APPENDIX B

EXPANDED RESPONSES TO SPECIFIC TOPICS ON THE CCMS/EMS 1980 SURVEY

EXPANDED RESPONSES TO SPECIFIC TOPICS ON THE CCMS/EMS 1980 SURVEY

This Appendix is Part 3 of the report of Project 1 of the EMS Pilot Study. It presents further details of the 1980 Survey responses from the following eleven respondents:

Belgium	Luxembourg
Canada	Netherlands
France	Portugal
Greece	United Kingdom
Iceland	United States
Italy	

A table summarizing specific responses to the survey questions is included at the end of this Appendix.

- BELGIUM

1. EMS Authority/Responsibility

The Ministry of Public Health and Family is responsible for almost all aspects of the emergency medical services system -- care at the scene, transport and hospitalization. Some responsibility is still borne by the Public Assistance Commission, and the Ministry of the Interior directs all communications.

2. Regional Programs

While Belgium is not organized into regional programs, there is a regional budget for ambulance driver training.

3. Laws and Regulations

A law passed in 1964 covers all emergency medical services in Belgium. It was modified in March of 1972. The law is also affected by provisions of the Arretes Royaux dated 4/1/65, 4/2/65, 5/7/65, 5/22/65, 12/1/65, 2/29/68, and 4/29/70, and by several ministerial interpretations. In addition, a law was passed in 1976 covering emergencies in private places. The Public Assistance Commission is responsible for administering the law.

4. Education Programs

Belgium's Road Safety Council (SECURA) prepares accident prevention courses for dissemination by the media (radio, television and the press). The Belgian Red Cross gives courses in first aid for the general public. Nurses involved in emergency medical services or teachers give first aid and accident prevention courses in elementary and secondary schools. The Ministry of Works is responsible for providing first aid and accident prevention courses for business and industry.

5. Emergency Communications

The Ministry of the Interior is responsible for Belgium's communications centers. A band of frequencies is reserved for rescue services, including emergency medical services, fire rescue, civil defense and the ten university hospitals. Two other national frequencies are reserved for the above services and one is reserved for all hospitals having a permanent physician to treat emergencies. Frequencies are allocated by the National Telephone and Telegraph Board.

Belgium also has a Central 900 emergency telephone response service, which is operated by the Fire-Brigades.

6. Transportation (Ambulances and Other Emergency Vehicles)

Ambulance services with approved vehicles must comply with the provision of Document 900/AMB/7/1975, entitled "Conditions auxquelles doivent repondre les services d'ambulance disposant d'un vehicule approprie." This document outlines the requirements for the organization of the service, personnel, vehicles and equipment.

At present, 476 ambulances meet the requirements of the above-mentioned document. Of these, 357 vehicles belong to the Ministry of Public Health and Family, which places them at the disposition of various public services (fire departments, public assistance centers, civil defense, etc.). They are painted ivory, have a strip of reflective red tape down the middle and are equipped with a two-tone siren and blue flashing lights.

The Ministry's 357 ambulances include 317 identical light vehicles, which are equipped in accordance with requirements of 900/AMB/1975, and 40 large resuscitation ambulances that are equipped to carry out ECG, difibrillation, etc.

Belgium has no standards for air/marine rescue vehicles. A National Police helicopter service provides emergency rescue services. An Alouette III helicopter, the property of the Civil Defense, is also available.

7. Hospitals

Currently, 198 hospitals meet the 1966 legal requirements for admitting emergency cases. Hospitals eligible to provide emergency services must supply such basic services as resuscitation, blood transfusion, oxygen therapy, x-ray and laboratory work. The emergency services section of qualified hospitals is under the direction of the Department of Surgery.

More elaborate EMS eligibility standards for hospitals are presently being studied. For example, the National Council on Programming is sponsoring a proposal that would reduce the number of hospitals now part of the emergency services system from 198 to 50 or 60 hospitals. The Council also is proposing that a two-level service be adopted -- one level called university hospitals, the other, regional hospitals.

