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A STUDY OF THE NATURE AND FUNCTION OF
EMERGENCY MEDICAL SERVICES ADVISORY COUNCILS
IN RELATION TO SELECTED COMMUNITY VARIABLES

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

William Robert Gemma, B.A., M.H.A.

* * * * *

The Ohio State University
1972

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CHAPTER I

INTRODUCTION

A. Emergency Medical Services

Access to emergency medical care for all segments of our population has become an issue of high priority among planners and providers of health care—in fact, it has been described as one of the urgent problems in the American medical care system, attracting much national and local attention during the past decade.\(^1\) Only recently the emergency care system in the United States has been criticized in medical and administrative channels as being in need of major reform.\(^2\) It is true that tremendous advancements have been made in medicine and science technology; progress has been made in treatment of serious trauma; new techniques in emergency communications have been developed; more rapid transport to emergency medical facilities are in use; and highly trained paramedical personnel have emerged—all of which have demonstrated new methods for meeting the

\(^1\)William R. Gemma, "Emergency Medical Services: The Need and The Opportunity" (Department of Preventive Medicine, The Ohio State University, October, 1970).

challenges to urgent medical care. However, there is a general feeling that community emergency medical services are not living up to the scientific and technical capabilities that are available.

Patient attendance in hospital emergency rooms has increased over 315 per cent during the period 1954-1970. On the average, each year one in every five individuals in this country will request treatment or medical assistance in an emergency room. Many reasons have been advanced to explain this increase, but primarily this has been due to changes in the modes of medical practice. The availability of physicians during evenings and on weekends and the practice of house calls, even in emergency situations, have all but disappeared from the delivery of health services. Consequently, the private citizen who does not have access to a family physician turns to the emergency room for not only his urgent medical problems but for conditions which may not be generally considered emergencies. This increased activity in hospital emergency rooms has played havoc with the administrative organization of the emergency departments. It has also created a need for reevaluation of the staffing patterns and the management of these departments. What was previously established as a service to meet emergency needs of patients can no longer serve such an exclusive commitment.

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3Ibid, p. 4.
On the other hand, the demand for what may be identified as true emergency medical care is also increasing sharply. Two million persons are hospitalized for injuries which represent approximately 10 per cent of all admissions to general hospitals. These injury admissions, usually through emergency rooms, result in about 22 million hospital bed-days with the total number of bed-days exceeding the total of the three other leading causes of hospital admissions—heart conditions, cancer, and diabetes.5

Accidental death and sudden illness create a substantial demand on personnel who provide rescue and emergency medical services and the professional staff providing medical assistance in hospital emergency medical facilities. Accidental injury is the leading cause of death among all persons aged 1 through 38.6 Each year more than 52 million U.S. citizens are injured, of whom more than 110,000 die, 11 million require bed care for a day or more, and 400,000 suffer lasting disability at a cost of nearly $3 billion in medical fees and hospital expenses. Of the more than 700,000 deaths from heart disease each year, the majority are due to acute myocardial infarction and more than half of these deaths occur before reaching a hospital. Approximately 40 million persons seek care each year in hospital emergency departments as a result of accidents, heart disease, stroke, poisoning, diabetic coma, convulsive disorders, and many other illnesses.


6National Academy of Sciences, Roles and Resources of Federal Agencies in Support of Comprehensive Emergency Medical Services, p. 3.
Despite the many efforts of federal, state and local agencies concerned with the components of the health delivery system, fragmented, uncoordinated programs continue to exist. Such activities have had little success in coping with the problems of trauma or sudden, urgent illness. In 1970 it was estimated that 35,000 patients with heart ailments die each year because of the lack of prompt medical attention, and less than 10 per cent of the hospitals in this country are adequately staffed and equipped to handle all types of emergencies. The general public also has the misconception that adequate help and assistance may be summoned from ambulance and rescue squads. Also, in 1970 it was reported that less than five per cent of the total number of ambulances in the United States were manned and equipped according to minimum requirements recommended by the National Academy of Sciences (NAS) and the Department of Transportation (DOT).  

These statistics underscore the fact that year after year thousands of Americans, who become suddenly ill or involved in injury, may die or undergo long illness and disability as a result of inadequacy in dealing with situations that call for emergency

---


medical services (EMS). They must receive prompt and effective treatment at the scene of the injury or illness. This depends on a well-organized local community emergency medical care system. The elements of the system include detection of the case or awareness of the problem; effective communication with the emergency response system; treatment at the site of the event where necessary; access to appropriate emergency medical facilities; and readiness in these facilities to deliver definitive medical care. It is readily seen that the emergency medical system straddles the door of the hospital. It involves a response outside of the hospital and a linkage to a well-organized hospital care program. The participants in this system include the consumer himself, and a wide array of agencies concerned with communications, transport, and medical care. While each facet of the system may clearly be the responsibility of one agency or a set of agencies, there is no generally accepted mechanism for linking the components of the system in a way that will allow each to play its role effectively and in coordination with the others.

In general, consumers and providers of medical care agree that emergency medical services are a community responsibility. However, there is rarely a centralized organization that accepts responsibility for the management of the entire system. This is not only true on the community level, it is also true on state and federal levels. Community agencies seeking to develop an effective system are confronted with a bewildering array of sources of expertise and financial support from state and federal agencies. In general, there
is no clearly identifiable authority for: (1) dissemination of technical information; (2) response to direct inquiries regarding technical assistance and funding; (3) initiative in coordinating agencies and programs at federal, state and local levels. As a result, many new community programs are being planned and developed and current programs revised as if no information or guidance were available. In addition, the cumulative experience in emergency medical care has not been catalogued and studied to identify successful sub-systems and approaches that appear to favor the achievement of desired goals.

B. EMSACs and Areawide Planning for EMS Systems

An Emergency Medical Services Advisory Council (EMSAC) is defined as any community council, committee, or group of individuals organized for the purpose of improving the provision of emergency medical care for the area.9

The establishment of EMSACs is a relatively new phenomenon. How these councils came into being, what has been said about them in medical and administrative channels, and the trends of future development present valuable areas of study. Medical and administrative professionals have referred to the need for establishing in every community, regardless of size and location, a council that will coordinate the activities that encompass all aspects of the EMS system. Over 200

advisory councils were identified by the Division of Emergency Health Services (DEHS) of the Department of Health, Education, and Welfare (DHHEW) in a document that listed the location of the councils and the chairmen or key representatives. Composition of membership of these councils varied with the size of the community. Typically involved were providers of ambulance and rescue services, hospitals and medical centers having emergency facilities, medical practitioners, health planning agencies, representatives from local government, fire and police departments, civil defense, and occasionally consumer groups concerned with EMS.

The areawide health planning agencies referred to throughout this paper were established under Public Law 89-749 (Comprehensive Health Planning). In discussing the planning of emergency services, Sigmond suggested that a council on emergency services might be organized within the framework of the Comprehensive Health Planning (CHP) agency in each area under the provisions of Public Law 89-749. He recommended this approach as an alternative to a categorical approach to the planning of EMS as a separate entity. It is

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11Ibid.

12DHHEW, DEHS, "Evaluation of the Impact of Emergency Medical Services Advisory Councils."

interesting to note that his comments were made shortly after the enactment of the CHP legislation, but to date the linkage between EMSACs and the areawide health planning agencies has been minimal.

