JOHN J. HANLON, MD, MPH

*Dr. Hanlon, Special Assistant for Public Health Programs, HSMHA, and Assistant Surgeon General, Public Health Service, is now heading the Emergency Medical Services Program. Tearsheet requests to John J. Hanlon, MD, Emergency Medical Services Program, Health Services and Mental Health Administration, 17–64 Parklawn Building, 5600 Fishers Lane, Rockville, Md. 20852.*

# EMERGENCY MEDICAL SERVICES

## New Program for Old Problem

Last year, more than 115,000 Americans lost their lives in accidents. Four hundred thousand more were permanently disabled and 10 million were temporarily disabled. The loss to our economy from accidents last year is estimated at over $28 billion. These are sad and staggering figures—especially since this toll could be greatly reduced by upgrading our emergency medical services. Such improvement does not even require new scientific breakthroughs; it only requires that we apply our present knowledge more effectively.

To help in this effort, I am directing the Department of Health, Education, and Welfare to develop new ways of organizing emergency medical services and of providing care to accident victims. By improving communication, transportation, and the training of emergency personnel, we can save many thousands of lives which would otherwise be lost to accidents and sudden illnesses.

In March 1972, the Emergency Medical Services Program (EMSP), Health Services and Mental Health Administration, was established to carry out the directive in President Richard Nixon's 1972 State of the Union Message—to improve the delivery of emergency medical care in the United States through the application of existing technology and current management concepts.

To accomplish this mission, the EMSP, the planning and coordination center for the Federal emergency medical services (EMS) effort, provides technical consultation and guidance to States and communities. It is establishing a national information center to gather and disseminate information; it is setting up a national EMS data collection, analysis, and evaluation system; and it has selected five areas for the emergency medical services systems that will serve as models for other parts of the country.

Selection of the five demonstration sites was the program's first major activity. In March 1972, a Request for Proposal was released. In May and early June, the submitted proposals were reviewed and evaluated. Late in June, the Administrator of HSMHA announced the selection of the following areas: the State of Arkansas, a three-county area of southern California (San Diego), a seven-county area of northeastern Florida (Jacksonville), the State of Illinois, and a seven-county area of southeastern Ohio (Athens).

Contracts totaling $16 million were signed with agencies in these areas to develop comprehensive EMS systems. Projects to be undertaken by the areas included the upgrading of emergency departments; the improving of transportation and communication systems; the training of emergency medical technicians, nurses, and physicians; and the conducting of public and professional information programs.

The areas selected vary in size from three counties to entire States; in topography, from desert to mountains; in density of population, from remote rural to center city. The areas differ in socioeconomic conditions, composition of their populations, and the availability of medical systems.

**The experiences gained from these area EMS activities will serve as guides for planning and implementing EMS systems in other parts of the country.**

### The State of Illinois

**This project will demonstrate the expansion of an existing trauma system into a statewide total emergency medical services system. Contract amount: $4.0 million.**

The State of Illinois must provide medical care for citizens in inter-city urban areas, Chicago suburban and downstate urban communities, and remote rural areas. Although excellent medical facilities and personnel are available in Metropolitan Chicago, they are not available to the people who live in Chicago's south side ghetto. There, physicians are few and ambulance services are inadequate. Most ghetto residents are medically indigent and must rely on Cook County Hospital's emergency department for all health services.


Rural areas constitute another area of medical need in Illinois. In the southern half of the State, medical facilities and personnel are limited. Some areas do not even have ambulance services.

In 1971 the State of Illinois established a trauma care system—a system for the orderly handling of patients with serious injuries through the best possible use of existing facilities and medical technology. The system called for the creation of 40 trauma centers in the State of three types: regional, areawide, and local. The purpose of the trauma care system is to get a seriously ill or injured person to the medical care he needs in the shortest amount of time and to keep him alive in the meantime. The trauma care program is well launched, but it is not completed. Its principal accomplishments include establishment of trauma centers, a communications network, and a transportation system including use of helicopters.

