

## Creating A Virtual Coronary Care Unit in the Community in 2014 Dr. Raymond D. Bahr Founder, Society of Cardiovascular Patient Care and Early Heart Attack Care

*Raymond D. Bahr, MD*

*"The Ultimate Coronary Care Unit is in the community and in the patient's home"*

*Eugene Braunwald*

At the time he made this statement, Braunwald's prediction was considered futuristic, but this idea is beginning to take shape based on recent developments occurring in the United States. A review of the history and findings leading to this conclusion is offered and the hope is that this information leads to a discussion regarding the merits of creating a virtual coronary care unit in every community.

### **US HOSPITALS WERE NOT FULLY PREPARED TO TREAT PATIENTS WITH HEART ATTACKS**

The first startling discovery was that hospital emergency departments were not prepared to treat patients who presented with a heart attack. This observation was made by Ward Kennedy, MD, from the MITI Study when he concluded that a hospital's performance declined once a hospital left the study. This statement was made despite the fact that, at the time of the study, mortality had fallen from 6% to 1% when patients were treated with thrombolytic therapy in the field. Although the astonishing field results demonstrated the value of time reduction in patient survival rates, Dr. Kennedy's astute observation led to the revelation that care was variable and unpredictable—survival depended on the hospital.

Back in the 1960s, emergency rooms were mostly managed by surgical teams and the attitude in this environment was "Get out of my emergency room unless you have severe pain"—also known as the GOMER mentality. As a result of Dr. Kennedy's discovery, the concept of creating a chest pain center in the emergency room was conceived to better prepare hospitals. This was the beginning of chest pain centers and the first one began at St. Agnes Hospital in Baltimore in 1981. Since that time, the movement has spread throughout the United States and there are approximately 850 accredited chest pain centers.

To create a standard of care, a unique collaboration between cardiologists and emergency physicians occurred. Although a collaboration of this sort was relatively unheard of at the time, the 2 specialties came together in order to create the key treatment requirements (later referred to as elements). The standards were collected and published in the American Journal of Cardiology.

As chest pain centers continued to grow in the United States, this led to the development of the nonprofit Society of Chest Pain Centers and Providers, today called Society of Cardiovascular Patient Care (SCPC). It began as an inclusive Society without walls and with more than 50 founding members whose sole purpose was to develop centers that could significantly reduce heart attack deaths. This continues to be the driving force for SCPC.

Turning these standards into actual accreditations became a necessity when HCFA (now CMS) questioned the capabilities of the observation units that the Society deemed as necessary to detect early heart attacks. In order to prove the necessity, accreditation processes were created in order to help HCFA ensure that hospitals were meeting the criteria for patient care.

### **HEART ATTACKS HAVE BEGINNINGS!**

For over a 100 years, medical literature had published the fact that heart attacks had early symptoms—prodromal symptoms—and presented in over 50% of the patients. It was also known that early intervention could prevent heart attacks from occurring or, in the case of a heart attack, could minimize long-term damage to the muscle. Why was not this information being shared with the public? Where was a plan to get the patient to medical help before they were in the throes of a heart attack? An effective strategy had never been created until SCPC launched the Early Heart Attack Care (EHAC) program to place more emphasis on these symptoms and healthcare strategies.

It makes sense—if 800,000 people die each year from a heart attack, 50% of these deaths can be prevented by educating the community with the EHAC strategy. This became the vision and the mission of SCPC. Today, EHAC education is part of Key Element Number One in SCPC CPC Accreditation and it is required education for all hospital employees. In addition, it is required that the hospital educate their communities on the importance of EHAC at hospital events and other functions. This radical change helps create a new culture in medical care. Move away from GOMER to TUFCE—“Thank You For Coming in Early.” Not only does this response change the patient’s opinion of the medical response, it can also save millions of dollars in medical care by thwarting a heart attack.

### **SCPC Mission Statement**

To develop and share quality practices that optimize the care and outcomes of patients with acute cardiovascular disease worldwide through innovative cross-disciplinary processes and education that bring science to the bedside.

The SCPC’s goal is to significantly reduce heart attack deaths in the United States and take it out of first place where it has existed for over 150 years.

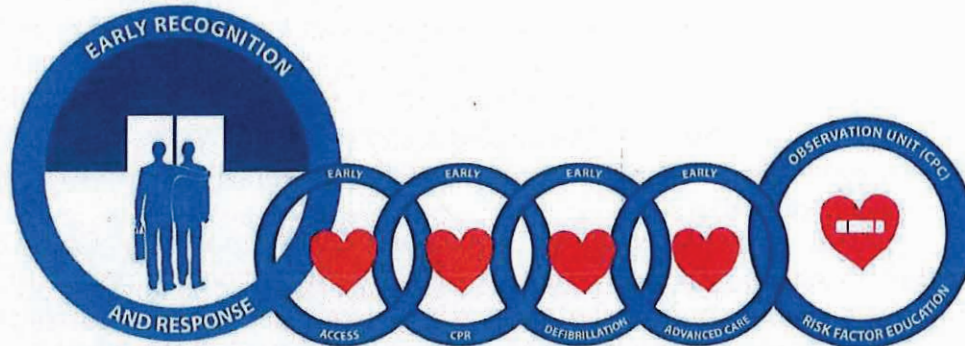
### **The Strategy to Accomplish the Goal:**