The Division of Medical Science of NAS, in a review of the problems confronting EMS systems, discussed the organization of community councils.\(^\text{14}\) In the report it was recommended that the responsibilities for coordinating lay and professional activities in emergency medical care should be centrally assigned to a council on EMS. Some of the specific activities that were recommended by the NAS included the coordination of first aid teaching programs and similar types of training. The councils would also bring together the resources of such organizations as the Red Cross, National Safety Council, county medical societies, committees on trauma of the American College of Surgeons and responsible local officials. They would act together to procure equipment, construct and improve facilities and work toward optimal emergency care.

In a paper on community advisory councils, Paetow\(^\text{15}\) reported on five successful programs in which councils were able to improve EMS in the framework of established community systems. He stated that only 23 community councils had been established throughout the

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\(^{14}\) National Academy of Sciences, "Accidental Death and Disability: The Neglected Disease of Modern Society."

country. As mentioned previously, a more recent listing indicated that there were over 200 although only 135 could be identified as active in January, 1972, in the present study. The activities of the councils as reported by Paetow have interesting features which are relevant to the present study. For example:

1. Flint, Michigan:

The Council's main objective is the surveillance of quality in the handling of emergency patients. Many of the agencies represented are directly involved in providing care to the injured, or are otherwise concerned with improving this care.

Council chairman is the physician serving currently as chairman of the local American College of Surgeons' Committee on Trauma in Flint. Council secretary is a member of the local A.C.S. Subcommittee for the Transportation of the Injured.

Flint's chief of police, the county sheriff, city health officer, local safety council manager, and president of the local ambulance association all serve on the Council. Serving also are representatives of the local traffic commission, fire department, state police, rescue or first-aid squad, and the American Red Cross, plus hospital administration, emergency department, and nursing staff representatives as needed.

The Council insures continuous supervision of quality of care, and brings about participation of all involved in the care of the injured, in policy-making, and in surveillance.

2. Plainfield, New Jersey:

Oldest of the five, this Council was established by the rescue squads of the area, with strong support and participation from one of the area's major hospitals. It was formed, initially, to resolve differences (mostly jurisdictional or procedural) which would occasionally arise between various squads in the area, squads and the hospital administration, or squads and the hospital's medical staff. Emergency care seminars for squad personnel were initiated, as were communications and disaster exercises.
3. Birmingham, Alabama:

The Emergency Medical Services Committee serves in an advisory capacity in matters related to emergency medical services. Membership consists of two representatives each from the Jefferson County Medical Society, the A.O.S. Alabama Committee on Trauma, and the American Red Cross, and one representative each from the local hospital council, Civil Defense, local bar association, city police and fire departments, Alabama Motorists Association, the county health department, and the board of education.

The Committee surveyed the ambulance services in Birmingham and proposed a complete revision of the city ambulance ordinance. With Committee cooperation, the city council awarded a contract to three ambulance companies consolidated under one administration for greater efficiency and reduction in expenses.

The Commission on EMS of the AMA has been active in stimulating community activity. In July, 1970, the AMA published a set of guidelines for community councils. A cooperative campaign with the U.S. JAYCEES has started to promote the improvement of community EMS and the establishment of EMSACs throughout the United States. Emphasis was placed on clearly defining the extent of community to be served and including providers of health services, public agencies, and community leaders as members of the council. The AMA publication also dealt with the organization of the council, its staffing and financing, and the evaluation of the EMS system in terms of treatment at the scene of the incident, transportation to appropriate medical

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facility, and care in the medical facility. It is clearly stated that as a community changes, the health facilities change and demand for EMS changes. The council must be prepared to adapt the system accordingly. The first step is bringing the interested parties together in the council.17

The Division of Emergency Health Services has been instrumental in promoting the development of state and local EMSACs throughout the country. In "Recommended Standards for Development of Emergency Medical Services Systems"18 published in July 1971, the development of advisory councils and EMS-supporting legislation were identified as two of the most important steps in upgrading emergency medical care programs. Also in 1971 DEHS published a descriptive report of activities of known EMSACs for calendar year 1970.19 This document is a stimulus to present councils and a guide to activities in newly developing councils. An abstract of this report, indicating activities and membership of the councils, is presented in Appendix I.

The delivery of emergency medical care appeared to suffer from two basic problems—lack of coordination of existing resources and insufficient resources for improving the services.20 It becomes

18 DHEW, DEHS, "Recommended Standards for Development of Emergency Medical Services Systems" (July, 1971).
19 DHEW, DEHS, "Emergency Medical Services Councils Report of Activities" (December, 1971).
20 Ibid.
evident that local EMSACs have a substantial role in a community, (1) because the members are representative of significant disciplines bearing on this particular problem, and (2) because key representatives usually possess the knowledge and expertise with which to solve community problems.

C. Federal Concern for EMS

At the national level several agencies have been assigned responsibility for various segments of emergency health care. Many of these agencies have direct influence, for example, through financial and consultative support, on community EMS programs. An understanding of the national involvement may assist members of EMSACs, and others concerned with EMS at local levels, in obtaining support for their local programs. The following section contains a listing of the major federal organizations plus a brief description of their activities.

The Department of Transportation: Under the direction of the Division of Rescue and Emergency Medical Programs of the National Highway Traffic Safety Administration, a variety of projects are being carried out on the basis of the Highway Safety Act of 1966. Approximately 23 million dollars were expended in about three years and it is expected that ten million more will be allocated in the next fiscal year. In support of the primary mission of this agency, the removal of sick and injured from the highway to the hospital, they are concerned with the training of personnel and the purchase of vehicles and equipment. Funds from DOT serve as a catalyst for
emergency medical surveys and the development of state plans; training programs for emergency medical personnel; purchase of ambulances; and development of communications systems.

**The Department of Health, Education, and Welfare:** This Department contains the most complex array of agencies with concern for EMS.

1. The DEHS has as its primary function technical assistance to states through the regional offices of the Department. At present there are 10 regional representatives and 36 assignees to state health departments. These field representatives can serve to link the day-to-day community EMS systems to the federal agencies and to national disaster planning programs. Few funds have been available to DEHS and it has functioned mostly through small purchase order agreements.

2. The Office of Comprehensive Health Planning is concerned with the development of health planning agencies at state levels and in designated areas within each state. For the most part, funds have been allocated to establish such planning agencies and a number of training programs for health planners. Funds available through formula grants and for special projects are limited in amount and have generally not been used in the area of emergency health services. As of December, 1971, 159 areawide health planning agencies were established in the United States, varying in their interests and recognition of health needs of their communities.
3. The Regional Medical Programs Service (RMPS) is expanding its efforts to stimulate concern for EMS in the 56 Regional Medical Programs (RMP). The RMPS recently announced the availability of supplemental funds for EMS projects and invited applications for grants from communities associated with RMP. The applications are expected to relate to plans for the EMS system of the entire region. Consequently, they will have to be closely coordinated with CHP agencies. In the past, projects such as mobile coronary care units and the training of specialized personnel have been undertaken, but it is difficult to identify these activities as subcategories of the expenditures listed for RMP. For purposes of national inventory it would be of value to link the Regional Medical Programs with Comprehensive Health Planning Agencies, at state and sub-state levels, in the listing of EMS related activities.

