

- A. Community education insures
- B. Prompt transit to the.....
- C. Chest Pain Emergency Room where the heart patient is given priority treatment, then transferred to.....
- D. the Coronary Care Unit for intensive care. Later the patient is moved to the
- E. Progressive Care Unit where rehabilitation teaching takes place before
- F. Discharge to
- A1. the Community Prescribed Active Cardiac Exercise (P.A.C.E.) program at the Catonsville Community College

CHEST PAIN EMERGENCY ROOM

ST. AGNES HOSPITAL

Where is the Chest Pain Emergency Room? What is its purpose? How will it function? How will it bridge the gap between St. Agnes Hospital and the St. Agnes Community?

These questions are being raised concerning the structure built on the North side of the hospital facing Wilkins Avenue. As you can see it connects directly with the Emergency Room and thus forms a part of the Emergency Room, an extension which gives priority care to a highly selective Emergency Room problem: sudden death. On the left of this is a two story structure which connects to the second floor. This structure houses a dedicated elevator which will provide rapid entrance from the Chest Pain Emergency Room to the Coronary Care System on the Hospital's second floor.

What prompted St. Agnes Hospital to undertake such an innovative approach to the problem of coronary care and heart attack? It has been long recognized that the major problem of saving lives of persons with coronary artery disease lies within the Community and not within the hospital. While it is recognized that lives are being saved within the hospital, due importance must be given to the weight of the problem's being in the Community. An estimated two-thirds of the patients who die with heart attack and coronary artery disease do so before reaching the hospital. Approximately 50% die instantaneously (within one minute); another 20% die within the first two hours with deaths falling off after the first six (6) to eight (8) hours. Unfortunately, most studies show that the approximate time of arrival to the Emergency Room of patients suffering a heart attack is about six (6) hours after the pain begins. Thus the major killing force has already struck its blow and wiped off the face of the earth many a patient with a heart too good to die. In order to correct such a problem, the hospital must extend itself to the Community and educate the populace in: (1) What to do when the patient is having a cardiac arrest; and (2) concepts of coronary care that preach the importance of the chest pain patient's seeking medical attention as soon as possible. The solution to the first of these problems has been shown by the people of Seattle to be very effective. Seventy percent of the Seattle population know how to do cardiopulmonary resuscitation. No longer are these simple techniques relegated to the physician or his designated personnel but must be given through qualified courses certifying as many lay people as possible. A solution to the second problem is perhaps more difficult to come up with. True, we do preach that all patients with chest pain seek emergency medical help, but it can be very frustrating, even catastrophic, if the Emergency Room is overcrowded and there is "no place in the Inn." With these points in mind, the Chest Pain

Emergency Room was designed to incorporate the following:

1. A cardiac consult area where nurses and physicians can keep in contact with incoming ambulance calls as well as EKG rhythms.
2. A large resuscitation area.
3. An observation area for patients with chest pain.
4. A dedicated elevator that expedites patients to the Coronary Intensive Care Area (Phase I)
5. A rehabilitation area.

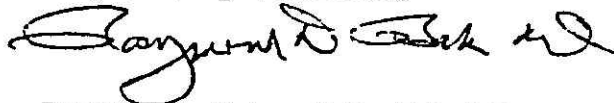
In a busy hospital, such as St. Agnes, it is important to have a rapid discharge capability that will keep up with the rapid entry of new patients. Rapid discharge can be accomplished by reducing the length of stay of certain low risk patients and providing rehabilitation for uncomplicated heart attacks.

We will, without question, have a greater impact in the Community on sudden death due to heart attack if we are able to reach patients at an early stage of their illness. The Chest Pain Emergency Room will also allow for proper identification of the heart attack suspects.

The Hallmark of this area will be a team of nurses, specially trained and dedicated to emergency care of the cardiac patient. Monitoring equipment will be available to allow rapid identification and treatment of life threatening arrhythmias. Obviously, it is better to save a life by preventing the need for a resuscitation than by having a patient deteriorate to the point where resuscitation is inevitable.