8. Personnel

Ambulance personnel must take a 20-hour course, which covers rescue, resuscitation and first-aid for accident victims. Refresher courses must be taken every five years.

The National Study Commission on EMS has proposed that the duration of the course be changed to a minimum of 60 hours, with refresher courses after five years.

Certain initiatives have been taken to specialize nurses in emergency medical care, coronary care and intensive care. The National Poison Control Center also provides courses on poison.

EMS training for physicians has mainly involved preparing specialists in anesthesia, resuscitations, and traumatology.

9. EMS Data Collection

The Ministry of Public Health and Family gathers and analyzes data on emergency calls, ambulance services and emergency hospital admissions. The Ministry also finances and coordinates EMS survey research projects and reports.

10. Disaster Plans

Legally the Ministry of the Interior, through its civil defense mandate, coordinates rescue operations in the event of disaster. It directs the Civil Defense Corps and fire-fighters. Special agreements assure cooperation with the Ministry of Public Health.

Civil Defense prepares general and special plans ranging from plans for war to those covering train and air disasters. All concerned departments, especially Public Health, cooperate in preparing these plans.

• CANADA

1. EMS Authority/Responsibility

In Canada, hospitals and ambulance services are under the aegis of the ten provincial governments. Four provinces -- British Columbia, Manitoba, New Brunswick and Ontario -- provide ambulance services on a provincial basis. The six other provinces, the Northwest Territories and the Yukon are gradually beginning to provide ambulance services.

Two provinces, Saskatchewan and British Columbia, provide air ambulance service to their citizens. Air transport service is provided by five provincial governments -- Yukon, Northwest Territories, Manitoba, Alberta and Newfoundland. Ontario, which has recently conducted a "pilot study" on helicopter ambulance services, is now expanding its helicopter capability.

Air/Sea Rescue of the Department of National Defense, in combination with the Department of Fisheries and the Canadian Coast Guard, provide rescue services.

2. Regional Programs

Canada's services are divided along provincial and territorial lines with some provinces subdividing services by region.

3. Laws and Regulations

Five provinces have specific regulations governing the operation of ambulances, the medical equipment in the vehicles, and the qualifications of ambulance personnel.

For the most part, ambulance regulations are covered in provincial Public Health Acts. However, several provinces have passed specific legislation covering emergency vehicles.

For example, in British Columbia, the ambulance services operate under the Emergency Health Services Act of 1974. Alberta recently completed a review of emergency services within the province and drafted proposed regulations. In 1980, Saskatchewan established new regulations under the Public Health Services Act, which expand on some 1958 regulations covering ambulances. Ambulances in Manitoba are subject to Regulation P.210 R.7 of the Public Health Act. Ontario has an Ambulance Act (1976) which established specific regulations for these vehicles. Quebec has specific acts or regulations under the 1976 Public Health Protection Act.

In most of the provinces that have no specific acts or regulations, the Health Department has issued specific guidelines for ambulance vehicles, equipment and their use within the province. These guidelines must be adhered to as a condition of provincial funding or subsidies.

4. Education Programs

A number of associations in Canada offer education programs for the general public on topics such as first aid, water safety, accident prevention and cardio-pulmonary resuscitation. These associations include the Canadian Heart Foundation, Royal Life-Saving Society, Canadian Red Cross, St. John Ambulance and Canada Safety Council, among others. Various media promote this basic EMS information.

Elementary schools also provide programs on basic first-aid, safety and accident prevention to younger students. For older students similar prevention information is part of driver education programs, which are conducted both by schools and private agencies.

Safety in the workplace is promoted by the Workmen's Compensation Board in conjunction with the Department of Labor. In addition, a Safety Oriented First Aid (SOFA) program has been developed by St. John Ambulance to reduce accident rates.

All first aid, CPR, and water safety courses must be conducted by qualified instructors.

5. Emergency Communications

Because of its large land mass, long distance communications play a major role in Canada's emergency services. Canada has no nationwide emergency telephone number, largely because the telephone companies are operated on a regional basis. However, the Province of Ontario now has a seven digit emergency number that connects directly with ambulance services. A similar emergency number is available in the greater Winnipeg, Manitoba area. A number of other provinces are considering establishing an emergency telephone number.

