

The High School: Learning Ground for EMS

By C. Mark Vasu, MD, FACC

EMERGENCY MEDICAL Services (EMS) have become an integral part of many communities in the United States. However, the level of prehospital care provided by EMS systems varies greatly from basic life support to advanced life support paramedic services. Grand Rapids, in Kent County, Michigan, started a basic life support program with the Grand Rapids Police Department in 1968. In 1970 an advanced life support paramedic program was operational and quickly embraced all of Kent County. The majority of the paramedic work was provided by various police agencies within the county; however, the private and volunteer ambulances were equally well-trained and provided ALS transportation. One fire department ALS unit was also operational in the early 1970s.

During these developmental years, the Department of Health, Education and Welfare (HEW), provided guidelines to communities for their EMS systems. In addition, the HEW Department of EMS identified a group of first responders who should be trained in basic life support. These individuals — police, fire and ambulance personnel — were recognized as the first persons to be called to the scene of a medical emergency and, therefore, the individuals who should be trained in those skills that would allow them to sustain life and prevent further injuries until the patient can be stabilized and transported by a basic or advanced life support unit. This system is good as far as it goes, but what it does not address is what happens to an ill or injured person until a first responder arrives.

We are all well aware that the first few minutes of a cardiac arrest are crucial. It is a known fact that basic life support, such as cardiopulmonary resuscitation (CPR) performed by a bystander before the BLS or paramedic unit arrives, increases the chances of survival for a cardiac arrest victim.

The definition of the first responder is

changing. A first responder should be defined as the first person at the scene of an emergency, regardless of his level of training. In effect, members of the general public are often the true first responders to a medical emergency, and therefore should be trained.

This would seem to be an impossible task, especially if one takes the concept literally — to train every citizen in basic life support. Obviously, the answer is for a community to set realistic goals for itself. Seattle chose to train 10 percent of its population through fire department personnel. Some authors recommend that at least one member of each family be trained in CPR.

In the Grand Rapids community we selected yet another route. In 1974 we began identifying individuals who, through their vocation or avocation,

*I shall pass through this life but once.
Any good, therefore, that I can do
Or any kindness I can show
To any fellow creature
Let me do it now.
Let me not defer or neglect it,
For I shall not pass this way again.*

Etienne de Grellet

were exposed to large groups of persons who might at any time require some form of emergency medical care. Special programs were developed to train them in basic life support skills including, but not limited to: CPR, bleeding, recognizing signs and symptoms of shock, heart attacks, etc. These identified groups are industrial personnel, school personnel, nurses (particularly those working outside the hospital environment), dentists, airport personnel and athletic trainers and coaches. Obviously this list could go on and does.

However, we were still experiencing a void in certain geographical areas of our community, especially the rural population. How then could one provide training to those individuals who were

often self-employed or unable to attend day or evening classes because of travel or conflicting schedules?

The answer in part for us was high school students. Here was a yet untapped source of potential first responders and, if one planned well and provided an acceptable course in a workable format for the school systems, the possibility existed for the program to become a required course of instruction for all high school students. This would be a solid base for attaining the goal of every citizen's being trained in basic life support.

Why high school students? They are a captive audience who are usually easily motivated and enthusiastic, especially in a class that has real application to life; and they are a caring, concerned and, in most cases, eager-to-help population. Many students believe that a great need exists in education for practical knowledge that gives dignity and purpose to learning. A course of instruction in emergency care skills clearly demonstrates a meaningful relationship between what students are asked to learn in school and what they can immediately do with that education within their own lives. Thus the idea for a basic life support program for high school students originated in the spring of 1977 with a timetable to implement it in the fall of 1977.

The metropolitan area of Grand Rapids has a population of 186,000 people, with four public city high schools and many parochial schools. The number of students per school ranges from 1,400 to 2,200. As a pilot program, it was our intent to begin with the four public city high schools and also include one suburban and one rural high school.

I approached the superintendents of these schools and explained the program ideas. The response was immediately supportive. The emergency medical training staff of Grand Valley State Colleges was instructed to plan

and organize a curriculum with representatives from the high school systems. The curriculum and lesson plans for the *Emergency Care Course for High School Students* were approved by the instructional councils of each high school district. It was mutually decided that these classes would be taught principally by high school teachers already on the staff of each high school and generally restricted to the teachers who taught science or physical education classes. Ten teachers then attended a special one week intensive training seminar during the summer of 1977. This special seminar instructed the high school teachers thoroughly in basic life support and then was continued as a course of instruction, one night a week, for the fall semester — a total of 90 hours. The curriculum followed the guidelines of the Department of Transportation (DOT) Basic Emergency

Medical Technician Course.