4. A Special Activity Program has been established in the Health Services and Mental Health Administration to develop five model EMS systems in the United States. Contracts were awarded for a three-year period starting in July, 1972. These are to be demonstration sites for advanced and innovative programs. Approximately $8 million were awarded for the first year and $15 million are expected for the second year. The hallmark of this Special Activity is the demonstration of new approaches that may be disseminated to other communities across the nation. Organizations such as statewide EMSACs and federal agencies will have to serve as the disseminators of the beneficial aspects of these demonstrations.
5. The Health Facilities Planning and Construction Service (Hill-Burton) has approved funds for the construction of EMS facilities, or their remodeling. Although $20 million have been authorized, no funds have yet been appropriated. For the most part the funds that have been used are those available for the improvement of outpatient facilities. This reveals a lack of clarification of funding opportunities and the ineffectiveness of federal-state-local planning for the utilization of available resources.

Other federal programs are involved in a variety of central and peripheral activities related to EMS. Because their activities do not involve the direct funding of EMS programs, or direct support to community EMS, they are identified in Appendix II.21

D. Developing Community EMS

With the federal support for local EMS programs, the question often asked is why should communities allocate more of their energies and material resources to emergency health services? Why should this particular realm of service demand priority with respect to coordination of federal, state, and local efforts? Why should EMSACs be developed at state and local levels of operation? The answers to

these questions were brought out in the study of MAST for San Antonio, Texas, completed by the Department of Preventive Medicine of The Ohio State University.22

The purpose of this study was to determine the role of the military helicopter and its paramedical crew and equipment in supplementing the civilian community EMS system. Whenever an additional sub-system is added to the basic plan of a community's EMS, it is necessary to include the intervening strategy or service in relation to the overall system for the community. As it was pointed out in the MAST evaluation study, the general impact of MAST and EMS in areawide health planning may be examined or discussed in a number of special attributes.23 The following is a brief discourse on these attributes as they relate to background information pertaining to important features of a community's EMS system and the activities of its EMSAC where applicable.

1. Visibility: Health planning requires the development of long range programs for health improvement. Yet, it is difficult to mobilize support for programs that do not deal with the concerns of the moment. More immediate concerns tend to stir and maintain public enthusiasm and interest.

22"A Study of Military Assistance in Safety and Traffic (MAST), San Antonio, Texas, 15 July 1970 to 31 December 1970" (Division of Community Health, Department of Preventive Medicine, The Ohio State University, 15 July 1971).

23Ibid, pp. 5-8.
Emergency medical services fills this need. The visible, clearly valid service may prepare the way for community support of programs aimed at more distant health goals.

2. **Rapid demonstration of accomplishment**: Many health problems do not lend themselves to early solution or to the demonstration of benefit in short periods of time. The institution of augmented emergency medical services at the site of the event, in transit to the emergency room, and in the receiving hospitals, offer high probability of demonstrable change in the community in a short time period. Developing health organizations such as new health departments, hospital services, CHP agencies, and RMPs, and community councils such as the EMSACs may benefit from association with projects that demonstrate the validity of their efforts to health needs of the community.

3. **Low level of competition with established medical services**: In most communities there is no tradition for physicians to offer emergency medical care outside their usual places of work. Few communities have well developed private programs for emergency transport outside the cities and in areas of sparse population. The introduction of a new EMS sub-system, such as MAST, tends to meet with little opposition from competing groups.
4. **Prototype for other health services:** The augmentation of EMS by such programs as MAST is important to the entire process of comprehensive personal health care. The system of health care, including preventive services, health promotion, and responsiveness to non-urgent medical problems, can benefit from the development of new techniques in an augmented medical service system.

5. **Acceptance of paramedical personnel:** The emergency medical technician constitutes an idealization of the paramedical worker. He most frequently functions by himself away from the immediate vicinity of the physician and offers services of crucial value.

6. **Federal-local interaction:** MAST affords an example of the cooperative efforts of a number of federal agencies in the development of a service that becomes part of the daily operation of a community health system.

As mentioned by Webb\(^2\) in his 1969 study of the emergency medical care system in the Baltimore area, there is a paucity of reference in the literature pertaining to the overall emergency medical care system. Unfortunately, the systems approach to analyzing a community's delivery of EMS has not advanced significantly since 1969 although several areas in the country are presently utilizing this approach in planning and

\(^2\)M. L. Webb, "The Emergency Medical Care System in a Metropolitan Area" (Thesis submitted to the School of Hygiene and Public Health of the Johns Hopkins University, Baltimore, Maryland, December, 1969).
developing their own local programs of emergency medical care. EMSS II, a computer simulation model, was developed by Operations Research, Incorporated\(^25\) (ORI), Silver Spring, Maryland, as a tool to be used by health planners and administrators in making an analysis of their community's EMS systems. This simulation model represents the overall operation of EMS systems from the time patients enter the system until they receive treatment in a hospital's emergency facility and are either released or admitted to the hospital. The results may be used in the evaluation of existing EMS systems as well as planning for changes or augmentation that may be programmed. The EMS system is a complex man-machine system whose principle elements are injured or critically ill patients. The total system is greatly influenced by complex variables having an interplay on the system, such as (1) patient detection mechanism, (2) transportation and equipment available to respond to the incident or event, (3) emergency medical facilities supporting the system in definitive care, (4) definitive care that is available for each patient entering the system. The emergency medical sequence, from the detection of the incident, the arrival of the ambulance and medical assistance, the treatment at the scene, transport to the emergency medical facility and arrival and departure of the patient from the emergency room is shown in Figure 1. At the present time an extensive study is being conducted by the

REGION AND SUB-AREA
INCIDENT OCCURS
INCIDENT DETECTED
CALL FOR HELP
DISPATCHER RECEIVES CALL
AMBULANCE NOTIFIED

FIRST AID ADMINISTERED BY AMBULANCE PERSONNEL

AMBULANCE ARRIVES AT SCENE
AMBULANCE DEPARTS SCENE WITH PATIENT
AMBULANCE PERSONNEL LOAD PATIENT

DISPATCHER NOTIFIES HOSPITAL
HOSPITAL STAFF AND EQUIPMENT MOBILIZED

AMBULANCE ARRIVES AT HOSPITAL
E/R STAFF MEET AMBULANCE

PATIENT REACHES EMERGENCY ROOM
EMERGENCY TREATMENT CONCLUDED
PATIENT LEAVES EMERGENCY ROOM

EMERGENCY MEDICAL SEQUENCE
Department of Preventive Medicine, The Ohio State University, applying the EMSS II model to the EMS system in Columbus, Ohio, and surrounding Franklin County. Results of this study should be published by the end of 1972.

The "Recommended Standards for Development of EMS Systems," published by DEHS in July, 1971, were developed in consultation with national authorities on emergency medical care in direct response to needs which were identified at local, state, and federal levels. As mentioned in the report, the recommendations are not inclusive but are suggestive of those identifiable problem areas where adequate research supports action. These standards will be extremely useful to health planners and administrators concerned with improving programs of emergency medical care at all levels. An extract of those items having a direct influence on the activities of local EMSACs is presented in Appendix III.

Comments from other literature also reflect the need for establishing and maintaining standards in the delivery of EMS. For example, the 1966 report of the NAS reviewed ambulance service in the United States and revealed a lack of information as well as a limited framework for the collection of data and the evaluation of

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26 DHEW, DEHS, "Recommended Standards for Development of Emergency Medical Services Systems."
current ambulance services.\textsuperscript{27} Wilder,\textsuperscript{28} in \textit{Hospital Tribune}, mentioned that the transportation and emergency care of the injured is becoming an increasingly important part of health services. Ambulance and rescue units across the nation are being used more than ever before. In order to give the best possible emergency medical care in the future, the author of this editorial advocates a total integration of ambulance and hospital emergency services.

