Report on the International Conference on Emergency Health Care Development

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Synopsis

Emergency medical services (EMS) provide rescue, field stabilization, transportation to medical facilities, and definitive care for persons experiencing medical emergencies. In order to advance worldwide development and refinement of EMS systems, and their integration with emergency preparedness and response programs, the International Conference on Emergency Health Care Development was held in Crystal City, Arlington, VA, August 15-19, 1989. The conference was supported by the Department of Health and Human Services and its Health Resources and Services Administration; the Department of Transportation and its National Highway Traffic and Safety Administration; and the Pan American Health Organization.

Objectives of the conference were to clarify linkages between various levels of emergency response, to present methods for developing or improving EMS systems within societies with different resources, to demonstrate processes by which EMS systems have been developed, and to propose international emergency health care development goals. Topics included development of services in developing nations, case studies of underdeveloped countries' responses to natural disasters, and a method for updating disaster response through use of available medical resources.

TRAUMA INDUCED INJURIES are a major cause of death and disability in both developed and developing countries. Although the first hours following traumatic injury are considered the most critical to survival, traditional rescue systems provide little beyond basic life support.

The concept of emergency medical services (EMS) evolved in response to growing concern about the ability of traditional systems to provide timely, appropriate medical care. EMS systems are designed to serve the everyday requirements for routine emergency medical care, as well as to provide emergency services in times of disaster. The refinement of EMS through use in day-to-day medical emergencies will enhance the capability to mobilize local resources in the event of a disaster.

Emergency medical systems, which are intended to be the first response to a variety of medical emergencies ranging from single-victim accidents to multiple victim disasters, work in cooperation with local departments of health and transportation. Emergency medical systems are responsible for rescue, field stabilization, transportation to appropriate medical facilities, and definitive care. In keeping with these responsibilities, they provide on-site medical assistance at the scenes of everyday traffic accidents, falls, and gunshot wounds. In addition, the systems form a vital link in national disaster preparedness networks that respond to multiple casualty incidents, such as aircraft crashes, and large scale disasters. Examples of such disasters are the industrial accident that released deadly gas in Bopal, India; major earthquakes; and the gas pipeline explosion that engulfed two passenger trains in the USSR.

Although in some instances EMS systems are developed as separate units of the health care system, ideally they are integrated into local primary care systems and function as components of national multi-agency emergency preparedness and response mechanisms.

To advance the development and refinement of EMS systems and their integration with emergency preparedness and response programs in both developed and developing countries, the International Conference on Emergency Health Care Development was jointly sponsored by the Department of Health and Human Services, through its Health Resources and Services Administration; the Department of Transportation, through its National High-

way Traffic and Safety Administration; and the Pan American Health Organization, a subsidiary of the World Health Organization. The conference was held in Crystal City, Arlington, VA, August 15–18, 1989.

Participants represented Kuwait, Morocco, Bangladesh, Indonesia, Somalia, Japan, Ethiopia, Mexico, Mozambique, Angola, Yemen, Nepal, Netherlands, Antigua, Barbados, Jamaica, Tunisia, West Germany, Zaire, Colombia, USSR, Switzerland, Egypt, Lebanon, the U.K., Canada, Burundi, Israel, Brazil, Pakistan, Nigeria, Peru, India, Central African Republic, Iraq, Finland, France, Costa Rica, Uruguay, Sri Lanka, Thailand, Dominican Republic, Haiti, Niger, Belgium, Italy, Saudi Arabia, and Mali. Five plenary sessions focusing on issues fundamental to EMS development were simultaneously interpreted into English, French, and Spanish.

Objectives

The conference focused on the importance of emergency medical services systems development, both prehospital and in-hospital, as a key component of primary health care and disaster management. Dr. Louis E. Mahoney, Medical Director, National Disaster Medical System, HRSA, served as conference coordinator and chairman of the advisory board. The following conference objectives were developed by the 29-member advisory board.

- Clarify the linkages between emergency health care, local and national health care services, and national disaster management systems.
- Present specific methods for developing or improving emergency health care and disaster response management capabilities within societies that differ widely in resources and characteristics.
- Demonstrate processes by which different emergency health care services have been developed.
- Propose international emergency health care development goals for the next decade.

Dr. James O. Mason, Assistant Secretary for Health and then Acting Surgeon General, welcomed conference attendees and spoke on the importance of emergency health care development. The conference director, Dr. Richard A. Bissell, of Medical Care Development, presented the conference objectives. He said that "in mass casualty incidents and disasters only local health care practitioners and the local population will be able to respond to the needs of the injured in a timely manner. The best disaster preparedness, then, is to train local human resources to handle routine emergency health problems, thus creating a trained base from which to build a disaster response."

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Dr. Nancy L. Caroline, University of Pittsburgh, gave the keynote address, "Emergency Medical Services Development in the Third World: Defining the Priorities and the Possibilities." She described the third world as "indeed in need of emergency care, but not the sort we usually associate with EMS in the west. The emergency care priorities in the third world are clean water, sanitation, food, and housing."

"Because the third world is a daily, ongoing disaster, EMS planning must be directed not toward some hypothetical future calamity, but to the ongoing disaster that is part of the daily life of much of the world's population. Disaster services must be inseparably linked to day-to-day health services," she said.