Final selection of the high schools was limited to the urban and rural systems because the suburban high school rejected the proposal. It is probably noteworthy that we explain some of the reasons for their refusal to enter this original pilot program. Those who intend to duplicate this course in their community may very well run into similar problems. This particular suburban high school places a great emphasis on "knowledge for knowledge's sake and the basics." The majority of the students are precollege and preprofessional. There is a general lack of desire for practical courses in a school of this type. Thus, if the program is offered on a communitywide basis, there may be some difficulty implementing this type of course in schools fitting the profile of this suburban high school.

At this point, funding of the project became a critical issue. Monies were needed to pay the salaries of Grand Valley State Colleges personnel that would be involved as instructors in the project, as well as to provide lesson materials for high schools and to equip the schools with the necessary gear.

Initially, funds were requested as a part of a 1204-1 grant submitted to DHEW. Funding was not obtainable through this means and we turned to local foundations in the Grand Rapids community. On the premise that we were attempting to educate a large segment of our community on a continuing basis in lifesaving techniques and emergency medical care skills, funding was sought from local private foundations, which included the Grand Rapids Foundation, the Steelcase Foundation and the Ty Hager Foundation. The three organizations supported this

Students In Toledo, Washington, Gain Efficiency In EMS

THE DESIRE to help others should be instilled at an early age. Some states, such as California, are requiring by law that CPR be taught in the high schools. It seems natural that some emergency medical care oriented curriculum should be taught to high school students.

A year or so ago, "60 Minutes" ran a segment on TV stating that, because of the general public's training in CPR, Seattle was the best place in the U.S. to have a heart attack. Some students at Toledo, Washington might beg to differ. Since a sophisticated health class entitled "Emergency Medical Care" (EMC) is now required for high school graduation credit, Toledo students might just suggest that their community is the best place to be in the event of not only a heart attack but of a variety of emergency medical traumas.

Only recently have educational and medical periodicals been espousing the value of CPR and first-aid classes in the public schools, but the Toledo School District has included these subjects in its curriculum both in the high school and middle school since 1975. Even special student-taught classes at the kindergarten through sixth grade levels have been offered. The philosophy which instigated this entrance into the heretofore adult-oriented field is that even the very young, when educated in emergency medical care, can administer life-sustaining first aid such as CPR, rescue breathing, and control of bleeding.

Toledo High School students, however, move beyond basic first aid. Attesting to their proficiency, on June 28, 1978, the American Red Cross informed the Toledo School District that all the members of the EMC class passed their advanced first-aid requirements and were certified.

These same highly qualified students acted as liaison persons between the district and school bus driver personnel by going on observation rides with the drivers, meeting to discuss safety measures, the use of trauma kits and the setting of priorities relative to emergency medical care.

Even more visionary was the disaster plan set up by the advanced EMC class which involved local, county, state, and national EMS organizations. It was accepted as a reliable and viable disaster plan in which Toledo High School would be used as the focal point and the students would play a major role.

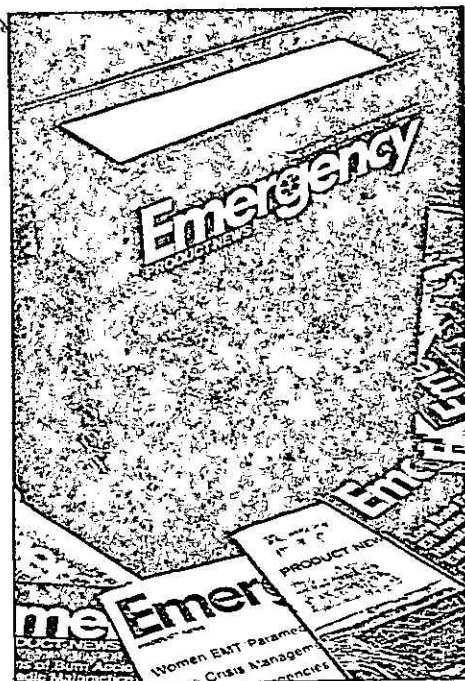
Another community-related function sponsored by these carefully trained students was an invitation to MAST (Military Assistance to Safety & Traffic) personnel in Fort Lewis, Washington, to conduct a demonstration of their emergency helicopter transportation service at the high school. In cooperation with local emergency crews from the Toledo Fire Department, the students also invited other emergency personnel from surrounding areas. The benefits were twofold; the students experienced the satisfaction of performing a

community service and they were exposed to job opportunities available to them in the emergency medical field after graduation.

