkansas residents about the signs and symptoms of stroke and the importance of getting immediate treatment, ASR planned and launched a community billboard campaign. ASR tailored the campaign to reach those areas of the state hardest hit by stroke. Billboards were displayed strategically in cities with the highest rates of stroke. African-American neighborhoods were the primary location for many of the billboards, based upon the disproportionate burden of stroke within the community. As vital parts of ADH's overall strategy to reduce stroke deaths, ASR also collects stroke patient data from hospitals, monitors performance reporting for measures related to stroke care, and provides hospital teams and emergency medical service (EMS) professionals with quality improvement education and training to follow evidence-based guidelines.

Accomplishments

ASR launched the stroke signs and symptoms billboard campaign in June 2014 in 32 cities across Arkansas, targeting areas with many medically underserved residents. The billboards have reached an estimated 765,746 Arkansans. This represents nearly a quarter of the population of the state, including those at greatest risk of stroke. In the 6 months since the billboards launched, they have garnered an estimated 607,804 weekly impressions from drivers and others passing by.

Preliminary campaign feedback has been positive. ASR expects the billboards to increase Arkansans' recognition of stroke signs and symptoms and ultimately to improve stroke care by decreasing the time between identification of and treatment for a stroke.

By the Numbers

In Arkansas:

- 1,637 people died of a stroke in 2012, representing 5.4% of all deaths.
- 3.6% of adults have had a stroke.
- The death rate for African Americans is 40% higher than the rate for whites.
- 30% of people were served by Medicaid in 2014.

Every day, about 30 Arkansans have a stroke, and about 5 of those people die. Of the 25 who survive, most cannot return to gainful employment or a normal life. In Arkansas, our single biggest Medicaid expense is nursing home care, and many of the patients are there because they had a stroke.

—Joseph Bates, MD, Arkansas Deputy State Health Officer and Chief Science Officer

Building on Success

ASR understands that educating residents about stroke signs and symptoms is one part of the challenge in reducing stroke deaths. Stroke patients have the best chance for survival if they receive treatment within the first 3 hours of experiencing symptoms, and calling 9-1-1 is only the first step. To ensure first responders and hospital staff make the best use of limited time, ASR also prioritizes education for health care professionals and EMS providers, including certification in advanced stroke life support and “Code Stroke” trainings.

Both classes have increased knowledge about stroke care among paramedics and emergency medical technicians, thus improving care delivery for stroke patients. Preliminary data from “Code Stroke” trainings show that EMS participants achieved significant increases in stroke care knowledge; average pre- and posttest scores for 346 participants nearly doubled from 53% to 94%. ASR recommends conducting standard pre- and posttests to show evidence of meaningful knowledge gains among participants and to help determine the most effective types of training to use in future sessions.

What’s Next?

ASR plans to conduct a full evaluation of its billboard campaign in 2015 to determine improvements in residents’ recognition of the signs and symptoms of stroke. Similarly, ASR will continue to conduct pre- and posttests with health care and EMS professionals to measure knowledge improvement and effectiveness of training delivery.

Next steps for EMS:

- Expand training to cover the majority of the 205 EMS services in Arkansas.
- Provide training to help EMS provider systems better understand the importance of documenting stroke care measures.

Next steps for ASR participating hospitals:

- Conduct advanced stroke life support trainings and regional conferences at different hospital sites across the state.
- Strengthen hospital quality improvement strategies to improve the delivery of stroke care.

Survivor Spotlight

At age 43, Arkansas resident and registered nurse Karen Tanner suffered a stroke without warning. The day started off “like every other day,” she said. “But suddenly I became severely dizzy, and within a few minutes, my face began to hurt. I was very nauseated and sweaty and had trouble holding my head up.... The next thing I remember is waking up in the intensive care unit.”

Karen credits her survival and recovery to getting immediate medical attention. Today, she’s passionate about educating people about the signs of stroke and the urgency of getting help quickly.



Key Partners

- Arkansas Acute Stroke Care Task Force
- American Heart Association/American Stroke Association
- Local neurologists, acute stroke care consultants, hospital staff, and EMS specialists
- University of Arkansas for Medical Sciences’ AR SAVES (Stroke Assistance through Virtual Emergency Support) telemedicine program

Additional Information

[Paul Coverdell National Acute Stroke Program](#)

[Arkansas Department of Health](#)