All vehicles in the Emergency Services are equipped with two-way radios connecting to either a dispatch center or its base, which is generally located at a hospital. Allocation of radio frequencies for emergency purposes is controlled by the federal Department of Communications. Proposals have been made to the Department of Communications asking for greater control over the allocation of radio emergency frequencies. The Department of Communications also has attempted to coordinate the use of radio frequencies with the frequencies used by Emergency Services in various states which border on Canada.

There is considerable variation in the technical set-up of emergency radio communications within the provinces. In most provinces, one frequency is assigned to ambulance services. This enables the vehicles to connect with either a large area dispatch center or smaller hospital-based centers. However, Ontario recently instituted a computerized dispatch service, and a similar service was instituted in the greater Winnipeg area. Alberta has made a complete study of communications for air and ground services in the last year.

In Northern Canada, ionospheric activity periodically interferes with radio communications.

6. Transportation (Ambulances and Other Emergency Vehicles)

Emergency vehicles and their equipment are generally controlled by provincial regulations or, where these are absent, by guidelines established by provincial Departments of Health.

There is a growing trend to use larger, four-wheel drive vehicles. These larger vehicles permit easier access to stretcher patients, particularly when operators are performing cardio-pulmonary resuscitation or setting up intravenous apparatus. Vehicles usually have special insulation and heaters because of severe climatic conditions. All ambulances carry oxygen equipment and motor-operated suction apparatus. A number of provinces are using high visibility colors on emergency vehicles.

One province, Ontario, recently began testing a dedicated helicopter service in the greater Toronto area. The province is considering expanding this service. Highly sophisticated helicopters and medical equipment were used in this project and the staff had specialized training. It has been proposed that the air ambulance service be expanded to include fixed-wing aircraft.

7. Hospitals

Canada has no specific policies for designating certain hospitals to receive patients with specific medical problems. In other words, hospital categorization has not yet been universally accepted. However, a number of localities have made agreements regarding the transfer of patients for continuing care once their condition is stabilized.

A federal/provincial group is now developing guidelines for pre-hospital emergency care and hospital emergency units. These guidelines will incorporate suggested standards for the staffing and equipping of hospital emergency units of varying capabilities.

8. Personnel

Requirements for the education and training of ambulance personnel are specified under relevant provincial acts and regulations. These requirements vary considerably from province to province, ranging from standard first-aid training to emergency medical technician courses.

Emergency departments in the country's larger teaching hospitals are now usually staffed by emergency physicians. Most of these physicians are trained in Canada. Some of the more experienced emergency physicians have applied for American Board Certification. Most emergency physicians are medical personnel who have completed post-graduate work in surgery, internal medicine or family medicine. Some emergency physicians were formerly general internists. Several universities now offer resident training programs in emergency medicine, which are usually three years long.

Both the Royal College of Physicians and Surgeons and the College of Family Physicians are beginning to recognize emergency medicine as a separate specialty. It is expected that criteria for preparation, accreditation and certification in emergency medicine will be established in the near future. The Canadian Association of Emergency Physicians is also actively promoting and lobbying for the recognition of emergency medicine as a specialty.

A survey conducted in 1975 revealed that approximately forty percent of the nurses working in emergency units had post-basic preparation in emergency, intensive care, coronary care or operating room nursing programs. Since that time the number of post-basic courses in emergency and critical care has increased at both the hospital- and university-level across the country. Also available are advanced courses in emergency health care specifically designed for nurses who will be working in remote locations, such as the far north, where physicians are not always available.

9. EMS Data Collection

STATISTICS CANADA annually collects data on hospital emergency unit visits, other out-patient visits or procedures, and emergency unit staffing. Each province also collects data on ambulance services. There is, however, no standard format for these data.

10. Disaster Plans

Disaster planning in Canada is carried out as a function of federal and provincial government departments. Emergency Planning Canada, which is managed by the Privy Council Office of the Canadian government, acts as the overall coordinator at the federal level. There are counterparts in each of the provinces.