A field trip to Seattle's Harborview Medical Center in May of 1978 gave the students another opportunity to see one of the best trauma centers in operation and to compare their training with that of professionals. Lectures by staff members and Seattle Fire Department Medic I and II personnel dramatically reinforced the students' previous training and served as a meaningful career orientation experience as well. Members of the class also attended a clinic on Sudden Infant Death Syndrome at Chehalis, furthering their understanding of the variety of traumas which EMS personnel encounter. The students returned to the community with reports on their findings.

Since emergency medical care in a small town such as Toledo is closely related to the volunteer fire department, these students take a special interest in that facility and its responsibilities. By helping to sell ambulance service subscriptions, they played an active part in raising the money necessary to keep Toledo's emergency service financially stable. Again, this experience was very valuable toward developing a healthy attitude of community cooperation and service. □

Matt Gefre, EMT Senior Instructor
Toledo High School, Washington



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program and provided \$33,500. In addition to these funds from the foundations, three instructors were furnished by the Grand Valley State Colleges, and financial support was provided by the Grand Rapids public school system.

Preparation of the curriculum, class outline and lesson plans took approximately one year utilizing a Grand Valley staff person. This time was not covered by the foundation monies. After the funds were received, the three indivi-

Cordele, Georgia, Students Assist In Emergencies

IN THE STATE of Georgia there are 159 counties, and in almost every county there is an ambulance service. In one of these counties, however, there is an ambulance service with a plus. The plus is a group of high school students from Crisp County High School in Cordele, Georgia.

These students comprise the EMT club at the school. Their teacher is Mrs. Le Dorough, an RN and EMT-Instructor with many years of experience under her belt. The students all must take CPR and Standard First Aid training before joining the club, and the class meets during regular school hours. In the class, the students learn everything that a basic Emergency Medical Technician would be taught in Georgia's EMT programs. Students have usually taken classes from Mrs. Le Dorough before in order to qualify for admission to the club.

In addition to teaching the EMT club, Mrs. Le Dorough instructs four other Standard First Aid classes, and a CPR class entitled "Paramedics." The courses are not required courses, but year after year, a greater number of students sign up and the classes are among the most popular on campus.

In years past, members of the EMT club rode with the Crisp County Ambulance Service and learned first-hand what the EMTs do. On many occasions they have assisted with patient assessment, treatment and transportation. Two of Mrs. Le Dorough's former students have eventually been certified, and have been employed at the local ambulance service. One is now in medical school and the other is still a member of the team. In that service, three of the seven full-time, and two of the three part-time EMTs were trained in one of Mrs. Le Dorough's certified EMT courses.

Often, the students are seen at automobile accidents or other emergencies, and have been a real help to the EMS unit. On one call last year, the EMTs arrived at an accident scene to find that a student had the victim's neck immobilized in a makeshift cervical collar, her wounds bandaged, and the

bleeding controlled. This student also had completely assessed the patient's level of consciousness, and recorded vital signs, as well as the extent and location of injuries to the victim. This is just one example that is best remembered. There are numerous incidents that would take days to relate, but in every case these students displayed calm, cool professionalism, and a high level of competence that one normally sees in EMS personnel with years of experience.

Providing help at accidents and other medical emergencies is not the only service that this fine group of people performs. The individual members are always ready to help any civic organization that may require assistance for a worthwhile project. The students are not only trained in CPR, but are instrumental in the training of other people. They are almost always found in Red Cross of Georgia Heart Association CPR courses, helping to instruct the interested citizens of Cordele and Crisp County. These folks are applying their skills and expertise for others. In fact, one man used the techniques learned in a CPR course assisted by the EMT club to save the life of a man that was choking.

The class has also been instrumental in getting the citizens of Cordele and Crisp County trained in first aid. They regularly help by being "victims," and by lending their knowledge and special way of presenting that knowledge to the people in these classes. Even some of the equipment and supplies that go into teaching a first-aid class are generously supplied by Mrs. Le Dorough.

The people in Crisp County and Cordele, Georgia, can feel proud and privileged as a result of the work being accomplished. Seldom have teenagers taken on such a magnanimous project as that of bettering Emergency Medical Services for the counties and communities served — a project that will only help others — and they do it without the praise that they so richly deserve. These people have helped to build a unique lifesaving service. □

David A. Paulk, EMT-A
Cordele, Georgia

duals hired by Grand Valley State Colleges to assist with the high school program were assigned the task of reviewing and proposing changes in the curriculum.