Consumer and public information programs have been extensively and effectively undertaken. The citizens of Illinois have been informed of the deficiencies, expectations, and achievements of the trauma care program. This community interest is now being channeled into effective use through community emergency service councils.

During the past 2 years, the entire Illinois health community has learned a great deal about comprehensive areawide planning and implementation


of emergency medical care systems. The State is now ready to expand its trauma care system into a total emergency medical care system.

Emergency service councils will be developed statewide. The councils, composed of professional leaders and community participants, will plan for the provision of total emergency care. Emphasis will be on using existing resources effectively—not on building new facilities.

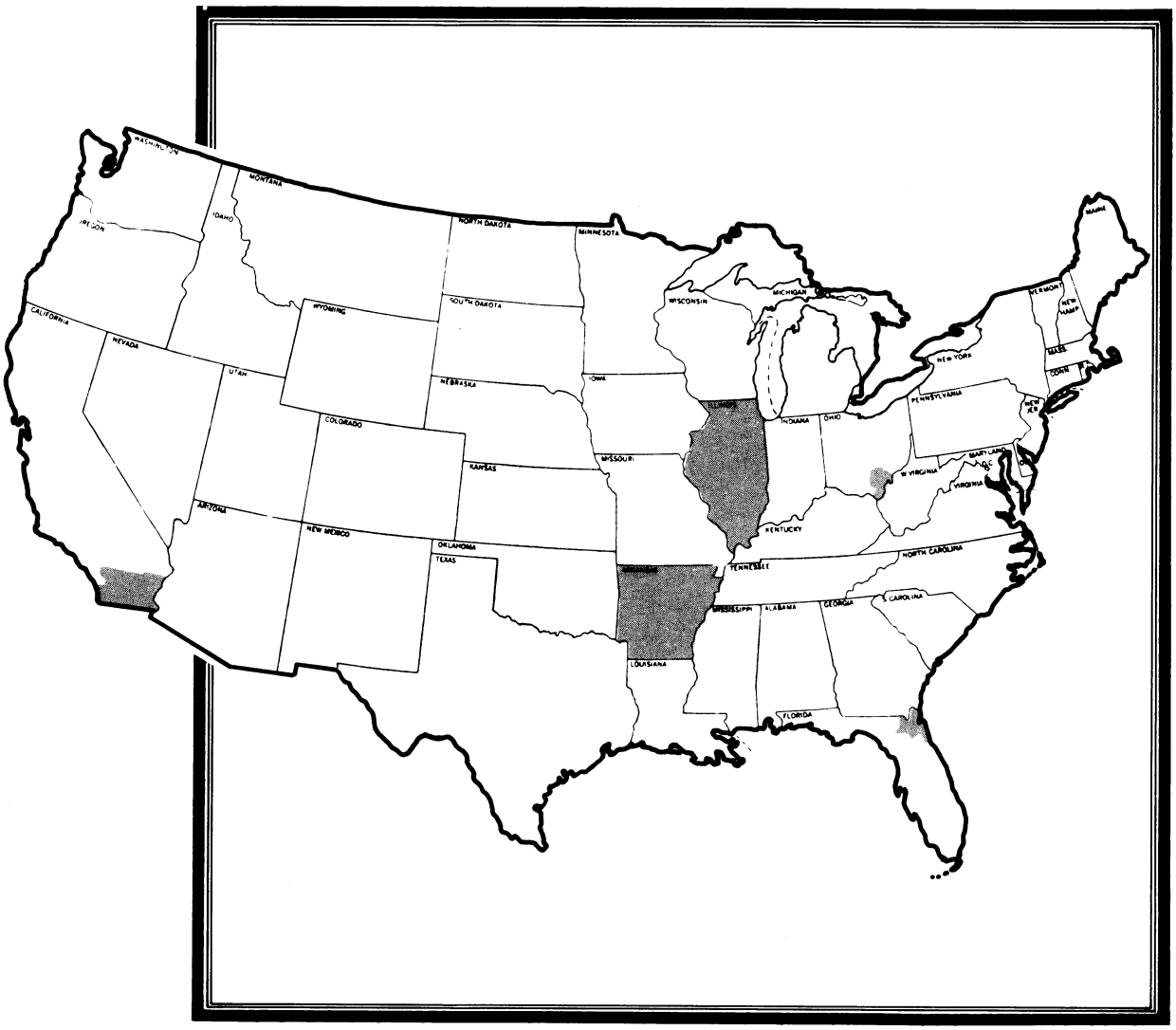
Developing a comprehensive communications system will be a priority project. Radio communication will be possible between hospitals and ground or air vehicles. Physicians in regional trauma centers will be able to monitor an ambulance operating out of a local trauma center. A RED (Regional Emergency Dialing) telephone number has been established. In many communities, 911 systems will be installed. A central emergency medical control center will be established in each region, and model systems of ambulance services will be established.

