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## HeartRescue Global

### Policy Brief

Improving Patient and Family  
Knowledge, Attitudes, and  
Care-Seeking Behaviors for Acute  
Cardiovascular Disease



## ACKNOWLEDGEMENTS

This analysis was produced by RTI International in partnership with the Medtronic Foundation. For over 50 years, RTI has been committed to improving the human condition by turning knowledge into practice. The Medtronic Foundation focuses on expanding access to quality health care among underserved populations worldwide, as well as supporting health initiatives in communities where Medtronic employees live and give.





Cardiovascular disease (CVD) is one of the leading causes of death and disability around the world. In 2015, 17.9 million people died from CVD worldwide.<sup>1</sup>

Two types of life-threatening acute CVD emergencies require particularly quick recognition of the severity of the situation and quick treatment to save lives:

- STEMI, or ST-segment elevation myocardial infarction, a type of heart attack caused by a sudden blood clot in a major coronary artery.
- OHCA, or out-of-hospital cardiac arrest, which happens when a person's heart suddenly stops pumping blood, their pulse and blood pressure are instantly lost, and they will die within minutes without immediate treatment.

In many communities around the world, people often die before acute CVD is even recognized or before emergency medical care can begin. When patients, their family members, or bystanders are unsure of what to do when acute CVD strikes, or they delay too long taking action by calling emergency medical services (EMS) or traveling to a hospital if EMS is not available, it is usually too late to save the patient's life.

For STEMI, life-saving treatment must begin within hours of the onset of symptoms. The treatment for STEMI is to open the blocked artery, which is called reperfusion. The preferred treatment is percutaneous coronary intervention (PCI).<sup>2</sup> This should be done as soon as possible after the patient arrives at the emergency department (ED). If PCI is not available, then the patient receives a drug to dissolve the blood clot. These drugs are effective up to 12 hours after symptom onset, but they are most effective if given sooner. The goal is to administer the drug within 30 minutes of arrival at the ED.

For OHCA, the situation is even more urgent, and cardiopulmonary resuscitation, or CPR, must begin within 10 minutes of cardiac arrest to save the patient's life. CPR must then be followed by other treatment provided by EMS and hospital staff.

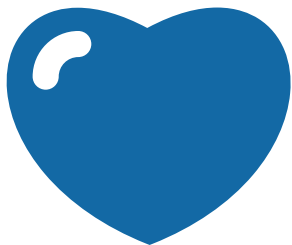
# GETTING PROPER CARE FOR ACUTE CVD

To get proper care for acute CVD, the patient, a family member, or a bystander (or ideally all of them) needs to have and use the following knowledge, attitudes, and behaviors (KAB):



## Knowledge

- Be aware of the signs and symptoms of acute CVD.
- Recognize the signs and symptoms in yourself or others when acute CVD strikes.
- Be aware of the EMS telephone number to call for help, when available, or otherwise how to travel to the closest medical care



## Attitudes

- Believe that calling EMS, when available, will lead to the desired help.
- Believe that getting help from EMS and hospital care will not result in an undue financial burden for the patient and their family.
- Feel confident to make the call and provide the necessary information to get help from EMS, when available, or otherwise feel confident in how to travel to the closest medical care.



## Behaviors

- Call EMS and talk to the emergency dispatcher to get help (for example, dial 120 in China, 108 in India, 192 in Brazil, or 911 in the United States), when available, or otherwise travel to the closest medical care.
- Follow up with actions as instructed by the emergency dispatcher, such as providing CPR to the patient based on instructions provided by the dispatcher over the telephone.

# BARRIERS TO PROPER CARE FOR ACUTE CVD

## Knowledge

Despite the need to understand the severity of acute CVD and to act quickly, in most countries the general public is not aware of the signs and symptoms of acute CVD events, including STEMI and OHCA. This reflects a problem with knowledge.

## Attitudes

Even if patients are aware of and recognize the signs and symptoms of acute CVD, they may not call EMS for help, when available, or otherwise travel to the closest medical care, because of social or personal concerns, such as the fear of looking foolish if it turns out they do not have a heart attack. This reflects a problem with attitudes.

Additionally, in some communities, there is a lack of confidence that EMS will arrive in a timely manner and get them to the hospital faster than a family member could drive them there. In some cities in India, for example, dense traffic sometimes does not allow for quick EMS transport and other vehicles may not move or yield for EMS.

Also, a lack of confidence in the quality of care or being able to afford medical care in hospitals where EMS may take the patient are other barriers to calling EMS.

## Behaviors

Once the patient arrives at the hospital, additional patient and family concerns may prevent proper care. Upon learning about the high costs of receiving treatment, they may opt not to get care. This reflects a problem with behaviors.