Dr. Caroline proposed that the systems needed to ensure these fundamentals can be refined to provide the basics of emergency health care as defined by developed societies. "It is not unreasonable to establish as a goal the training of each community health worker to a level equivalent to that of an emergency medical technician in the west," she said.

Workshops

After the opening session, the conference was divided into a series of 42 tracked workshops addressing the needs and interests of individual attendees. A poster session provided seven major exhibits. Workshops addressed general issues relating to EMS needs assessment; education and training; systems integration; and financial, technical and organizational resource availability.

Dr. Humberto Novaes, representing the Pan American Health Organization, discussed the social and economic changes needed to achieve the World Health Organization's goal of "Health for All by the Year 2000." He defined the roles of the public and private sectors in identifying needs and resources, setting priorities, and establishing policies.

According to Dr. Novaes, decentralization and the improved integration of resources within local health care systems form the foundation of national networks for emergency care.

George Reagle and John Chew, representing the Department of Transportation's National Highway Traffic Safety Administration, organized a workshop on rural highway trauma and the mechanisms for responding to this growing public health problem. According to various presenters, while trauma is the leading cause of death in the world, little is known about its epidemiology, especially in rural areas. In the past decade, increasing attention has been given to both its prevention and management. Certain factors in rural trauma, such as the large geographic areas that EMS systems must cover, will continue to present challenges to the health care system. Detection, patient assessment, stabilization, and transport will continue to be the key components of the well known, so-called golden hour.

Dr. Ruth Fellows, representing the World Health Organization's Pan-African Center for Emergency Preparedness, described the relationship between emergency preparedness and natural disasters in underdeveloped countries. Dr. Fellows defined the leading causes of disaster in Africa as drought, famine, civil strife, and displaced persons, followed by the more traditional forms of natural disaster, such as floods, cyclones, and seismic disasters.

"Without an operational infrastructure, a chaotic situation is made worse and in-country resources cannot be distributed appropriately to affected areas . . . resulting in significant increases in loss of human lives. . . . Therefore, both the countries exposed to potential disasters and personnel involved in the management of the disaster responses must learn strategies for mitigation and implementation," he said.

Dr. Brendan P. Ryan, representing the United Kingdom, described methods for updating the all-disaster medical response through use of available medical resources. Using the Armenian earthquake as an example, he explained that although each disaster is unique, basic problems and challenges are common to all disasters. "Communication, for example, is not simply a function of language and has a myriad of facets," he said.

Dr. Arthur H. Yancey, III, representing the District of Columbia General Hospital, conducted a workshop exploring the role of aeromedical transportation in disaster health care. Aeromedical transportation is vital to the overall management of disaster emergencies, he noted. "Valuable time can be saved in moving medical expertise and supplies into the disaster area as well as moving victims out of the hazardous area quickly in large numbers to institutions of definitive care . . . Chaotic ground traffic situations and environmental obstacles enroute can be avoided," he said.

Dr. Yancey also explained procedures for developing and implementing aeromedical disaster transportation systems.

Other tracked workshops addressed specific issues and case studies of EMS responses to various emergency incidents. Mr. Abdullah Al Hazzaa, representing the Saudi Arabian Red Crescent Society, presented a workshop describing the development of emergency medical services in the Kingdom. According to Mr. Al Hazzaa, as a result of the country's rapid evolution and development, traffic accidents have become the primary cause of mortality and disability. The Saudi Government, therefore, has taken steps to "increase the effectiveness of the comprehensive emergency medical services organization . . . through development of the basic elements for EMS." Mr. Hazzaa outlined the progress of a Saudi-United States agreement under which a team of U.S. specialists visited Saudi Arabia to evaluate the system and make recommendations for further development. He also explained the role of the Saudi Arabian Red Crescent Society in emergency health care.

Dr. Arjono D. Pusponegoro representing the University of Indonesia School of Medicine, described the challenges entailed in providing prehospital emergency care in Indonesia. Because the country's population, the fifth largest in the world, is concentrated in isolated rural areas, great distances from the nearest health facilities, injuries are the third leading cause of death. Dr. Pusponegoro described an Indonesian Surgical Association-sponsored program to establish pre-hospital telephone-based emergency medical systems in five cities and surrounding areas. He said that nurses and paramedical personnel trained in emergency and critical care medicine take the medical facilities to the patients via ambulances and field hospitals. Supervision is maintained by radio communication.

Conclusion

At the conclusion of the conference, an official call to action was developed by an ad hoc committee and subsequently discussed, amended, and approved by the participants. The call defined emergency health care as "timely provision of those preventive and curative interventions which can relieve pain or prevent disability or death

. . . through the management of injury, acute medical illness, and acute emotional illness." The call concluded that "emergency health care is a basic need for all people."

The call concluded with "recent advances in health care organization and medical technology have made it possible to significantly decrease the adverse effects of health emergencies . . . authorities should recognize emergency health care as an integral part of the primary health care system and should ensure that their primary health care systems are capable of responding to emergencies." The document also encouraged authorities concerned about health to make optimal use of local resources by employing improved management techniques and training and integrating injury prevention and emergency response into public education curriculums. Funding agencies were encouraged to support both research on "emergency health care delivery systems, intervention effectiveness, and training methodologies" and the development of "emergency health care as a primary health care infrastructure improvement program."

The conference achieved its primary goal of focusing international attention on emergency medical services. However, only through continued diligence and effort will the more ambitious, long-range goals of international cooperation and development be realized.