In the health and social services fields, responsibility for advising and assisting the provincial departments of Health and Welfare rests with the Department of National Health and Welfare. Through their emergency planning divisions, the provincial Departments of Health and Welfare draw up plans for the health, medical and social services aspects of disasters.

Canada encourages coordinated community planning for disasters. Community plans to cover an airport disaster, for example, might involve planning and testing the response of fire, police, ambulance, medical, hospital volunteer agencies, etc.

The Canadian Council of Hospital Accreditation also cooperates in national disaster planning. The Council's Guide to Hospital Accreditation includes standards requiring hospitals to have disaster plans for receiving casualties, evacuating the facility or responding to internal emergencies such as fire.

The federal Department of Health and Welfare has also developed manuals, guides and courses related to disaster planning. These publications are available to provincial health and welfare emergency services for distribution to appropriate agencies. In addition, a number of courses for candidates selected by the provinces are conducted each year at a federal study center located near Ottawa.

11. Special Features

For more than a decade now, Poison Control Centers have been operating out of the larger teaching hospitals in Canada's major cities. The telephone numbers of these centers are listed in the city directories, making it easy for citizens to obtain medical advice in the event of accidental poisoning.

The Department of Transport has set up a similar advisory and response network to handle large-scale chemical spills. This emergency services also has a toll free number, which is manned on a 24-hour basis. Recently, following a major chemical spill, the entire population of Mississauga -- more than a quarter million people -- was evacuated for approximately seven days in a multi-phase operation.

Canada is also experimenting with telecommunications as a means of communicating with oil rigs in emergencies. Experiments have involved the use of long distance transmission by x-ray and satellites.

A persistent problem in Canada's emergency health care program concerns the transport of medical emergency patients over long distances in extremely cold weather.

- FRANCE

1. EMS Authority/Responsibility

In France, the Ministry of Health is responsible for the Emergency Medical Aid Services (SAMU) at the national level. SAMU is a part of France's insured health services. Other ministries participate in the management of certain services. For example, the Fire-Brigade, which responds to certain types of health emergencies, is under the authority of the Ministry of the Interior; the National Police, who play an important role in community alerts, are subordinate to the Ministry of Defense; the Plan Administration Division, under the authority of the Prime Minister, is responsible for ensuring that sufficient funds are available to the SAMU.

The prefets, who represent all the ministries, are responsible for establishing plans for first-aid to accident victims and other persons in distress. In larger cities and towns where sufficient funds are available, the Mayor is responsible for establishing emergency medical services.

2. Regional Programs

Emergency medical services in some regions of France encompass many departments. Responsibility for delivering these services is distributed among the regions. The regional concept of emergency health care is important in France in the sense that in every region, a specific hospital and a university have been designated to provide

anesthesia and resuscitation services. The regional concept will continue to play an important role in establishing and developing hospital mobile units and the SAMU.

3. Laws and Regulations

All attempts to get Parliament to pass a general law on SAMU have failed. Nevertheless, there is a law covering health transportation, dated July 10, 1980. The government also has written a great many articles on private ambulance services, vehicles, personnel, etc. France's hospital mobile units (medically equipped ambulances), a key aspect of the total emergency care system, were established by an Order in Council on December 2, 1965.

4. Information and Education Programs

The SAMU and the Civilian Security in the Ministry of the Interior coordinate public education programs.

5. Emergency Communications

France's Emergency Medical Aid Services (SAMU) are effectively the country's communications centers. They are also central dispatch centers that are responsible for deploying emergency service personnel. They act as regional command posts and are directed by the governing physicians in the service area. SAMU posts are located in hospitals, which are generally situated in the center of each region. The groups responsible for emergency communications therefore, are the Administrative Councils of the hospitals where SAMUs are located.

Each SAMU is connected by radio to the fire department, the local police and the national police. Initially, a radio communications network was used to deploy non-medical services in cases of fire or disaster. However, in 1960, an agreement was made between the Ministry of the Interior and the Ministry of Health to respond to medical emergencies as well. This agreement was strengthened by an inter-ministerial letter in 1973.