In many countries, a majority of the population lacks health insurance coverage or may have inadequate health insurance coverage. Fears about incurring large debts and bankrupting the family are often a serious concern. Also, heart attacks affect younger populations in low- and middle-income countries compared with higher income countries. This presents an even greater threat to these patients' future productivity and income potential.<sup>3,4</sup>





## CHANGING PEOPLE'S BEHAVIORS

Patients and family members commonly encounter multiple barriers to improving their knowledge, attitudes, and behaviors for calling emergency telephone numbers and getting rapid and proper care for STEMI and OHCA. Although the details of these barriers may differ between countries, cultures, and communities, the potential solutions needed to address them usually include community education or communication campaigns coupled with policy action. These solutions are often most effective when guided by established behavior change and communication theories that address the range of KAB factors underlying the barriers faced by patients and family members.

However, currently only a few acute CVD community education and communication campaigns are based on established theories.<sup>5,6</sup> Consequently, many campaigns may fail to address some of the KAB factors and be less effective. For example, simply providing information or making people aware of an emergency telephone number does not necessarily mean they will believe it is important to call the number or that they will take action to call it.





Some examples of behavioral theories that can inform developing community education or communication campaigns include:

- Elaboration Likelihood Model of Persuasion<sup>7</sup>
- Health Belief Model<sup>8</sup>
- Theory of Planned Behavior<sup>9</sup>
- Transtheoretical Model of Behavior Change.<sup>10</sup>

While these theories vary in the concepts and the factors they emphasize, they provide a range of perspectives that can be helpful when planning interventions that are best suited to a specific country, culture, or healthcare system.

In general, these theories suggest that patient and family communication and education strategies will not change behaviors directly and immediately. Instead, they work by first creating awareness or knowledge of campaign or educational messages.

Using persuasion and education, these messages can influence and change people's attitudes about a behavior. An example is calling the emergency telephone number to get help from EMS and proper treatment for acute CVD events.

Then, as attitudes change, people develop intentions to change their behaviors, which can translate into actual behavioral change. Over time, together with policy and programmatic efforts implemented at the local or national levels such as school programs and health insurance policy changes, behavioral changes by patients and family members are more likely to occur.



## IDENTIFYING THE TARGET AUDIENCE

For a community education or communication campaign to move beyond increasing patient and family awareness and lead to action to save lives, it is important to know which individuals or groups whose behavior it is most important to change. Once the target audience is identified, research must be conducted to:

- Understand what message(s) will most affect them
- Identify others in their communities that will most influence them
- Learn about the cultural, familial, and health system contexts of these complex KAB issues

Learning more about these contexts will inform potential community or nongovernmental organization (NGO) partnerships, the specific educational or communication messages needed, and public policy changes that could be paired with the community education or communication campaigns to successfully change patient and family behaviors and save the lives of those suffering from acute CVD.<sup>6</sup>





## MOTIVATING PEOPLE TO CHANGE BEHAVIOR

To motivate people to change their behavior, the communication and educational messages need to come from people who are influential in their community and who the target audience(s) trust and view as having authority.<sup>6</sup> In this context, physicians and other medical professionals may be trusted authorities in the community. Governmental, civil defense, school personnel, or other community leaders may also serve as the messengers to help get patients and family members to listen, and to change their knowledge, attitudes, and ultimately their behaviors to save lives. **Table 1** summarizes common barriers and potential solutions that can be considered across different countries and cultures.

**Table 1. Common Barriers and Potential Solutions to Change Knowledge, Attitudes, and Behaviors Regarding Acute CVD**

Common Barriers	Potential Solutions
Lack of knowledge in the general community of the signs and symptoms of STEMI and OHCA	Provide community education on the signs and lack of knowledge in the general community of the signs and symptoms of STEMI and OHCA
Lack of understanding of the time urgency for treatment, when available, or otherwise traveling to the closest medical care	Provide community education about the time urgency of the actions necessary to save lives
Lack of confidence in EMS response time or the quality of EMS or hospital care	Provide community education on the benefits of using the EMS system for suspected STEMI and OHCA events
Fear that the cost of EMS or hospital treatment could be high and be a financial burden on the family	<p>Increase public and private funding and support for EMS and hospital care</p> <p>Support public policies to improve health insurance access and benefits</p>
Low social status of some patients in the community	Conduct interviews and focus group discussions with patients, family members, community leaders, and policy-makers to better understand how to best reach people with lower social status and change their knowledge, attitudes, and behaviors
Cultural preferences for informal healers	Conduct interviews and focus group discussions with patients, family members, community leaders, and informal healers to better understand how to best reach people with preferences for informal healers and change their knowledge, attitudes, and behaviors when acute CVD strikes

Note: CVD=cardiovascular disease; EMS=emergency medical services; OHCA=out-of-hospital cardiac arrest; STEMI=ST-segment elevation myocardial infarction.



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March 2018

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