# Registering CHANGE

## CARES helps EMS improve performance on cardiac arrest calls

A report by the University of Michigan Health System has found that survival from cardiac arrest remains at 7.6%. If the data from this and other similar studies is to be believed, this figure has not improved since the 1950s.

But a data tracking program based out of Atlanta aims to change all that.

The Cardiac Arrest Registry to Enhance Survival (CARES) has been designed to bring together disparate data sources, allowing EMS and other medical personnel to assess cardiac care from onset to hospital discharge.

"CARES is a surveillance registry that allows communities to measure and track cardiac arrest," says Bryan McNally, MD, MPH, assistant professor of emergency medicine at the Emory University School of Medicine and principal investigator for the CARES program. "It allows communities to track how many people are actually walking out of a hospital neurologically intact, and then being able to externally benchmark that against a larger data set."

PHOTO CRAIG JACKSON

**Although studies have shown little or no improvement in out-of-hospital cardiac arrest survival, the CARES registry aims to show how quality care contributes to positive outcomes.**

In its sixth year, CARES is a cooperative agreement between the CDC and the Department of Emergency Medicine at Emory University School of Medicine. CARES is currently collecting data from 9-1-1 dispatches, EMS and receiving hospitals in 30 cities across the nation, linking the information into a single electronic record. Individual names are erased from the data, allowing participating agencies to freely view the data. Standard reports can be generated to highlight local cardiac arrest patterns, which help determine the effectiveness of EMS out-of-hospital cardiac care.

"Using Internet-based software, we tied together the three silos of data that have historically been unlinked," McNally says. "When EMS is involved in a cardiac event, they may be using a paper record system, a laptop in the field, or entering their data into a computer at the station or hospital. We've developed a solution for each of those to allow information to come into CARES, so as to minimize the burden for EMS and the hospital."

The program is having an impact. In the first two quarters of 2009, 27 patients who suffered out-of-hospital cardiac arrests walked out of Ventura County, Calif., hospitals. Angelo Salvucci, MD, FACEP, medical director for EMS for the County of Ventura, credits this patient survival to CARES.

"We've been looking at improving our cardiac arrest emergency response system," says Salvucci. "At the time, we didn't have a good way of determining the eventual outcome of the care that we provided. The CARES system was operational and looking to expand, so it was the perfect opportunity for us."

Ventura began examining its cardiac arrest outcomes in 2008. In the six-month period between July and December 2008, the survival rate for bystander-witnessed cardiac arrest from V fib/tach was 32%, which was just above the 28% mean of all the CARES sites. By using the data provided by CARES and improving CPR efforts and other training measures, Ventura County's survival rate jumped to 52%.

"It's pulling all the information together that is the magic in CARES," says Salvucci.

McNally agrees. "The capturing of data is the real innovation of CARES, and it's really the most basic step in beginning to understand how to improve survival in the community," he says. "You need to know what you're doing right and what you can improve upon. And it's those communities that are most interested in understanding how they are doing that are probably going to be the communities that are going to improve cardiac arrest survival in the future."

—Cynthia Kincaid

**REPORT:**

### STATES 'INADEQUATELY PREPARED'

The Federal Interagency Committee on Emergency Medical Services (FICEMS) released its annual report Nov. 12. In the 2009 document, FICEMS reported that most states were "inadequately prepared" for pandemic influenza. Its preparedness committee found most states have addressed basic procedures for infection control but not other activities, such as "just-in-time training."

FICEMS provides a detailed analysis of the gaps and recommends strategies with

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