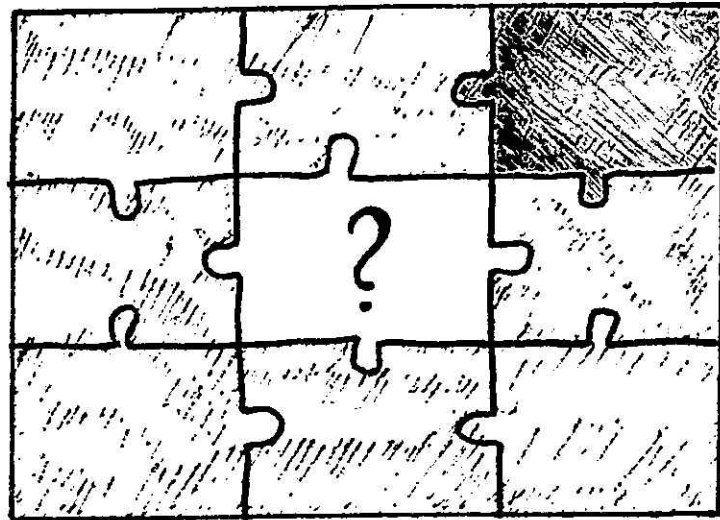
The Chest Pain Emergency Room is an innovative concept that will, no doubt, suffer some growing pains in its early stages. But these growing pains will not be insurmountable when one considers the expertise of the Chest Pain Emergency Room Physicians, Nurses, Residents, Cardiologists, and Administrative Personnel working together to provide optimal cardiac care to the people of our Community.