The AMA, at their recent clinical convention, made issue of the problems in the delivery of emergency care throughout the United States. The House of Delegates took note of this and said that, "Programs for delivery of adequate EMS must be available and accessible to every individual."\textsuperscript{29} They further agreed that the AMA should establish a position of leadership and responsibility for developing recommendations to improve EMS systems in the United States. The action of the House of Delegates was based on a report of the AMA Committee on Community EMS which is concerned with not only the need for assuring the nationwide availability and accessibility of EMS, but also with assuring that these services are of adequate quality. Some of the specific suggestions that were advanced by the delegates

\textsuperscript{27}NAS, "Accidental Death and Disability: The Neglected Disease of Modern Society."


\textsuperscript{29}AMA, \textit{American Medical News} (December 20, 1971), p. 4.
for improving the nation's delivery system for emergency medical care include:

The AMA, state and local medical societies, and medical specialty societies should assign a high priority to improving the emergency medical service system throughout the nation, including developing action programs in emergency medical services.

The difficulty in providing emergency services in rural areas and in small communities suggests that those communities that do not have the necessary resources to develop and support their own systems should consider linking together to form a regional system.

Plans for emergency medical services should be coordinated with other planning agencies and the medical profession in each area should assume responsibility for providing medical leadership.

The medical profession in each area must strive to see that emergency medical services are adequate to meet the needs of the community or region and that the quality is evaluated periodically.

At the federal level, it is recommended that there be a single agency with responsibility for all governmental efforts to improve emergency medical services.

Further, the AMA Committee emphasized that a community's EMS program must have the following basic components: (1) well-equipped emergency vehicles staffed by EMS technicians, trained and equipped to provide all necessary life support at the scene and during transportation; (2) a communications system that assures prompt response to the need; (3) high quality emergency care facilities, staff, and equipment at the hospital level, and (4) first aid training programs that reach large numbers of area residents.
The actions by the AMA's House of Delegates and the Committee on Emergency Medical Services substantiate the need for coordination of activity at the local community, regional, state and national levels of involvement. The establishment of an EMSAC may be the nucleus of implementing and coordinating activity at the community level.

Have the EMSACs in the United States been instrumental in the improvement of community EMS systems? Have they been successful in stimulating community activity which would bring about change in local EMS programs? Have communities with existing councils been favorably considered for federal financial assistance in EMS? Finally, what documentation exists which will support and defend the development of EMSACs as a means of improving community EMS in the United States? These are questions which prompted the current study.
CHAPTER II

ISSUES AND HYPOTHESES

A. Background

The essence of an EMSAC, at the community level, is the involvement of a variety of health and health-related professionals and technicians as public representatives and overseers of the emergency medical services system. It may provide a forum in which consumers and providers of health care can participate to solve problems related to this facet of the health system. The impact of the EMSACs on community EMS systems has not been investigated or documented in the literature. The present study was undertaken to relate the existence of EMSACs to the level of federal support acquired by given communities and the activities of the EMSACs to the size of the populations served in their area.

About the time that EMSACs were being formed in the United States, many other changes were being made in the country's health care delivery system. The 89th Congress enacted a series of health-related laws that constitute an important context for development of emergency medical services. Public Law 89-97 (Medicare and Medicaid) increased the level of financing health care delivery and set the stage for current legislative proposals for total coverage of the entire American public through various types of third party
payment. Public Law 89-239 (Regional Medical Programs) developed a provider-oriented system of regional programs aimed at augmenting specific aspects of health care delivery, and has since expanded its concern for overall health care delivery. Public Law 89-749 (Comprehensive Health Planning) established areawide and state health planning agencies, in which consumers and providers interact in an effort to set priorities and develop plans to meet local and state health needs.

The increase in the expenditure of public funds for health care delivery, the emphasis on regionalization of services and planning, and the provision of an organizational framework for provider and consumer interaction in health planning inevitably led to a re-examination of many aspects of health care delivery at local, state and federal levels. The high visibility and drama of emergency medical services made this a very natural area for concern. At the same time, the fragmentation of responsibility for the various components of emergency health care delivery on the community level appeared to call for some organizational framework for bringing together the fragments and helping to develop a rational system. One approach to the solution of this problem seemed to be the development of EMSACs. It also appeared logical for these councils to work in close cooperation with the areawide health planning agency, that must relate to all of the components of the system in order to develop a local plan. Yet, there was no information available regarding this association of EMSACs
with areawide health planning agencies. It was felt that this would also be a fruitful avenue of inquiry in the present study.

By the end of 1971, DHEW listed over 200 EMSACs organized at state and local levels. At the same time, federal grants had been made to 159 areawide comprehensive health planning agencies. As part of their responsibility, these agencies were required to establish relationships with all relevant health service organizations in the area. Since EMSACs were clearly involved in comprehensive health planning, it would appear that either the areawide health planning agencies would be represented on the EMSACs, the EMSACs would be established as a sub-committee of the planning agency, or the two would function in competition with each other.

In recent years there has been considerable federal assistance to states and communities in support of emergency medical services systems. As mentioned previously, EMSACs and areawide health planning agencies have grown in number throughout the United States. The influence of EMSACs on the attraction of local community EMS projects and financial support, as well as EMSAC performance in local EMS activities, form the background for the main issues in this study.

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30 DHEW, DEHS, "Emergency Medical Services Advisory Committees."

31 DHEW, Division of Comprehensive Health Planning, "A Directory of State and Area-wide Comprehensive Health Planning Agencies Supported under Section 314, Public Health Services Act" (December, 1971).
B. Spectrum of EMSAC Activity

As stated in chapter I, the Division of Emergency Health Services of DHEW has recommended standards for the development of emergency medical services systems. These standards can serve as a reasonable activities check list to be used by EMSACs that have been established. Although these EMSACs are engaged in a process that may have some relationship to these standards and ultimately result in attention to them, they also have a certain flow of activity that is at least in part dictated by the nature of the health care delivery with which they are concerned.

Figure 2 presents the spectrum and flow of such activities at the community level as a model for the major areas of interest in the present study. This presents a five-step approach from the cognition, or perception, of community EMS needs and problems through the evaluation of specific actions taken. Whatever local information systems exist for the collection and dissemination of EMS data, some assessment of the community status may be made. This to some extent is made known to the general public, and the providers of health care in both the private and public sectors. In some manner, the perceptions of EMS needs and problems are articulated by consumers and providers and recommendations for change are generated. It is somewhere in this matrix of activity that an emergency medical services advisory council

32 DHEW, DEHS, "Recommended Standards for Development of Emergency Medical Services Systems."
THE SPECTRUM OF ACTIVITY INVOLVING EMERGENCY MEDICAL SERVICES ADVISORY COUNCILS

Cognition

Articulation

Decision To Act

Action

Evaluation

Info. Systems For EMS

Community Status Of EMS

General Public

Health System Private Sector

Public Health Programs

Health Providers

Public Sect. Recommend.


Environ'l. Dictates

Establishment of Emergency Medical Services Advisory Council

Allocation of Federal Funds

EMS Activ.

EMS Oper.

EMS Comm.

EMS Ambul. and Equip.

EMS Training and Educ.