The classroom program began in September of 1977 at the Grand Rapids high schools: Creston, Central, Union, Ottawa Hills, and the rural Kent County High School in Cedar Springs. Each of the Grand Rapids schools offered two classes per semester (four per year), and Cedar Springs offered four classes per semester (eight per year). Each class accommodated 22 to 25 students, and 625 students participated in the program with less than 10 percent dropping out or failing. In addition, those students receiving a grade of C or better were given special certificates of completion.

It was repeatedly emphasized to the students that they were not being trained as basic EMTs at this level, but rather trained as individuals in the techniques of emergency medical care. They were taught how to obtain access to the emergency medical care systems and what to do until appropriate help arrives. Aside from the obvious life-saving benefits that this program provides, there are other benefits. Superintendent Phillip Runkel of the Grand Rapids public schools said, "A program like this gives a student the dignity and responsibility of acting as an adult."

The course is a semester long with 55-minute lesson plans developed for approximately 90 class periods. A quarter of the lesson plan is devoted to career education with a specific emphasis on health careers. It was our intent to expose high school students to several of the allied health programs other than the usual physician or nurse career presentations. Confusion exists in the minds of many high school students as to the nature and function of a hospital, doctor, nurse, dietician, therapist and administrator. During the career education portion of this curriculum, the students were exposed to personnel currently working in these various fields. A brief lecture on their roles in the health care system, training and salary was offered, followed by a generous amount of time for questions and answers.

Second-year plans include a continuation of the program in all of the high schools. Monies have been budgeted by each school system to support the program. In the Grand Rapids schools the course will be elective, while Cedar Springs is requiring the course for all sophomores. However, in all the schools, demand for the course far exceeds class offerings.

Continuing education for high school teachers is available through seminars to keep these teachers up-to-date on new procedures and to maintain their practical skills. This has been established as a monthly program meeting Michigan Department of Public Health basic EMT continuing education requirements.

Grand Valley State Colleges Emergency Medical Technician Program for High School Teachers is available to any community in the U.S. A four-week intensive training session for the summer months has been developed. Symposium material is available by contacting the Grand Valley State Colleges EMT Training Offices, Special Program Coordinator, 1695 Service Rd., N.E., Grand Rapids, MI 49503.

A concept of training for the high school student has been presented, and we feel the value of this program speaks for itself. It has been implemented to train a large segment of the general public in basic life support. The high school student, by learning how to recognize life-threatening emergencies, develops skills to personally intervene when the situation so indicates. Teenagers possess a vital natural curiosity and enthusiasm to carry out this portion of their education and can do so over a wide geographical area. Each student may someday have the opportunity to save a life.

We must remember that it is healthy to infuse in the next generation the need to identify with the health care profession. These young people will soon be voting and forming public policy, and they should have an appropriate appreciation of their own responsibilities, to themselves and to the health care system. The message of health education is wisely directed to the teenagers of our society. In the proper environment, they will learn so that they can help their fellow man. □

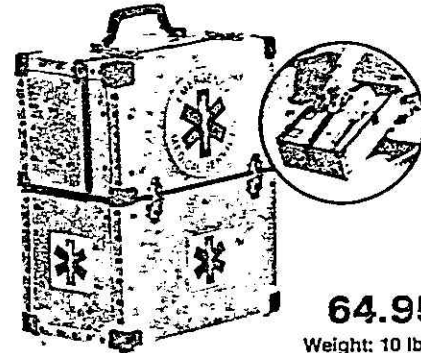
For more information on the curriculum and course objectives, or on the program in general, write to:

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C. Mark Vasu, MD, FACC, has been involved in EMS since 1966 and is working to establish EMS on a national and international level. He is a cardiology consultant to the HEW-EMS office, the Michigan Department of Health EMS, and serves on Emergency's editorial advisory board. He is also the director of the Grand Valley State Colleges EMS program and president of the EMS Foundation. A thanks to Special Program Coordinator Lynn Zimmerman.

THE MEDICASES

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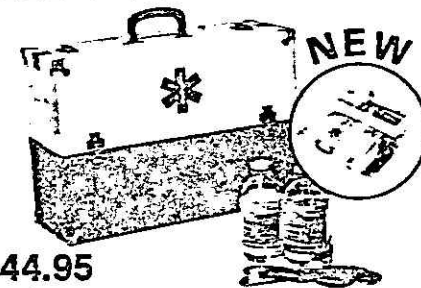


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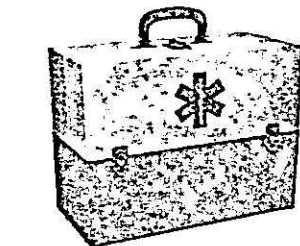


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