

HIGHLIGHTS OF PROJECT NO. 3:

COMMUNICATIONS, FIRST RESPONSE AND TRANSPORTATION

Lead Nation: FRANCE

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PROJECT OBJECTIVE:

- To study, assess, and recommend minimum international standards for the transportation and communication components of EMS systems

INTRODUCTION

The EMS Communications, First Response and Transportation Project formulated definitive guidelines for several key components of a nation's emergency medical services system as well as general suggestions for a more timely medical response.

The project was co-directed by Professor Maurice Cara and Mr. Rene Coirier. International experts in the field of communications and transportation assisted in the development of the guidelines for an EMS (1) communications system; (2) transportation system; and (3) life and environmental support equipment, which are discussed below.

During the follow-up period, the project staff will build on these guidelines and frame minimum national and international standards for the transportation and communications components of an EMS system, in accordance with the objective stated above.

At the conclusion of this chapter, the recommendations of the CCMS/EMS Pilot Study's Working Meeting, held in Munich in September of 1980, will also be reported.

SUGGESTED GUIDELINES FOR DESIGNING THE

COMMUNICATIONS AND TRANSPORTATION COMPONENTS OF AN EMS SYSTEM

The project staff developed the following general guidelines for designing EMS communications, life support and transportation systems that will help to achieve a timely, effective medical response:

- Coordination of pre-hospital and hospital treatment is essential and must be developed in a way that medical control is maintained throughout.
- Communications, life support systems, and transportation systems must be designed in a way that efficient, modern techniques for sustaining life are available until definitive treatment can be performed by competent medical personnel in more ideal conditions.
- An effective EMS system is only possible where an efficient communication system is available to receive alarm calls.

With respect to the communications system, the suggested guidelines were:

- To be effective, a communications system must permit easy access. A 24-hour emergency telephone number, for example, is essential in populated areas.
- Communications must be maintained throughout the intervention. The communications network should ideally include radio and telephone, both integrated through a central command and control point. Telephone service is necessary to link fixed points, such as the location where the need for medical help first develops (the scene of a road accident) or a hospital which will receive the victim. Radio service is required to establish and maintain contact with mobile EMS units (ambulances and other rescue vehicles) and, in some countries, to contact doctors and hospitals. Radio frequencies exclusively for the use of the EMS system should be established.
- The communications system must be tailored to the unique environment and institutions of the country. For example, the design of the system will depend greatly on the geography, the climate, and the type of institutions that will be incorporated in the system.
- Information about the capabilities of various hospitals to treat specific kinds of medical emergencies is indispensable.
- The communications system must maintain appropriate interface and coordination with the person seeking aid, the EMS team, the receiving hospital, security services (police, firemen, etc.) and with central information systems such as poison control centers.

With respect to transportation, the following was suggested:

- Standardization of EMS vehicle equipment and first-aid techniques is essential. Appropriate techniques for each type of response should be adopted.
- Various types of vehicles should be considered -- light ambulances (for transporting patients who do not require care enroute); ambulances that can monitor the patient's condition

and permit minimal emergency treatment such as cardiac massage, artificial respiration etc.; ambulances that have sophisticated equipment that will enable doctors to treat patients enroute to the hospital; as well as rotary and fixed-wing aircraft, railroad cars, and ships.

In certain situations, helicopters are indispensable, especially where roads are poor or where the victim requires immediate care at a facility located at some distance. Fixed-wing aircraft should also be considered, provided that landing and take-off conditions can be met. Both types of aircraft, like ambulances, should be medically equipped and have treatment staff.

Railroads are useful in some situations, especially where large numbers of victims must be transported. Ships can also be used in certain situations; often they can be assisted by helicopters.

With respect to life and environmental support equipment, the following guidelines were suggested:

- EMS personnel should have uniforms that permit easy identification. This is especially important for medical personnel. The working conditions and the climate in which EMS personnel will perform their duties should also be taken into account in designing proper dress.
- Patients will require thermal and moisture protection, as well as protection to prevent further injury. The EMS system should also be capable of assuring certain minimum physiological needs of patients, such as means of monitoring and maintaining proper blood circulation, heart functions, proper respiration, etc.

The project staff also made several recommendations about other aspects of the system such as proper training for all EMS personnel, a system for collecting basic data about EMS operations and evaluating the system, and the standardization of first-aid procedures and equipment.

In addition, the staff recommended that in the event of disasters, the EMS should be integrated into the total lifesaving effort being conducted by civil authorities. EMS personnel should be aware of the types of hazards (earthquakes, hurricanes, radiological contamination, etc.) to which the community might be exposed and be trained to deal with emergencies associated with such hazards.

EMS PILOT STUDY RECOMMENDATIONS

The following specific recommendations for improving communications, first response and transportation aspects of the EMS system at the regional, national, or international level, as indicated, were endorsed by the delegates of sixteen nations who attend the September 14 to 16, 1980 meeting of the EMS Pilot Study in Munich, Germany.

1. National and international standards should be developed for EMS transportation, first response, and communications equipment.
2. In several countries, rotary and/or fixed-wing emergency transportation has proven effective in certain circumstances. It is therefore recommended that governments study the feasibility of using aircraft for emergency transport.
3. Rotary and fixed-wing EMS operations should be coordinated and directed by a government health authority. Separate standards should be established for flight personnel, medical personnel, and equipment in the aircraft.
4. An EMS communication system (telephone and radio) should be developed, at the appropriate level, to provide direct communication with responsible medical authorities. This will ensure coordination of pre-hospital and hospital treatment and maintain medical control of EMS operations throughout the intervention.