- (1) Grow the number of chest pain centers throughout the United States. Presently, there are about 850, but it is expected to grow to about 1000 hospitals within the next year. Our goal is to reach all 5000 hospitals in the United States. We hope to accomplish this by reaching a critical number of chest pain centers that then take off and the message becomes viral. We know that this is possible because this is exactly what happened with the rapid growth of Coronary Care Units in the 1960s. Within 5 years after the first one was set up in Bethany, KS, every hospital in the United States had developed a CCU. The logic made good sense. It was attributed to the power of “*an idea whose time has come.*”
- (2) Grow the number of effective early heart attack caregivers in the community in order to *change the culture and perception of a heart attack*. As previously noted, part of this is accomplished by requiring accredited hospitals to train their employees and communities. In order to assist facilities with their education, the Society developed a Standard EHAC course located on its web site—[www.deputyheartattack.org](http://www.deputyheartattack.org)—that is used by hospitals on their learning management systems. In the last 15 months, more than 250,000 individuals have become certified (or deputized) in early heart attack care. By using this message, the hope is to empower the entire nation with the knowledge that not only can early care save lives, but each individual can do something to save a life.
- (3) How Do We Develop this Virtual Coronary Care Unit in the Community?
  - a. The first requirement is to teach the public how to respond if they think a heart attack is occurring. EHAC is more than just education—it’s a system of care that embraces the many levels of care needed during the life of a heart attack. It is important to remember that in most cases the early heart attack patient is not recognized in a crowd and is different from

the presentation of patients with severe heavy chest pain or a cardiac arrest. The patient with the mild chest discomfort that is occurring intermittently (stuttering) is often in intense denial and this becomes the problem. The first responder is often thrown off because of difficulty convincing the patient to call 911 and get to the hospital to be checked out. This is the reason that the EHAC educational program included a pledge by the first responder to stay with the patient until such action steps are undertaken. Even now when EMS arrives, there may be a tendency not to take the patient to the hospital if the "patient does not look sick." This is the reason that paramedics need to be taught EHAC as well. However, with today's technologies, many paramedics are equipped with the capabilities to diagnose a heart attack.

- b. The second requirement is to improve Cardiopulmonary Resuscitation Care. Great results have been accomplished recently in community cardiopulmonary resuscitation. The results from King County, Washington, under the direction of Mickey Eisenberg and the Resuscitation Academy, have been able to show a 62% survival rate when bystander CPR is carried out. This is now the standard that most communities throughout the United States are trying to achieve. CPR has seen its own changes as many are adopting the Hands-only CPR to increase bystander participation. In addition, showing people how to use AEDs as well as the timely arrival of EMS is improving survival rates. HEARTSAFE Community is a new program designed to promote survival from sudden out-of-hospital cardiac arrest. Founded by David Hiltz and Michael Aries in Massachusetts, it is a concept focused upon strengthening the "chain of survival" as described by the American Heart Association. Communities meet certain minimal criteria to achieve the HEARTSAFE status. Perhaps, most importantly, they have to demonstrate community support with various partners in the communities that include fire and police departments, hospitals community leaders, local businesses as well as survivors of a cardiac arrest. There are over 600 such HEARTSAFE communities in the United States and most come under state public health departments.
- c. The third requirement is to create a more effective way of addressing cardiovascular risk factors. The CMS and AHA are promoting the Million Hearts Program to spread the use of ABCS—Aspirin, Blood Pressure Control, Cholesterol Control and cessation of cigarette smoking. Addressing such cardiovascular risk factors in the community can be enhanced by having patients become more motivated to practice healthier lifestyles. It has been stated that the chest pain center experience for patients results in a "teachable moment" because patients are fully listening and engaged. Behavior is difficult to change. Risk factors for cardiovascular disease have been known for a long period of time, but it has been disappointing in getting the public to address these risk factors. Approximately 80% of patients that are seen in the Observation Unit to be evaluated turn out not to have a heart attack and are sent home. In a 400 bed hospital, this could amount to approximately 1500 patients each year that could be educated for risk factors at a teachable moment. Thus, chest pain centers could contribute this program as a part of this virtual coronary care unit being developed in the community.

## Creating a Community Coronary Care Unit by Expanding the Heart Safe Community (The Braunwald Unit)



**Detecting Early Symptoms:**  
Acute prevention of a heart  
attack using Early Heart Attack Care

**Event Care Assistance:**  
CPR, AEDs, EMS

**The Teachable Moment:**  
Effective education on risk factors  
Joining with the AHA on the  
Million Hearts Project / ABCS

Best of Luck in Saving a Life.