Emergency radio frequencies are still shared with other public services. However, another radio network is being established that will have special frequencies reserved for SAMU. This will permit direct communications between the SAMU, private mobile groups, doctors, nurses and ambulances. All of France's frequencies are now designated by the Ministry of State for the Ministries of Posts and Telecommunications in a general manner. However, the Ministry of the Interior, as indicated above, has arranged for certain frequencies to be used by the Ministry of Health.

6. Transportation (Ambulances and Other Emergency Vehicles)

There are two principle types of vehicles intended for use as patient transport. One type of vehicle is defined in Annex I of the amended Order in Council of March 27, 1973; another is defined by the French Association for Standardization (l'Association Francaise de Normalization) under the title "The Health Care and

Emergency Care Ambulances" (Ambulance de Soins et de Secours d'Urgence). The last vehicle was standardized in 1971 and reiterates the specifications outlined for hospital mobile units in 1965. The amended 1973 Order in Council (6.1) defined the basic ambulance. Health Care and Emergency Care ambulances correspond to special vehicles (6.3), defined in the same Order. These two vehicles are differentiated by size, equipment, and function.

France also has helicopter bases near the coast to handle certain rescue situations.

7. Hospitals

France has a formal system for classifying public and private medical facilities that serve the public. In 1959, a circular to the prefets encouraged them to develop services to receive car accident victims, and to do so in accord with the quality and quantity of services available. This circular had a major impact on emergency health care at the time. However, on April 17, 1980, an Order in Council classified all public and private institutions which serve the public.

France has approximately 400 hospitals equipped to receive casualties from highway accidents. More than 200 of these have mobile units to provide rescue and medical aid. There are thousands of additional ambulances owned by Fire-Brigades and other private enterprises, however. To date 72 dispatch centers (SAMU) have been established.

Hospitals are classified in four categories: the community hospital, the general hospital, the specialized hospital and the regional hospital. The Ministry of Health is responsible for classifying hospitals.

Each type of hospital has special requirements. A general hospital, where the SAMU headquarters are usually situated, for example, must have the following units: reception, emergency, anesthesiology, resuscitation, general surgery, etc. Regional hospitals, which are located in large metropolitan areas in the region, must have the same units as community hospitals as well as a scanning unit and a rehabilitation unit.

This classification system makes it possible to set up a list of health facilities capable of receiving emergencies. Hospitals capable of handling different emergency care cases are located in very old villages, at communications routes, and in the center of heavily populated areas within each service region.

8. Personnel

Doctors and auxiliary health care personnel are not required to have special certification for emergency care. Nevertheless, medical care personnel are taking advantage of EMS training programs available now in an increasing number of universities. Ambulance

attendants are trained in centers especially created for this purpose. Most of these centers are close to the SAMU. They are directed and supervised by physicians who have experience in emergency care. These emergency centers, for the most part, also train other emergency care personnel -- police, doctors, firemen, stretcher bearers, etc.

9. EMS Data Collection

The Ministry of Health has the prime responsibility for collecting and analyzing EMS data. This is a complex task because the information system in France is not standardized.

In the Ministry, the Statistics Division and the Data Processing Division collect a great deal of national data on emergency medical services. In addition, every SAMU is required to compile its own statistics. Maintaining national health statistics is strongly encouraged by the Ministry of Health.

The Ministry of Defense also compiles statistics on traffic accidents. The Ministry of Interior is involved in certain research activities, including a study of the use of helicopters.

France is also carrying out a research project on medical communications control.

10. Disaster Plans

France has a disaster plan which is designed to ensure the implementation of five services under the authority of the prefets. These services are: Police and Liaison, Rescue and First Aid, Mutual Aid and Medical Care, Transport and Works Services, and Coordination.

The Ministry of Health is responsible for the Mutual Aid and Medical Care Services in the plan. These services have been reorganized to include the SAMU in the plan. The senior doctor of the SAMU is the Director of Medical Care Services.