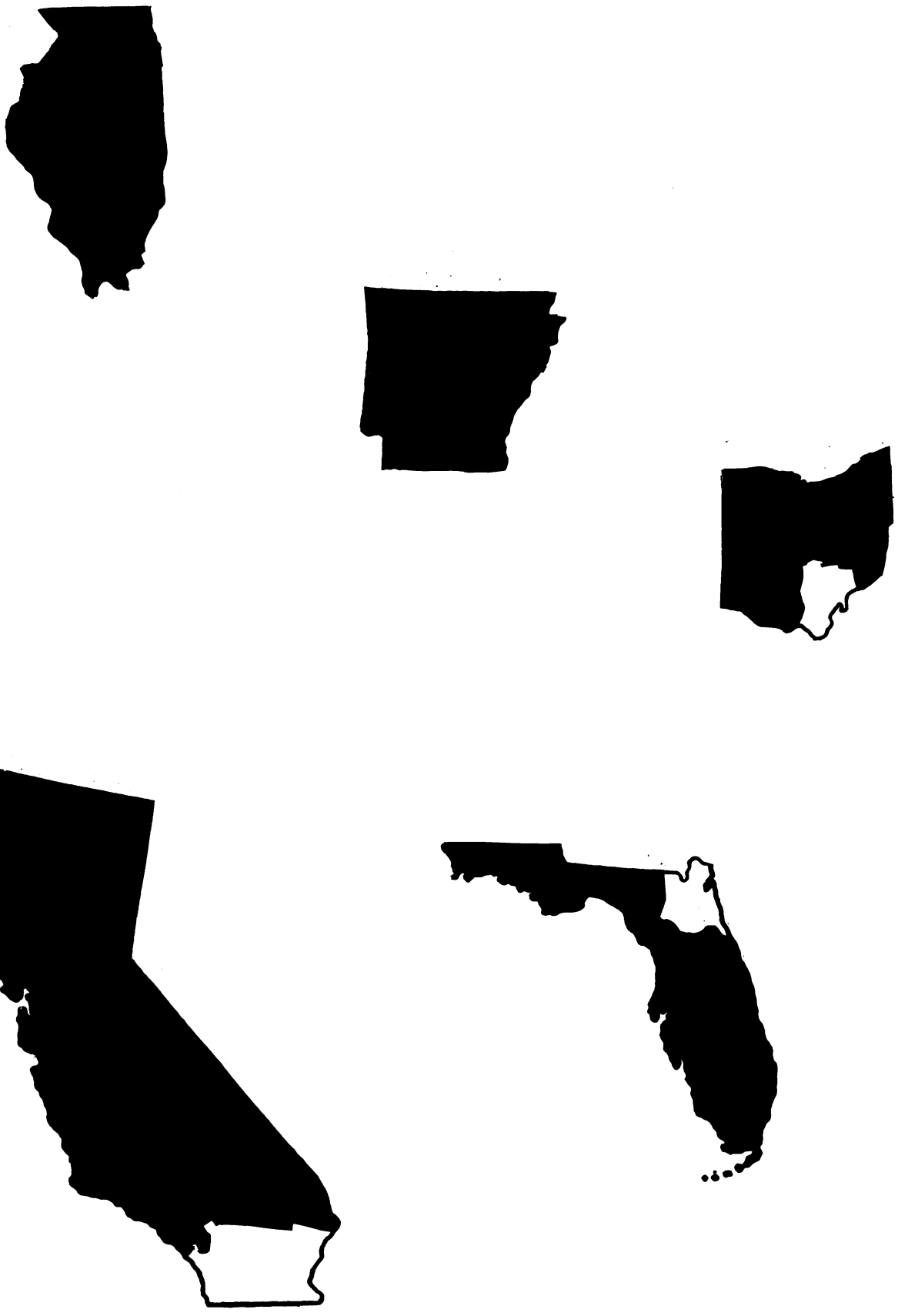
### The State of Arkansas

**This project will demonstrate the impact of organization and planning on the development of a coordinated, regionally responsible statewide system for EMS. Contract amount: $3.4 million.**

Topographically, Arkansas is extremely varied. The northern and western areas of the State contain the highest elevations between the Alleghenies and the Rockies, while the eastern area has broad, flat river valleys. Fifty-four percent of the State's land area is in forest.

Almost half of the State's population is located in 10


MONTANA
NORTH DAKOTA
MINNESOTA
IDAHO
SOUTH DAKOTA
WISCONSIN
MICHIGAN
WYOMING
NEBRASKA
IOWA
NEVADA
UTAH
COLORADO
KANSAS
MISSOURI
ILLINOIS
INDIANA
OHIO
KENTUCKY
ARIZONA
NEW MEXICO
OKLAHOMA
TEXAS
TENNESSEE
NORTH CAROLINA
MISSISSIPPI
ALABAMA
GEORGIA
LOUISIANA
FLORIDA
NEW YORK
PENNSYLVANIA
VERMONT
MAINE
MASS
CONN
W VIRGINIA
VIRGINIA



counties. Sixteen of the 75 counties have fewer than 10,000 inhabitants, and the nonwhite population, 18.6 percent of the State's total, is concentrated in the eastern urban counties.

Arkansas has many areas of need in the provision of emergency medical care for its citizens. Only 11 hospitals in the State have as many as 200 beds, and only University Hospital in Little Rock is rated as a class 1 emergency medical facility, as categorized by the American Medical Association. Each of the eight comprehensive health planning districts, however, does have at least one well-equipped community hospital with a competent staff representing practically every medical specialty.

There is a severe shortage of medical personnel in the State. The number of physicians is adequate but, because of distribution, the doctor to patient ratio in some rural areas is 1 to 3,000. There is a great need for nurses and trained emergency medical technicians-ambulance (EMT-A). The lack of ambulances is a major problem. Ambulance services in rural areas are usually inadequate, if they exist at all.

Specific program objectives to establish a comprehensive emergency medical services system include developing a State plan, developing two subregional pilot areas, instituting a statewide coordinated training program, completing the hospital emergency radio network (HERN) and cross-band with the State police network, and obtaining necessary State legislation to support the emergency medical services system.

To create a statewide emergency ambulance service that will provide adequate and efficient transportation to all the sick and injured, smaller hospital-based ambulance services will operate as satellites of larger regional, hospital-based services. Major emergency care hospitals will serve as the base of operations for communication and coordination of ambulance services in the surrounding counties. The communications system will be expanded to enable communication among helicopter and ambulance personnel at the accident site, the central dispatcher, and the receiving trauma center personnel and emergency physicians. Training courses will be conducted statewide for physicians and EMT-As. An associate degree program for EMT-As will be developed.