Improvement Community Emergency Medical Services

FIG. 2
may be established. The constituency of this council and the representation from various segments of consumer and provider groups will obviously affect the nature and source of recommendations. These recommendations are stimuli to the development of plans for change. Depending upon the association of the EMSAC with health planning agencies or regional medical programs, one or another avenues for the development and presentation of plans will be activated. In most cases, the purview of the EMSAC goes beyond planning and into action. At this point participation in the development of grant requests for federal and state funds, and entry into actual EMS operations in one or more components of the system is a natural consequence. Since the members of the EMSAC may continue their tenure long enough to observe the implementation of new programs and become concerned with their consequences, they would also be interested in some form of evaluation of the results of actions taken. Such evaluation is again sent back into the community information system and serves as the return loop to keep the flow of activity and the process of refinement going. It is this general framework that is used in the current study to describe and relate some of the variables of EMS financing and activity to the presence and performance of EMSACs.

C. Development of Hypotheses

The present study centered around two major areas, one involving the federal financing of EMS projects and the relationship with EMSACs, and the other involving the activities and performance of the EMSACs at community levels. During preliminary review of the
literature relating to federal funding and activities of present advisory councils, it became apparent that many items of interest could be pursued. However, the variables that were ultimately selected appeared to be most relevant to the objectives of this study and the period of time involved. The other variables not chosen are presently being considered in subsequent EMSAC reviews that are in progress. The hypotheses selected are presented as follows under the major area of interest that they represent.

**Federal Funding of EMS Projects**

This major area concerned the relationship between the existence of EMSACs, community size, EMS availability, and the number of projects being funded to communities. The data pertaining to federal funding of EMS projects were obtained from reports prepared by three government agencies. Methodology for obtaining and employing the data is presented in chapter III.

The independent variable dealt with existence or non-existence of EMSACs while the dependent variables concerned the total number of federally funded EMS projects as well as a breakdown of these projects by EMS categories. These interests are reflected in hypotheses 1 and 1A as follows:

**Hypothesis 1:**

The number of federally funded EMS projects is greater in communities with EMSACs.
**Hypothesis 1A:**

The number of federally funded EMS projects in emergency facility operation, communications, ambulances and equipment, and training and education is greater in communities with EMSACs.

Continuing with the number of EMS projects, information was also desired on the relationship between community size and EMS availability (independent variable) and the distribution of these EMS projects (dependent variable) to only those locations where EMSACs were present. These relationships are expressed in hypotheses 2 and 2A:

**Hypothesis 2:**

Where EMSACs exist, the number of federally funded EMS projects is greater and is influenced by community size and available emergency medical services.

**Hypothesis 2A:**

Where EMSACs exist, the number of federally funded EMS projects in emergency facility operation, communications, ambulances and equipment, and training and education is greater and is influenced by community size and available emergency medical services.

The same typology was used for those locations without EMSACs as in the preceding hypotheses for locations with EMSACs. The relationships are expressed in hypotheses 3 and 3A:

**Hypothesis 3:**

Where EMSACs do not exist, the number of federally funded EMS projects is greater and is influenced by community size and available emergency medical services.
Hypothesis 3A:
Where EMSACs do not exist, the number of federally funded EMS projects in emergency facility operation, communications, ambulances and equipment, and training and education, is greater and is influenced by community size and available emergency medical services.

This area of study also included a review of the total amount of federal dollars allocated to the EMS projects mentioned in hypotheses 1 through 3A. Independent variables again pertained to the existence or non-existence of EMSACs, community size, and EMS availability whereas the dependent variable became the average dollar amount funded to the EMS projects in total and by EMS category. These relationships are reflected in hypotheses 4 and 4A:

Hypothesis 4:
The average dollar amount of federally funded EMS projects is greater in communities with EMSACs; and is influenced by community size and available emergency medical services.

Hypothesis 4A:
The average dollar amount of federally funded EMS projects in emergency facility operation, communications, ambulances and equipment, and training and education is greater in communities with EMSACs; and is influenced by community size and available emergency medical services.

EMSAC Activities and Performance
A review of the activities and performance of the EMSACs in local EMS formed the second major area of study. The data employed in this portion of the study were obtained from each council through the use
of a questionnaire. The methodology employed in the use of the questionnaire is contained in chapter III.

EMSAC Activities

Several variables were selected to reflect the investigation of the EMSAC activities. The independent variables were:

1. Community size and available EMS.
2. The number of members serving on the EMSAC.
3. The existence of the EMSAC as the only planning agency in the area.
4. The length of time the EMSAC had been in existence.

The dependent variables were the various activities of EMSACs in emergency facility operation, communications, ambulances and equipment, and training and education. These relationships are expressed in hypotheses 5 through 8:

**Hypothesis 5:**

The number of activities of an EMSAC in emergency facility operation, communications, ambulances and equipment, and training and education is influenced by community size and available emergency medical services.

**Hypothesis 6:**

The size of an EMSAC favorably influences the number of activities in emergency facility operation, communications, ambulances and equipment, and training and education.
Hypothesis 7:

When the EMSAC is the only EMS planning agency in the area, the number of activities in emergency facility operation, communications, ambulances and equipment, and training and education is greater.

Hypothesis 8:

The length of time that an EMSAC has been established influences the number of activities in emergency facility operation, communications, ambulances and equipment, and training and education.

EMSAC Performance and Effectiveness

Data obtained from the questionnaire also pertained to the attitudes and opinions of the EMSAC members on EMS involvement and assessment of their performance and effectiveness. In hypothesis 9 the independent variables were the community size and available emergency medical services while the dependent variable was the EMSAC self-rating of overall effectiveness.

Hypothesis 9:

Self-rating of overall effectiveness by EMSACs is influenced by community size and available emergency medical services.

The next hypothesis also concerned EMSAC self-ratings but in this instance the ratings referred to the four major EMS activities. The independent variables were the activities of the EMSACs in emergency facility operation, communications, ambulances and equipment, and training and education, while the dependent variables were the self-ratings by the EMSAC members. This hypothesis is expressed as follows:
Hypothesis 10:

Means self-ratings differ among EMSACs and between activities in emergency facility operation, communications, ambulances and equipment, and training and education.

Hypothesis 11 related EMSAC assessment of community needs to the four major EMS activities. The independent variables were the four major EMS activities while the dependent variable concerned EMSAC assessment of community needs by EMS activity.

Hypothesis 11:

Means of community needs assessments differ among EMSACs and between activities in emergency facility operation, communications, ambulances and equipment, and training and education.

The final hypotheses concerned the EMSAC self-rating of present and potential capability in selected administrative areas. The independent variables were the administrative areas, such as information gathering and exchange, programs and policy recommendations, planning and coordination, implementation, and appraisal and evaluation. The dependent variables were the present and potential ratings of EMSAC capability. These hypotheses are expressed as follows:

Hypothesis 12:

Means of present capability ratings differ among EMSACs and between administrative areas of information gathering and exchange, programs and policy recommendations, planning and coordination, implementation, and appraisal and evaluation.
Hypothesis 13:

Means of potential capability ratings differ among EMSACs and between administrative areas of information gathering and exchange, programs and policy recommendations, planning and coordination, implementation, and appraisal and evaluation.
CHAPTER III

METHODOLOGY

The purpose of this study was to determine the impact and effectiveness of emergency medical services advisory councils on community EMS systems. Also included in the study was a review of the relationship between the federal funding of EMS projects and the existence or non-existence of EMSACs in the United States. How these topic areas were pursued, how the population was selected, how the variables were selected and studied, and how the data were collected form the methodology of the study reported in this chapter.