In accordance with a 1974 Order in Council, regulations require every hospital to develop a plan to receive sick or injured who require emergency care. These regulations must identify:

- Normal reception of one or more sick or injured persons not requiring extraordinary care
- Reception of a high number of sick or injured for whom certain health care measures must be taken
- Reception of a number of sick or injured such as those who cannot receive complete care at the original receiving facility and must be evacuated to another hospital better suited to treat them

The Mutual Aid and Medical Care Services provide for inter-regional mutual aid. The disaster plan covers railway, air, and road emergencies. Coordination with general public service systems is satisfactory.

For aircraft disasters at airports, special plans have been established by airport authorities in liaison with the fire department, hospitals, etc. The Ministry of Health is primarily responsible for plans and programs to treat mass casualties in time of peace or war. The Ministry of the Interior Civil Defense also plays a role.

11. Special Features

France is still experiencing some difficulty in health transportation, particularly ambulance transportation, which hinders the quality of the system.

12. Special Needs

France welcomes information on all aspects of emergency medical care, especially that dealing with ambulance transportation and communications. France has considerable experience in the area of emergency medical services and boasts highly qualified emergency health care personnel. Hence, the country has no need for special EMS consultants. EMS experts, however, look forward to continued information exchanges with EMS experts from other countries.

- GREECE

1. EMS Authority/Responsibility

The Ministry of Health and Social Security is responsible for emergency medical services at the national level.

2. Regional Programs

EMS services are not organized on a regional basis in Greece. The country has recently started a program in Athens in this direction through the creation of an Emergency Medical Ambulance Center. The Center serves only the greater Athens area.

3. Laws and Regulations

There are no specific laws or regulations for emergency medical services in Greece except for certain regulations covering the Ambulance Center in Athens. The regulations do not cover equipment or operational aspects of the service.

4. Education Programs

Public education and information programs are prepared by the Ministry of Health, the Automobile Association and the Ministry

of Labor. Programs cover accident prevention in the home, on the highway, and at the workplace. The Red Cross also gives first aid courses. No programs are given in the schools.

5. Emergency Communications

Effective radio communications for medical emergencies exist in the Athens area, but elsewhere the situation is far from satisfactory. The system in Athens has dedicated radio frequencies, which allow physicians stationed at the Emergency Medical Ambulance Center to instruct ambulance personnel located at the emergency scene.

Athens also has an emergency telephone number ("166"), which gives callers immediate access to the Ambulance Center.

6. Transportation (Ambulances and Other Emergency Vehicles)

There are no general guidelines or specifications for standardizing road ambulances or rescue boats and aircraft. Ordinary Volkswagen or Dodge vans are modified locally and generally equipped with oxygen, a chairlift, a stretcher, and a seat for the attendant (nurse). Ambulances are painted yellow or white, are marked with a "166", and have a siren and flashing blue lights.

The government owns all ambulances and they are stationed at government-owned hospitals. There are not enough ambulances or trained personnel to service the country.

7. Hospitals

The total hospital bed capacity is equally split between government-owned hospitals and private clinics. The private clinics tend to be relatively small and dispersed. All ambulances are owned by the government and stationed at the government-owned hospitals. Most transportation to private clinics is by taxi or private autos.

8. Personnel

There are no speciality courses or certification for EMS personnel; however, nurses and ambulance attendants are required to have general nursing or first-aid qualifications, respectively.

9. EMS Data Collection (None)

10. Disaster Plans (None in Process)

11. Special Features/Programs

No hospital has a designated emergency or casualty unit. All emergency cases are handled directly or through out-patient departments. Only two cities, Athens and Salonica, have hospitals capable of

dealing with emergencies involving children or accidents. Many serious cases thus have to be transported great distances with minimal medicare support en route. Frequently, ambulances are dispatched from Athens to handle such patients since provincial centers may have only one ambulance available.

A major study is currently underway to review these problems and design a suitable EMS system.

- ICELAND

1. EMS Authority/Responsibility

The Minister of Health and the National Health Head Physician are responsible for managing Iceland's emergency medical services. The National Civil Defense Organization is responsible for hospital and medical coordination in mass disasters.