### Seven Florida Counties

**This contract will demonstrate that a functioning emergency medical services system can be expanded from a wholly city-oriented unit to one responsible to both city and rural needs. Contract amount: $3.1 million.**

A seven-county area, (Baker, Bradford, Clay, Nassau, Duval, Union, and St. Johns Counties), located in northeast Florida, is economically deprived. Approximately one-third of its families are near or below the poverty level. In Jacksonville, nearly one-fourth of the citizens, concentrated principally in the core city, are medically indigent. The six rural counties surrounding Jacksonville probably have a greater poverty rate than the city. Both Jacksonville and the surrounding counties fall below the national average of physician to patients ratio. The major industries are lumbering, agriculture, and dairy farming.


Jacksonville has a sophisticated rescue ambulance service that has gained national recognition. The service is provided by the Jacksonville Fire Department Rescue Service using well-equipped modular vehicles, highly trained personnel, and good communications. Air transportation of the injured is available. The health manpower and hospital complex in the city is the largest in the New Orleans-Atlanta-Miami triangle. All medical specialties are represented. Jacksonville and Gainesville have good hospitals.

At present, citizens of the counties surrounding Jacksonville cannot receive care comparable to that available in the city. Some counties have only two physicians; other counties face a loss of physicians in the coming year. Each county does have a community hospital, but these hospitals are incapable of treating major trauma or critical and unusual illnesses. The emergency departments of the six hospitals are inadequate. With the exception of Jacksonville, no ambulance service in the entire region now meets the requirements in equipment, training, and personnel set by the National Highway Traffic Safety Administration or the Department of Health, Education, and Welfare.

Local ambulance services and emergency departments of local community hospitals will be upgraded. Ambulance attendants will be trained to an 80-hour level in first aid and cardiopulmonary resuscitation (CPR). Ambulances will be equipped in accordance with the requirements of the American College of Surgeons. All firemen and law enforcement officers will be trained in first aid and CPR. If patients cannot be treated at community hospitals, their conditions will be stabilized and they will be evacuated to Jacksonville or Gainesville by military helicopter or by an intensive care ambulance.

The city of Jacksonville, acting with the advice and help of the Jacksonville Area Health Planning Council and other professional organizations, will provide direction, leadership, technical advice, and consultation to the seven counties in carrying out the project activities. The same high quality emergency medical care available to the citizens of Jacksonville will become available to the citizens of the seven counties.

## Three California Counties

**This project will demonstrate how a series of separate but inter-related projects can be developed into an emergency medical services system to serve a city/county and the surrounding desert recreational areas. Contract amount: $1.5 million.**

San Diego, Imperial, and Riverside Counties comprise a 15,700-square-mile area in southern California which includes 70 miles of Pacific beaches, deserts, and mountains. Imperial County is principally agricultural. Minority groups comprise a substantial proportion of its population. It has a shortage of physician


services and outdated medical facilities. The major industries of Riverside County are agriculture, manufacturing, mining, and tourism. The county has good medical facilities and an adequate number of physicians.

San Diego County, one of the fastest growing areas in the country, has good medical facilities but also many problems in the delivery of health care services. The county has a large population of low income or unemployed persons who lack the financial resources to obtain medical care.

Each of the three counties has established an emergency medical care committee.

San Diego County officials, working with counterparts in Imperial and Riverside Counties, have developed long range plans for the establishment of a comprehensive emergency medical care system. The objectives of the plan will be accomplished through joining discrete but inter-related programs. When the programs are fully operational, they will give the people of the tricounty area a sound basis for a total emergency medical care system that can respond effectively to their health needs. San Diego County now has an operational hospital administrative radio network which allows direct communication between hospitals in the county for coordination in emergencies and to act as a backup system for commercial telephone company communications.

San Diego County's 81 privately operated ambulances and its two mobile intensive care units are concentrated in the metropolitan area. Services to the rural and mountainous eastern region of the county are sparse and economically unprofitable. To respond to the need for ambulance service, sheriff's deputies who reside in the rural areas have been trained in first aid and use of rescue equipment.