A. Design of Study

The study design involved two major areas of investigation: first, the federal funding of community EMS projects and corresponding relationships between communities with and without established EMSACs; and second, the analysis of EMSAC performance and effectiveness in community EMS systems.

In order to accomplish the analysis of the federal funding of local EMS activities, a review was made of projects funded by three primary funding agencies: The Division of Emergency Health Services and Regional Medical Programs Service of the Department of HEW, and the National Highway Traffic Safety Administration of the Department
of Transportation. Source documents from each of these federal agencies were reviewed to determine the number of EMS projects and the total dollar funding of these projects during the past three years. The documents reviewed were:


2. "Summary of Emergency Health Services Activities in Regional Medical Programs, March 1970."^34

3. "Division of Emergency Health Services Non-Stock Requisitions, Professional Services, 1971."^35

An update of information was requested from the Regional Medical Programs Service which would coincide with the 1971 listings from the other two federal agencies. Because of difficulty in identifying local EMS activities on a categorical basis, this information had not been received at the time of the final preparation of this study.

For purposes of analysis each project supported by the federal agencies was classified into one of the following EMS activity


^34DHHEW, Division of Regional Medical Programs, "Summary of Emergency Health Services Activities in Regional Medical Programs" (Washington, D.C., March 1970).

^35DHHEW, "Division of Emergency Health Services Non-Stock Requisitions - Professional Services, May and June 1971" (Washington, D.C.).
categories: (1) emergency facility operation, (2) communications, (3) ambulances and equipment, or (4) training and education. These categories were selected as a result of a review of the literature concerning emergency medical services and the recommendations of various federal agencies, associations, and leaders in the delivery of EMS in the United States. As these categories are used throughout the study, the types of activity that each category entailed are explained as follows:

**Emergency Facility Operation**

This category included activities of the EMSACs that were related to the classification of service, the operation of the emergency departments and the identification of equipment used in this service. Also included was the development of EMS plans for regionalization of services.

**Communications**

Activities included the identification of available EMS communications equipment, linkup of hospitals, a common emergency telephone number for the general public, telemetry systems, and central control of the network.

**Ambulances and Equipment**

This category included activities pertaining to the survey of ambulances and equipment, present capability, potential locations for new ambulance stations, purchasing ambulances and equipment, and the potential use of air ambulances.
Training and Education

In this category, activities included surveying EMS training requirements, training emergency room and ambulance technicians, disaster training programs, and educational programs for selected community populations.

In order to form a basis for describing the city and area where EMSACs did and did not exist, a county/community profile, entitled "location category" was developed. Utilizing the services of the Community Data Profile Center, Health Services and Mental Health Administration, DHEW, Rockville, Maryland, and publications of the U.S. Department of Commerce, each county and community EMSAC was classified in terms of available EMS and population served. Upon classification of the EMSACs, each council was placed in location categories type I through type IV. An explanation of this categorization scheme follows:

Location Category Type I

Emergency medical services advisory councils covering areas with a population of at least 500,000; at least two comprehensive emergency facilities capable of caring for any urgent medical problem; and 24-hour staffing by medical and hospital support personnel with specialists available on call.

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Location Category Type II

This classification of EMSACs includes those counties and cities with established councils and a population between 100,000 and 499,999. Within this geographic area there is at least one comprehensive emergency medical facility.

Location Category Type III

Emergency medical services advisory councils in this classification represent populations between 25,000 and 99,999 with two or more major emergency facilities providing outpatient emergency medical services and 24-hour physician coverage (all specialists not immediately available).

Location Category Type IV

In order to distinguish between those EMSACs that are primarily rural, a fourth grouping was established to include populations of less than 25,000. Some of the geographic areas have at least one major emergency medical facility but for the most part service is limited to outpatient treatment with physicians on call.

For areas without EMSACs the same categorization scheme was applied but only with respect to community size and available emergency medical services.

Upon classification of each federally funded EMS project into one of the EMS activities, they were further divided into location categories according to whether the project related to a community with or without an EMSAC. Techniques for data processing and statistical analysis are mentioned later in this chapter.
The other major area of investigation pertained to the activities of the EMSACs and their performance and effectiveness. Concerning their activities, the EMSAC representatives were asked to comment on their involvement in 26 EMS areas of interest. They were further requested to base their comments on a certain time period and specific phases of their activities, such as: pre-agenda evaluation, on agenda for consideration, in planning stage, has been implemented, and in post-implementation evaluation. The 26 EMS areas of interest and the major category to which they apply are presented as follows:

**Emergency Facility Operation**

1. plans for regionalization of services
2. categorization of EMFs
3. survey of staffing patterns
4. location of EMFs
5. survey of equipment
6. use of forms for data collection
7. development of tax base for EMS

**Communications**

1. survey of communication network
2. providing a common EMS telephone number
3. communication between hospitals and ambulances
4. total system communication
5. central dispatching of ambulances
6. toll-free EMS
7. telemetry systems
Ambulances and Equipment

1. survey of ambulance service
2. survey of ambulance equipment
3. location of new ambulance bases
4. purchase of ambulances
5. purchase of EMS equipment
6. use of air ambulances

Training and Education

1. survey of EMS training requirements
2. training of EMF personnel
3. training of ambulance personnel
4. disaster training program
5. community educational programs in emergency medical services
6. first aid training for selected community populations

Concerning the EMSAC performance and effectiveness, the EMSACs were asked for their rating in the four major EMS activities; to assess EMS needs in their communities; and to rate their present and potential capability in five selected administrative areas. These included: (1) information gathering and exchange, (2) programs and policy recommendations, (3) planning and coordination, (4) implementation, and (5) appraisal and evaluation.
B. Population Studied (EMSACs)

Previous discussions concerning the magnitude of the problems in the delivery system for emergency medical services suggested that the difficulties prohibiting advancement in these programs at the community level may be related to the lack of any responsible agency or activity providing guidance for community action at the local level. Where, in fact, communities have organized EMSACs, investigation was warranted to determine the extent of their activity and effectiveness in stimulating successful community programs in EMS based on their interest in this area. The Division of Emergency Health Services, DHEW, prepared a source document identifying EMSACs and their chairmen located in the United States as of October 1971. Table 1 identifies the location of EMSACs by state. The DHEW source document became the basic publication used to begin the investigation pertaining to this study.

The EMSACs identified by DHEW were the principal organizations being analyzed in the study. Although the listing included both state and local councils, only the activities of local councils were analyzed. The activities of state advisory councils were beyond the scope of this study because of difficulty in obtaining data applicable to community EMS and relevant to the basic study objectives. This listing excluded emergency medical committees of

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37DHEW, DEHS, "Emergency Medical Services Advisory Committees."
TABLE 1