2. Regional Programs

Iceland's emergency health care system is organized into eight regions, one of which is the capital Reykjavik. Comparative statistics for these areas are as follows:

Region	Population	Hosp. Beds	/1000	Doctors	/1000
A*	87,000	1112	12.8	310	3.6
B	13,000	119	9.1	19	1.5
C	9,000	64	7.0	11	1.2
D	13,000	158	12.3	12	0.9
E	24,000	195	8.2	35	1.5
F	13,000	90	7.2	12	1.0
G	19,000	78	4.0	22	1.1
H**	46,000	157	3.4	24	0.5

* Reykjavik
** Location of International Airfield

3. Laws and Regulations

In addition to the requirements of the National Health Service, Iceland's Civil Defense Law requires the Director General of Public Health to administer the aspects of civil defense which involve hospitals, medical treatment, and nursing. It requires hospital managers to prepare and implement measures necessary to receive and treat the injured. Additionally, hospital managers are responsible for preparing and operating reserve hospitals.

4. Information and Education Programs

The Icelandic Lifesaving Association and the Fire Department have undertaken the teaching of accident prevention courses for the general public and school children. Traffic councils and sports clubs provide courses on topics, such as highway and sports safety. The Icelandic Lifesaving Association and the Red Cross conduct first-aid courses in both elementary and secondary schools. However, industries and businesses are responsible for initiating their own first-aid courses and safety programs.

5. Emergency Communications

In Reykjavik, the ambulance service is operated by the Fire Department. The ambulance service is equipped with direct telephone lines to police headquarters and uses specifically designated radio frequencies.

While hospitals or Red Cross Chapters in other parts of the country operate ambulance services, they usually share radio frequencies with other services.

In disaster situations, the National Civil Defense Emergency Operating Center coordinates the ambulance services. The National Telephone Company is responsible for assigning radio frequencies.

6. Transportation (Ambulances and Other Emergency Vehicles)

Currently Iceland has no standards for ambulances. However, the Icelandic Red Cross and the Ministry of Health are currently working on this issue.

7. Hospitals

The three major hospitals in Reykjavik have an arrangement which designates which hospitals will handle brain surgery, ophthalmology, and burn cases. This is part of a traditional agreement between the three hospitals.

8. Personnel

There are no specific post-basic courses in emergency health care for either physicians or nurses. Nursing education is the responsibility of the Icelandic State School of Nursing. The Icelandic State University is responsible for the education of medical students.

9. EMS Data Collection

Responsibility rests with the Ministry of Health, particularly the National Health Head Physician. Iceland has no mechanism for national or private research grants.

10. Disaster Plans

As noted in item (5) above, each hospital manager makes his own plans for disasters. Disaster plans are coordinated with the National Civil Defense, which also oversees the community civil defense planning. Rail, air, highway disasters, and similar crises are included in community civil defense plans. The National Civil Defense agency and the Medical Service are responsible for disaster response.

11. Special Features

In Iceland, scout rescue teams assist the medical services in emergency and disaster situations, rendering first aid and assistance at hospitals.

ITALY

1. EMS Authority/Responsibility

In Italy the Ministry of Health has primary responsibility for emergency medical services at the national level. All plans are developed at the regional level, however.

2. Regional Programs

As noted, health and medical care services are delivered on a regional basis. Regional Health Authorities play a major role in health care planning and in allocating funds for medical services within the region.

3. Laws and Regulations

In Italy laws and regulations dealing with emergency medical services are developed at the regional level.

4. Information/Education

Public information and education programs in accident prevention, first-aid, water safety, and how to access the EMS system and first-aid have been actively developed in Italy. An all media approach is used. Radio and television stations and the press teach accident safety and promote the abovementioned topics.

The Ministry of Public Education sponsors accident prevention programs in the schools, particularly in connection with sports injuries. Both the university system and the Navy provide safety training and instruction in skin diving. The press promotes first aid by printing general information on safety, first aid, and how to access the EMS system.