The area now has one special intensive care unit for infants. This module permits treatment of a child en route to the perinatal division of University Hospital of San Diego County. The area also has a poison control center staffed by volunteers, and a regional burn treatment center was recently established at University Hospital.

Completing the emergency radio network is an immediate goal of the San Diego Emergency Medical Care Committee. When finished, the network will connect all ambulances and emergency departments of primary emergency facility hospitals. An inter-hospital radio network will be created in Imperial County. A future 911 system is planned for the area.

The contract will enable Imperial and Riverside Counties to hire paid professional staff for their county EMS committees; it will enable San Diego to continue the function of its EMS committee, which does have a professional staff. Am-

bulances will be purchased for rural areas; attendants trained as EMT-As will be hired.

A full range of training programs in EMT-A will be implemented. Private ambulance attendants, park rangers, and other persons in remote areas of the counties who could provide immediate life-supporting activities will be trained. In Imperial County, EMT-A training will be offered to county ambulance and hospital personnel.

Other activities include the development of an improved transport unit for perinatal intensive care, staffing of the poison control center with health professionals, and expansion of the burn treatment center.

### Seven Ohio Counties

**This project demonstrates the effectiveness of inter-agency and community cooperation in the development of an emergency medical services system. Contract amount: $3.6 million.**

The care provided victims of a medical emergency in the Ohio seven-county health demonstration area has been quite haphazard. The seven counties are Gallia, Jackson, Vinton, Lawrence, Meigs, Hocking, and Athens. No ambulances in this southeast corner of Ohio meet Federal standards; none have radio communications with hospitals. Only 5 percent of the ambulance attendants have received 72 hours of training. The area has only 68 percent of the physicians it needs, and hospital emergency departments are inadequately manned and equipped.

A coordinated ambulance system will be developed, and the vehicles will be equipped with life-saving equipment. A communications system permitting hospital-vehicle communication will be installed. Training courses for emergency medical technicians-ambulance are being conducted throughout the community college system.

Full-time emergency department services will be maintained at regional hospitals. Emergency department equipment and facilities will be upgraded. Physicians will be recruited for the emergency departments. Training courses will also be established for other medical personnel such as nurses and laboratory technicians.

Education programs will be established to inform consumers that emergency medical services exist and to teach them how to use the emergency system.

### Baltimore, Md.

In January 1973, a $1,250,000 contract was awarded to the Regional Planning Council of Baltimore, Md., for the implementation of an emergency medical services communications system—a component of a total EMS system. Hospitals, ambulances, helicopters, and medical personnel will be linked by a radio-telephone network. Through the network, emergency transport can be summoned to take victims of medical emergencies in the Baltimore area to the best medical facility.

### Current Activities

In the interval since the contracts were awarded, EMS activities have been accelerated at all of the demonstration sites. At all sites, considerable time has been devoted to planning; in most, activities to implement the system are now in progress. EMT training programs have been established, communication systems are being developed, ambulances have been ordered, emergency departments are being improved, and information programs for health professionals, the public, and the press are being carried out.

The purpose of the EMSP demonstration projects is not primarily to provide improved emergency services to the citizens of the respective areas, although this is obviously important. The primary purpose is to develop, try out, and demonstrate various approaches to providing emergency medical care in a systematic and comprehensive manner so that other States and communities can use the experiences to develop systems for their citizens.

Since the beginning of the EMS Program, personnel from all of the site areas have worked together on problems of mutual concern. Meetings have been held to share experiences and to establish standards for acquiring and evaluating data. Cross project study and observation visits are planned for the future.

Each of the demonstration areas also welcomes inquiries and visits from representatives of any jurisdiction or organization in tne nation. It is only through the sharing of experiences and in the evaluating of data that the maximum purpose of the demonstration projects can be achieved: the improvement of emergency medical services for all people.