EMERGENCY MEDICAL SERVICES ADVISORY COUNCILS
TOTAL NUMBER BY STATE
AS OF OCTOBER 1971

<table>
<thead>
<tr>
<th>State</th>
<th>Local</th>
<th>State</th>
<th>Total:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>1</td>
<td>* Kentucky</td>
<td>3</td>
</tr>
<tr>
<td>Alaska</td>
<td>0</td>
<td>Louisiana</td>
<td>1</td>
</tr>
<tr>
<td>Arizona</td>
<td>12</td>
<td>* Maine</td>
<td>0</td>
</tr>
<tr>
<td>Arkansas</td>
<td>3</td>
<td>*Maryland</td>
<td>1</td>
</tr>
<tr>
<td>California</td>
<td>56</td>
<td>Massachusetts</td>
<td>4</td>
</tr>
<tr>
<td>Colorado</td>
<td>24</td>
<td>Michigan</td>
<td>1</td>
</tr>
<tr>
<td>Connecticut</td>
<td>1</td>
<td>Minnesota</td>
<td>1</td>
</tr>
<tr>
<td>Delaware</td>
<td>0</td>
<td>Mississippi</td>
<td>0</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>1</td>
<td>Missouri</td>
<td>3</td>
</tr>
<tr>
<td>Florida</td>
<td>5</td>
<td>Montana</td>
<td>5</td>
</tr>
<tr>
<td>Georgia</td>
<td>1</td>
<td>*Nebraska</td>
<td>2</td>
</tr>
<tr>
<td>Hawaii</td>
<td>0</td>
<td>*New Mexico</td>
<td>0</td>
</tr>
<tr>
<td>Idaho</td>
<td>0</td>
<td>New Jersey</td>
<td>2</td>
</tr>
<tr>
<td>Illinois</td>
<td>0</td>
<td>New York</td>
<td>4</td>
</tr>
<tr>
<td>Indiana</td>
<td>1</td>
<td>North Carolina</td>
<td>0</td>
</tr>
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<td>Iowa</td>
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<td></td>
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<tr>
<td>North Dakota</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Ohio</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oklahoma</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Oregon</td>
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<tr>
<td>Pennsylvania</td>
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</tr>
<tr>
<td>Utah</td>
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<td></td>
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<tr>
<td>Vermont</td>
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<td></td>
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<tr>
<td>Virginia</td>
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</tr>
<tr>
<td>Washington</td>
<td>5</td>
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<td></td>
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<tr>
<td>West Virginia</td>
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<td></td>
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<td>Wisconsin</td>
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<td></td>
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<tr>
<td>Wyoming</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>178</strong></td>
<td><strong>State:</strong></td>
<td><strong>23</strong></td>
</tr>
<tr>
<td>Grand Total:</td>
<td>201</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*States with state emergency medical services advisory councils.

(List obtained from DEHS, DHEW. Subsequently, only 135 active EMSACs identified by April 15, 1972. See Table 3 and Appendix X.)
health professional organizations, EMS committees concerned entirely with highway safety programs, and committees concerned only with civil defense preparedness. These committees were excluded because their area of interest is usually limited to a specific component or element of the EMS system and not to the entire spectrum of emergency health services. This approach eliminated some local advisory councils from the study because of incorrect identification. However, during the conduct of the investigation as well as through personal conversations with EMSAC representatives and health officials in communities, the master listing was updated and EMSACs were added to the study as they were identified.

For the purpose of collecting data from each advisory council, a key representative from each council was identified and invited to serve as a main provider of information relating to his council and its activity. A mailed questionnaire and a telephone interview follow-up were employed as basic techniques for obtaining data concerning the activities of each advisory council. Based on the source document, 23 state and 178 local councils were identified within the United States.
To begin the study a letter from the Director, Division of Community Health, outlining the purpose of the study, was forwarded to the Director, Division of Emergency Health Services, DHEW, who in turn sanctioned the study and invited the cooperation of representatives from each of the EMSACs. Also enclosed with this correspondence was a post card to be filled out by the EMSAC representative indicating the name and address of the person who would become a contact person for the purpose of participating in the study. These documents are identified in Appendices IV to VI.

In order to further obtain maximum participation from the EMSACs, in January, 1971, a research team from the Behavioral Sciences Laboratory, The Ohio State University, performed a series of telephone interviews to the council chairmen listed on the DHEW source document who had not responded as of that date. As a result of the initial letter to all EMSACs and this follow-up telephone interview to non-respondents, 168 local EMSACs were identified as survey participants in this study.
C. Variables

This section concerns the variables that were selected for the conduct of this study. These variables were previously mentioned in the development of research hypotheses and also in the study design contained in this chapter. They are repeated in summary form in this section to maintain clarity in describing methodology for collection of data. Table 2 presents the summary of variables, including reference hypothesis and the applicable major area of investigation to which each variable applies.

D. Data Collection

A questionnaire was designed as the instrument to collect data from representatives of the community EMSACs in the United States. This questionnaire was designed to collect information pertaining to the organization of the EMSACs, characteristics, the geographic area that they represent, assessment of community EMS needs, the activities and programs of the EMSACs, and the self-rating of performance, and evaluation of present and potential programs.

Prior to distribution of the questionnaire to the study population, a field test was conducted with ten EMSACs in various parts of the United States. These ten councils were selected based on representation of population, known emergency medical services programs, and capabilities of council chairmen concerned. Upon completion of the field test and review of the recommendations made by these participants, the questionnaire was appropriately modified and
<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Independent Variables</th>
<th>Dependent Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Existence/non-existence of EMSAC</td>
<td>Number of federally funded EMS projects</td>
</tr>
<tr>
<td>1A</td>
<td>Existence/non-existence of EMSAC</td>
<td>Number of federally funded EMS projects in emergency facility operation, communications, ambulances and equipment, and training and education</td>
</tr>
</tbody>
</table>
| 2          | a. Existence of EMSAC  
             | b. Size of community and available EMS | Number of federally funded EMS projects |
| 2A         | a. Existence of EMSAC  
             | b. Size of community and available EMS | Number of federally funded EMS projects in emergency facility operation, communications, ambulances and equipment, and training and education |
| 3          | a. Non-existence of EMSAC  
<pre><code>         | b. Size of community and available EMS | Number of federally funded EMS projects |
</code></pre>
<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Independent Variables</th>
<th>Dependent Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>3A</td>
<td>a. Non-existence of EMSAC &lt;br&gt;b. Size of community and available EMS</td>
<td>Number of federally funded EMS projects in emergency facility operation, communications, ambulances &amp; equipment, and training &amp; education</td>
</tr>
<tr>
<td>4</td>
<td>a. Existence/non-existence of EMSAC &lt;br&gt;b. Size of community and available EMS</td>
<td>Average dollar amount of federally funded EMS projects</td>
</tr>
<tr>
<td>4A</td>
<td>a. Existence/non-existence of EMSAC &lt;br&gt;b. Size of community and available EMS</td>
<td>Average dollar amount of federally funded EMS projects in emergency facility operation, communications, ambulances &amp; equipment, and training &amp; education</td>
</tr>
<tr>
<td>EMSAC Activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Size of community and available EMS</td>
<td>Number of EMSAC activities in emergency facility operation, communications, ambulances &amp; equipment, and training &amp; education</td>
</tr>
<tr>
<td>6</td>
<td>Size of EMSAC</td>
<td>Number of EMSAC activities in emergency facility operation, communications, ambulances &amp; equipment, and training &amp; education</td>
</tr>
<tr>
<td>7</td>
<td>EMSAC as the only EMS planning agency in the area</td>
<td>Number of EMSAC activities in emergency facility operation, communications, ambulances &amp; equipment, and training and education</td>
</tr>
<tr>
<td>Hypothesis</td>
<td>Independent Variables</td>
<td>Dependent Variables</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>8</td>
<td>Longevity of EMSAC</td>
<td>Number of EMSAC activities in emergency facility operation, communication, ambulances &amp; equipment, and training &amp; education</td>
</tr>
<tr>
<td>9</td>
<td>Size of community and available EMS</td>
<td>Self-rating of overall effectiveness by EMSAC</td>
</tr>
<tr>
<td>10</td>
<td>Activities of EMSACs in emergency facility operation, communication, ambulances &amp; equipment, and training &amp; education</td>
<td>Self-rating of overall effectiveness by EMSAC</td>
</tr>
<tr>
<td>11</td>
<td>Activities of EMSACs in emergency facility operation, communication, ambulances &amp; equipment, and training &amp; education</td>
<td>Assessment of community needs</td>
</tr>
<tr>
<td>12</td>
<td>Administrative areas of EMSAC activity</td>
<td>Self-ratings of present capability</td>
</tr>
<tr>
<td>13</td>
<td>Administrative areas of EMSAC activity</td>
<td>Self-ratings of potential capability</td>
</tr>
</tbody>
</table>
distributed on January 19, 1972, to 168 emergency medical services advisory councils in the United States. In addition to the questionnaire, the councils received a cover letter from the Director, Division of Community Health, describing the study and encouraging participation by returning the questionnaire by February 15, 1972. Copies of the questionnaire and explanatory cover letter are included in Appendices VII and VIII.