Respectfully submitted,

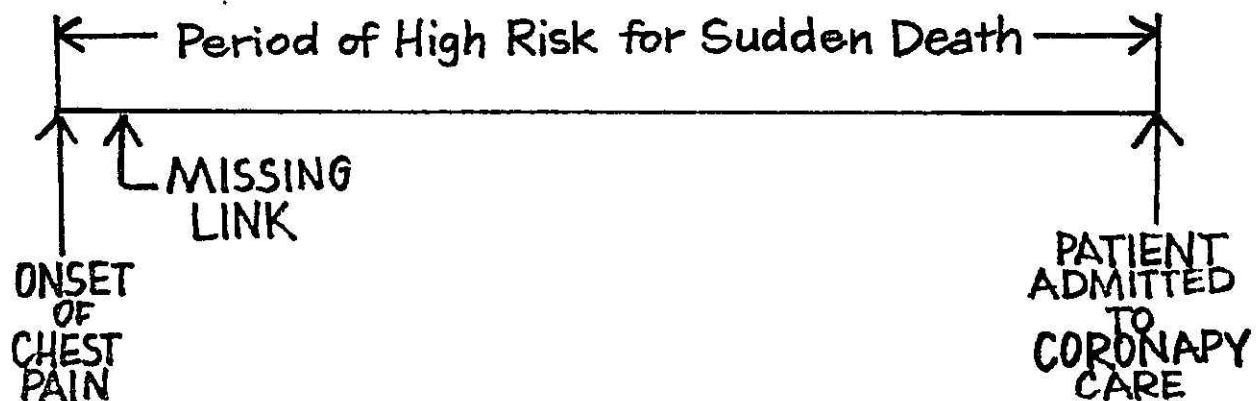


Raymond D. Bahr, M.D. F.A.C.P.
Director, Coronary Care System

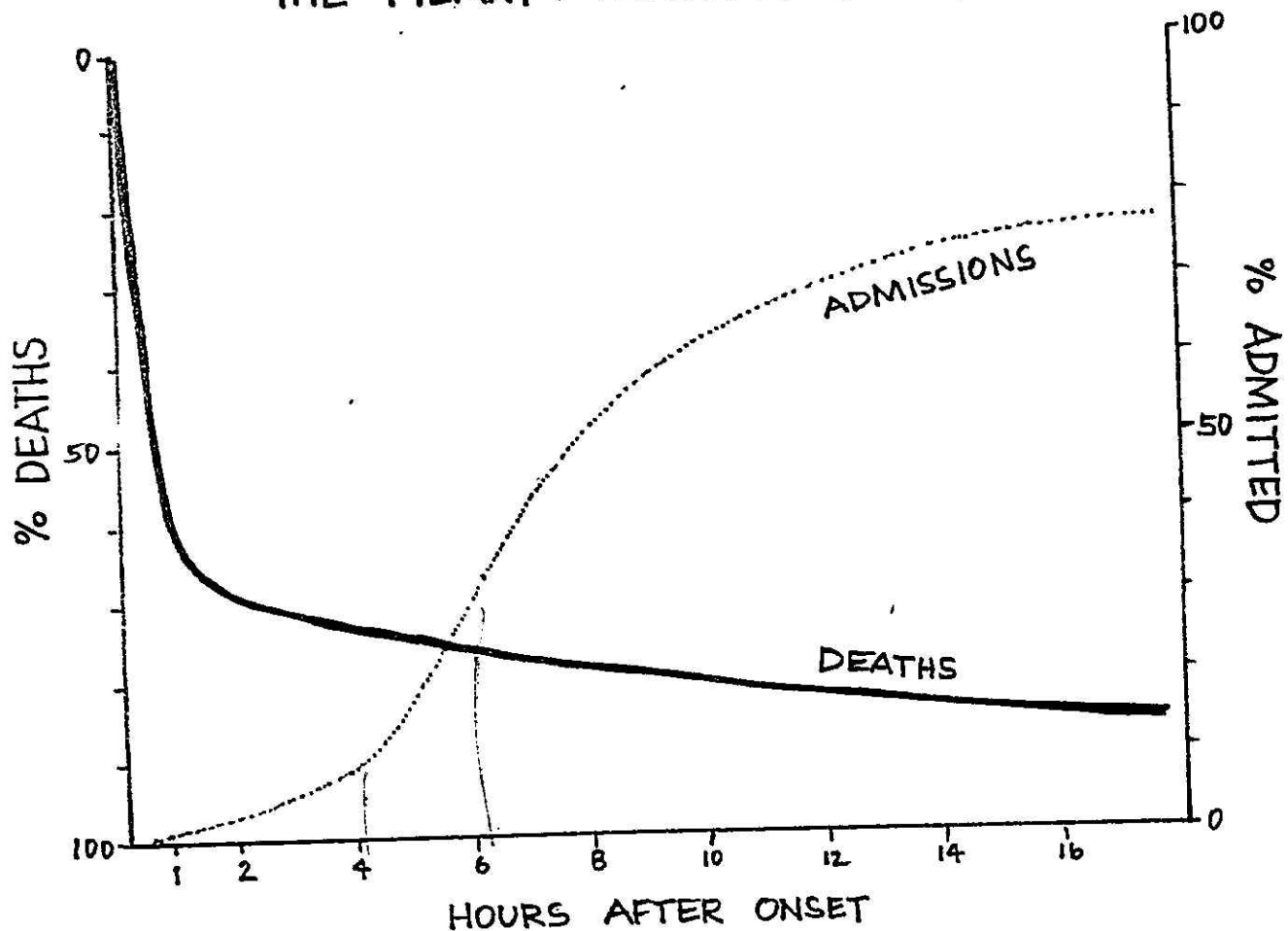
THE HEART ATTACK PROBLEM



WHAT
IS THE MISSING LINK IN THE
CHAIN OF EFFECTIVE EMERGENCY
CARDIAC CARE (PRE-HOSPITAL)?



THE HEART ATTACK PROBLEM

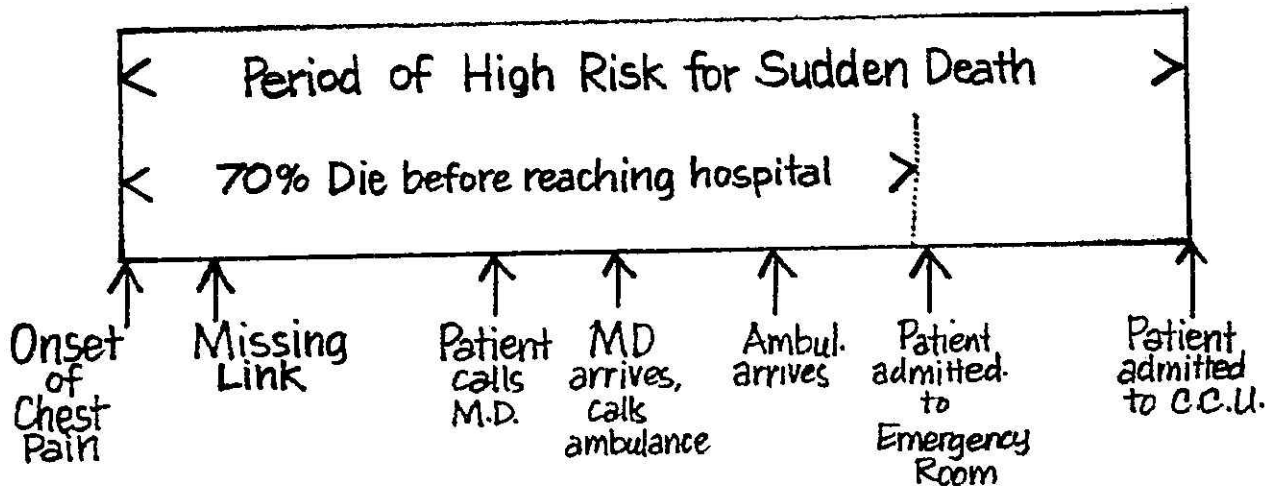


This important graph points out that the majority of patients dying from heart attack do so within a short period of time following the onset of chest pain (70% die within the first two hours). Notice also that the majority of patients are admitted late. (Only 20% are admitted within the first four hours). This combination of danger and delay brings about the unbelievable statistic that $\frac{2}{3}$ of the patients who die from a heart attack do so outside of the hospital.

