# AHA Spearheads STEMI Response Initiative

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A community-based push to create standardized response systems could decrease mortality and streamline acute care for patients suffering an ST-elevation myocardial infarction.

The American Heart Association's ambitious "Mission: Lifeline" program will go far beyond past efforts at improving treatment times through public outreach and education, Dr. Alice Jacobs said during a press conference. "Regrettably, prior public awareness campaigns and community-based interventions have not yet been effective in reducing the time from symptom onset to first medical contact, or in increasing the number of patients who use emergency medical services [EMS] to get to hospitals where they can receive the appropriate care."

"Despite the proven benefits of quickly restoring blood flow to the heart muscle during a heart attack, 30% of STEMI patients do not receive any reperfusion therapy," neither fibrinolytics nor primary percutaneous coronary intervention (PCI), said Dr. Jacobs, director of the cardiac catheterization lab at Boston Medical Center. "And only 50% of those who get fibrinolytics and 40% of those who undergo PCI do so within the recommended time frames."

The group's recommendations are published in the journal Circulation (DOI:10.1161/CIRCULATIONAHA.107.184043).

The ideal system would combine several key elements, she said:

► **Public education.** "People need to understand the signs and symptoms of a heart attack, and the importance of activating the EMS system as quickly as possible," Dr. Jacobs said.

► **Improving EMS diagnosis of STEMI.** "If EMS systems have the personnel, training, and appropriate resources, they can acquire, interpret, and transmit 12-lead electrocardiograms that can show the patient is having a STEMI heart attack," she said.

► **Quick, efficient transfer to hospitals equipped with cardiac catheterization teams.** Under the proposed system, patients transported to a non–PCI-capable hospital would remain on the stretcher with EMS personnel in attendance until the decision is made about whether to transport to a PCI-capable receiving hospital.

► **Hospital incentives and certification.** "We will be working with payers and policy makers to ensure that mechanisms are in place for appropriate reimbursement," Dr. Jacobs said. A STEMI Center Certification program will establish treatment and accountability protocols for both referring and receiving hospitals.

The AHA will play a pivotal role in bringing these parties together, said Dr. Raymond Gibbons, president of the AHA, beginning with an assessment of EMS effectiveness for STEMI patients. The AHA will use this information to construct a basic response system that can be tailored to different regions.

Funding these systems, Dr. Gibbons said, will be largely left to localities. AHA will provide support in seeking the money necessary for implementation—industry grants, for example—but the group won't be contributing financially to any individual project.

A few AHA-led pilot programs are already underway, Dr. Gibbons noted. A 2004 grant from The Annenberg Foundation made it possible for Los Angeles to create a response system that relies on 12-lead ECG readings by EMS providers. The AHA Greater Southeast Affiliate has convened a state-level STEMI task force and helped introduce a legislative bill to develop emergency angioplasty centers for STEMI patients. And in Texas, a task force met in January to discuss ways to more effectively manage STEMI patients.

Although establishing such a response system is an enormous challenge, the payoff is just as big, said Dr. Tim Henry, interventional cardiologist and director of research at the Minneapolis Heart Institute. Four years ago, the facility instituted a two-pronged standardized care system for STEMI patients based on their distance from a regional PCI-capable facility.

"Our approach involves different protocols for patients who live within either 60 miles [zone 1] or 60-210 miles [zone 2] from these hospitals. Our median time from the STEMI referral hospitals to balloon inflation at the receiving hospital is now 96 minutes for those in zone 1 and 118 minutes in zone 2." ■