Both elementary and secondary schools provide first-aid programs. The Ministries of Health and Labor sponsor safety and accident prevention programs for business and industry. In addition, special courses in maritime safety are offered to prevent and respond to sudden illnesses or accidents at sea.

5. Emergency Communications

The police are responsible for emergency communications arrangements and linkages to hospitals and related services. A state agency allocates radio frequencies with appropriate national clearance.

6. Transportation (Ambulance/Emergency Vehicles)

All ambulances are owned and operated by Regional Health Authorities No private ambulances operate in Italy. Regional authorities also establish specifications for ambulance vehicles, life support equipment and personnel.

The armed forces (Air Force and Navy) assist in civilian search and rescue missions. Specially-trained military personnel provide life support in major accidents. For diving accidents, the use of mobile hyperbaric chambers is presently under study.

7. Hospitals

Regional Health Authorities designate hospitals within their own service area based on treatment capabilities.

8. Personnel

The Regional Health Authority has responsibility for the orientation of health care personnel and the development and implementation of special training programs for professional and paraprofessional personnel. University medical schools, schools of nursing and professional associations cooperate in designing and teaching these programs. For example, they give courses for nurses in emergency, CPR, intensive care, coronary care, and EMS systems; in drowning and traumatology for medical students; and post basic courses for physicians in anesthesiology and cardio-pulmonary resuscitation.

9. EMS Data Collection

Italy has no centralized EMS data collection system. Some data are collected at the regional level. The Ministry of Health can request regional information for analysis.

The state provides research funds for research projects through Regional Health Authorities. There is no private research funding in Italy. Current research projects include a study of the poison control system, an examination of mobile hyperbaric chambers for diving accidents, and a variety of training and education programs in emergency health care.

10. Disaster Plans

The Ministry of Health has developed guidelines for national and regional responses to mass casualties. These are included in hospital emergency plans. Both National and Regional Health Authorities and the Army have developed disaster plans for major rail, air, and highway accidents.

11. Special Features

In Italy, the EMS program includes a model poison control system and the use of mobile hyperbaric chambers for diving accidents.

LUXEMBOURG

1. EMS Authority/Responsibility

The Ministry of Health coordinates the development of the EMS in hospitals with the Luxembourg Medical Association and the

Entente des Hôspitaux. The Medical and Dental Association has organized permanent physicians services for home medical care on weekends and holidays. The Ministry of Health has placed cars, driven by Civil Defense personnel, at the disposal of the physicians. These cars are equipped with radio-telephone to the central unique number (012).

2. Regional Programs

Luxembourg is organized into three regions -- North, Central, and South. The capital city, also called Luxembourg, is located in the Central Region.

3. Laws and Regulations

Several recent laws and regulations govern the provision of general health care, emergency services, public safety, and security services.

In 1976 a law was passed which established a master plan for organizing health care services. The master plan was based on a national inventory of existing health care needs and resources in each region. The plan also provided for the classification of all health facilities and defined the operational aspects and procedures for departmental activities.

In August 1979, Grand-Duchal regulations were passed that define the standards to which hospital establishments must conform in order to participate in the emergency services, as outlined by the Ministry of Health. Another law, passed in November 1978, deals with the Emergency Medical Services. Its objectives are to regulate the transportation of emergency cases to the hospital and to regulate emergency care providers.

4. Education Programs

A variety of groups offer education and training programs for industry, the general public, and students of all ages. For example, the Accident Prevention Association, Industial Section, makes use of radio to promote accident prevention programs and organizes courses at training centers and at the workplace, sometimes making use of outside specialists. Other media are used to teach first aid techniques to affiliated industries.

Other organizations are involved in promoting or providing courses in the schools. The Red Cross, for example, gives first aid programs to school children, and the Luxembourg Highway Safety Association recently proposed a driver training course for secondary schools.

5. Emergency Communications

Radio frequencies have been allocated for use by Civil Defense, the Police, the Gendarmarie, and for liaison with hospitals. Frequencies are sufficiently broad to permit other