The problem then, is a community problem rather than a hospital problem.

LATE 1970's CONCEPT

USUAL TIME FRAME OF EVENTS



AREA ADDRESSED BY EMERGENCY MEDICAL SERVICE

Encourage patient to go to hospital.

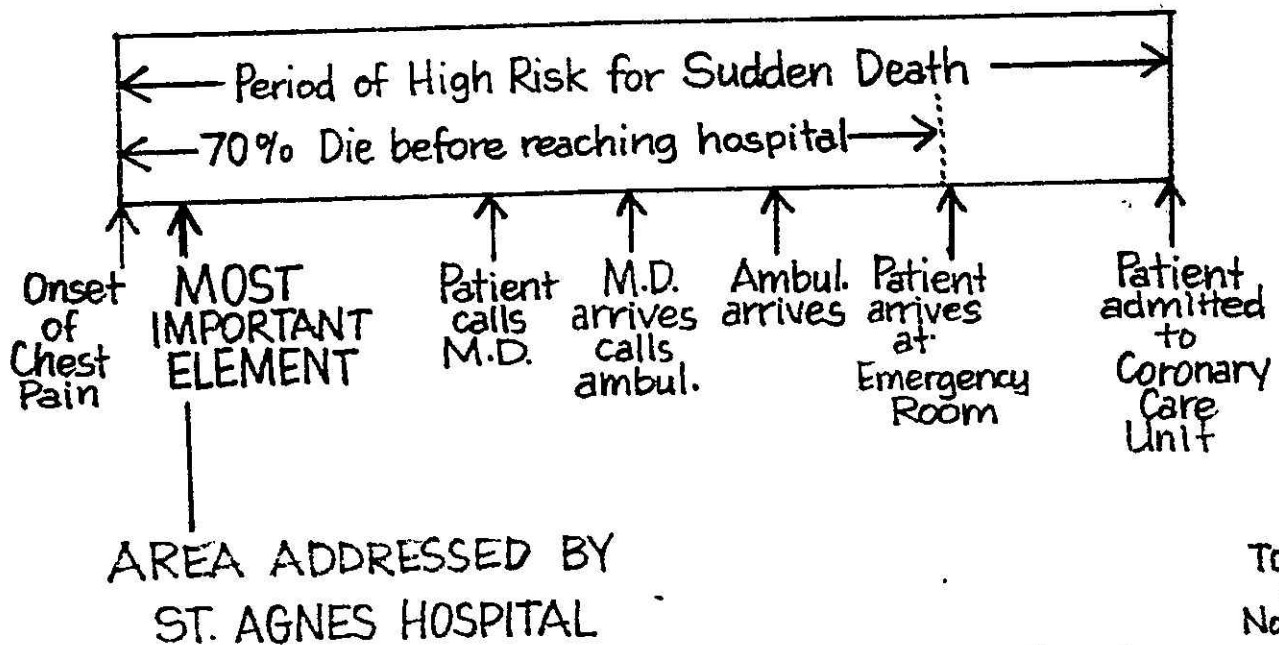
Enhanced training of ambulance Certified Rescue Technicians.

Immediate cardiac consultation and stabilization of patient.

Streamline Emergency Rooms so as to prioritize the chest pain patient

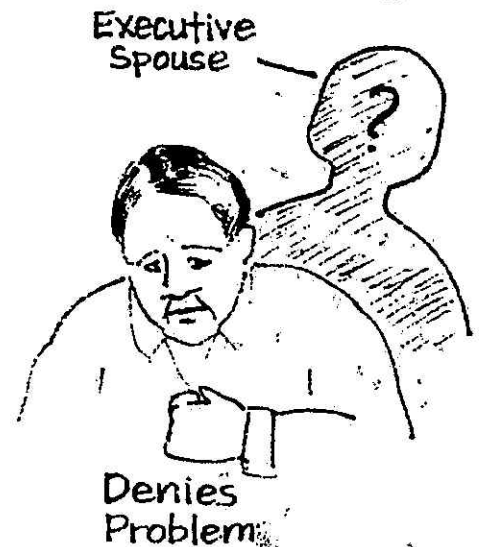
1980 CONCEPT
ST. AGNES' UNIQUE APPROACH

TIME FRAME OF EVENTS



COMMUNITY AWARENESS IS VITAL LINK

Needed: A person at the scene of patient with chest pain who is **KNOWLEDGEABLE** in the "Early Warning Signs" of a heart attack and who is **FOREWARNED** of the patient's natural tendency to deny the problem. This executive person **ACTS** and calls into play the Maryland Emergency Medical Service.



Seventy percent of victims dying from a heart attack do so within the first two hours following the onset of chest pain. Only 20% of heart attack victims are admitted to a hospital within the first four hours. The combination of these two facts results in the unbelievable statistic that 2/3 of all deaths from heart attack occur outside of the hospital. Perhaps, even more astonishing is the fact that in most cases heart attack is a completely reversible event. Why then does death from cardiac arrest remain the nation's #1 killer of the adult population?

The excellent Emergency Coronary Care System that exists in Maryland has significantly improved the care of heart attack victims. Highly skilled paramedics stabilize the patient on the scene. Voice communication warns the receiving hospital of a patient's arrival and EKG transmission allows consultation with a cardiologist along the way. The missing link in emergency care, which perpetuates the high mortality rate, lies in the community. Lack of knowledge about the early warning signs of a heart attack and naturally-occurring defense mechanisms of denial and procrastination are the real obstacles.

The problem of community apathy can be attacked by teaching the early warning signs of a heart attack and preaching importance of seeking medical attention immediately after experiencing chest pain. Every home should have an

"executive spouse", defined as a person within the family who does not tolerate excuses from someone experiencing chest pain but who calls for an ambulance. The "executive spouse" should also be knowledgeable in CPR in the event that the victim stops breathing or loses a pulse. It is well-known that CPR can save lives, but it should be stressed that it is better to bring a potential heart attack victim to the hospital before resuscitation is necessary.

Raymond Bahr, M.D., Director of Coronary Care at St. Agnes Hospital had developed an innovative and comprehensive system which serves to bridge the gap between the hospital and the community. Within the surrounding community, Dr. Bahr has promoted an intensive coronary care education campaign.

St. Agnes Hospital's Coronary Care System in cooperation with the American Heart Association produced a video tape directed toward the heart patient and his or her family. It teaches the early warning signs and what actions to take, and included information on the statewide Emergency Medical Services Systems. The film is shown to all patients and visitors on the hospital room televisions and is also available to groups upon request. Hospital employees volunteer to serve on a Speakers Bureau, attending community clubs and group meetings to teach the early warning signs of heart attack. Information about coronary care in the form of advertisements periodically appear in local newspapers.

In conjunction with the Baltimore City Fire Department, St. Agnes Hospital offers CPR training 4 or 5 times yearly. St. Agnes also strongly supports the teaching of CPR in public and private high schools. A Coronary Care Club has formed consisting mostly of former heart attack patients and their families. They attend monthly meetings to hear lectures on heart disease. A supervised exercise program, which has been shown to be beneficial in preventing coronary artery disease and reconditioning heart attack victims, is available at the nearby Catonsville Community College. These outstanding efforts will surely have an impact on the sudden death rate from cardiac arrest in the community surrounding St. Agnes Hospital.

If all patients with chest pain are to seek immediate medical help, hospitals should be prepared to provide quality cardiac care. With ~~the~~^{this} concept in mind, Dr. Bahr was the impetus behind the building of a specialized Chest Pain Emergency Room at St. Agnes. The Chest Pain ER is an extension of the Emergency Room which provides priority care to suspected cardiac patients. Routine hospital red tape and patients with other medical problems are bypassed. The design of the Chest Pain ER incorporates a large, completely equipped resuscitation area where physicians can consult with the paramedics who transported the patient; private observation rooms for monitoring patients with chest pain; a cardiac consult area where nurses can communicate with incoming ambulances as well as observe EKG rhythms; a direct route via private

elevator to the hospital's Coronary Intensive Care Area; and a rehabilitation area.

The Chest Pain ER is staffed 24 hours a day with qualified personnel specially trained to handle cardiac emergencies. The backbone of care is provided by a team of dedicated nurses. Flexible rotations in all areas of the Cardiac Care System provide a stimulating environment and experience in all phase of the patient's care.

Besides instilling community awareness and providing optimal cardiac care, Dr. Bahr also strives to improve relations between the hospital and rescue and transport services. A "status display board" was expressly made for the paramedic waiting area which adjoins the cardiac resuscitation room. Area hospitals and ambulance companies are marked on the map by colored lights. As paramedics deliver patients to the Chest Pain ER, their names are placed on the active roster of EMT's and CRT's which is attached to the side of the display board. This serves to familiarize individual ER nurses and physicians with ~~the~~ paramedics and to facilitate an exchange of ideas between these two groups of emergency care providers.