To obtain additional information about the EMSACs and, in some instances, to collect omitted or unclear data, 25 site visits were made to communities in various parts of the United States. Questionnaire content was discussed with EMSAC representatives and with providers of EMS, e.g., hospital personnel, ambulance technicians, and police/fire rescue personnel. Discussions were also held with persons concerned with EMS in adjacent areas not represented by the EMSACs in order to gain insight into the EMS system and organization in communities where EMSACs do not exist. Through the site visits information was obtained about the organizational characteristics of the councils. Additionally, a clearer understanding was gained of the day-to-day operation of EMS activities. Both factors, validation of the questionnaire data and personal observation of EMS activity, led to a more realistic base for interpretation of the performance and effectiveness of the EMSACs.

By the middle of February, the return response rate was not as great as anticipated. Approximately 50 per cent of the questionnaires remained outstanding. Referring to a recent article by Champion and
Sear, it was decided to direct attention to the problem area over which greater control can be exercised. Recontacting the EMSAC representatives appeared to be the most expeditious method to encourage participation in the study. Accordingly, the telephone follow-up interview method was selected to encourage EMSAC representatives to complete and return the survey questionnaire. During the period February 15 to April 1, 1972, the research team from the Behavioral Sciences Laboratory again assisted in conducting follow-up interviews. Telephone calls were made to the council chairmen or their representative asking for their cooperation. A second survey letter (Appendix IX) and questionnaire were sent to those councils that had not participated prior to the follow-up period. Finally, during the first week in April, 1972, a telephone call to all non-respondents was made to determine whether they would participate in the study. If the council representative indicated an unwillingness to complete the survey questionnaire, the reasons for non-response were requested.

Table 3 indicates the number of survey participants as of the close-out date of the study, April 15, 1972. A master listing of EMSACs and key representatives identified as of this date is presented in Appendix X.

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TABLE 3

NUMBER OF SURVEY PARTICIPANTS
AS OF APRIL 15, 1972

| Total Number | Emergency Medical Services Advisory Councils identified by Department of Health, Education, and Welfare (Table 1) | 178 |
| Total Number | Emergency Medical Services Advisory Councils identified by The Ohio State University | 168 |
| Total Number | Survey Questionnaires Returned | 121 |
| Total Number | Survey Questionnaires Not Returned | 14 |
| Total Number | Participants indicating no active Advisory Council | 33 |
| Total Number | Active Advisory Councils | 135 |

Per Cent Responding: 89.6
E. Data Processing and Statistical Analysis

In this section the methodologies for processing the data and performing statistical analysis are presented for each of the three major sections of the study.

1. Federal Funding of EMS Projects

For hypotheses 1 through 3A, concerning the number of federally funded EMS projects, data were extracted from the federal agency reports and classified according to existence or non-existence of EMSACs and location categories. Projects were also classified by type of EMS activity in emergency facility operation, communications, ambulances and equipment, and training and education. Primarily, because the tests of these hypotheses involved frequency counts and tests of association between EMSAC presence and EMS activity, the chi-square test statistic was utilized.

Hypotheses 4 and 4A also involved the federal funding of EMS activities but referred to the dollar amounts funded to these activities. The dollar amounts funded to each EMS project by the Division of Emergency Health Services, DHEW, and the National Highway Traffic Safety Administration, DOT, were extracted from their reports and key-punched to IBM data cards. Because this investigation involved differences between the existence or non-existence of EMSACs, location categories, and the average dollar amounts funded to EMS activities,
as well as interaction of these variables, a two-way analysis of variance was performed utilizing a packaged computer program.\textsuperscript{39}

2. Activities of the EMSACs

All of the data on the survey questionnaire were extracted and key-punched to IBM cards. Computer printouts were obtained listing frequency counts of the data. For hypotheses 5 through 8 involving frequency of EMS activity and tests of association, the chi-square test statistic was utilized.

3. EMSAC Self-Rating of Performance and Effectiveness

Data pertaining to the EMSAC self-rating of performance and effectiveness were also obtained from the survey questionnaire. Because these hypotheses involved means ratings, and testing for differences between EMSACs and their means ratings, an analysis of variance was performed for hypotheses 9 through 13. Data were key-punched to IBM cards and packaged computer programs were utilized to complete the analysis of variance for these hypotheses.\textsuperscript{40}

\textsuperscript{39}Multivariate Analysis of Variance Program distributed by Clyde Distributing Service, Box 166, Coconut Grove Station, Miami, Florida 33133, and adapted for Ohio State University by Social Psychology Laboratory, Columbus, Ohio 43210.

\textsuperscript{40}Hypothesis 9: BMD 01V—Health Science Computer Facility, UCLA; Analysis of Variance for One-Way Design;
Hypothesis 10: BMD 02V—Health Science Computer Facility, UCLA; Analysis of Variance for Factorial Design.
CHAPTER IV

RESULTS OF THE STUDY

The results of this study are presented in three sections. Section A is concerned with the federal funding of EMS projects by the Departments of HEW and Transportation. Data collected from DOT refer to the funding of programs under the Highway Act of 1966 through 31 October 1971. Program funding by the Division of Emergency Health Services, DHEW, represents calendar year 1970 and the first six months of 1971. The EMS projects sponsored by Regional Medical Programs, DHEW, represent calendar year 1969 and the first six months of 1970. The disparity in time periods resulted from the lack of standardized reporting of program activity by all federal agencies concerned with emergency medical services. Further, because of the difficulty in identifying categorical program funding, only the number of projects and not dollar amounts by EMS activity are identified for Regional Medical Programs.

Sections B and C are concerned with the data obtained from the survey questionnaire. In section B the EMS activities of the EMSACs are presented while section C presents the variables concerned with rating by the EMSACs of their performance, effectiveness, present and potential capabilities, and community EMS needs.
A. Federal Funding of EMS Projects

The data presented in this section resulted from the reviews of the total number and dollar amounts of federally funded community EMS projects throughout the United States during the previously stated time periods. Projects were classified by location category, i.e., community size and EMS availability. This resulted in a review of 1,215 projects totalling $13,242,834 in federal funds allocated to community EMS programs. These figures do not include those categories of projects or funds allocated to state offices or agencies for strictly statewide programs, e.g., a state communications network, which does not identify specific target communities. While such federal funding must be considered in total EMS planning, this is beyond the scope of the present study, which is concerned with the analysis of local EMS activities. Table 4 presents a distribution of the number of communities in the United States with and without EMSACs by location categories and number of EMS projects funded to these communities.

Hypothesis 1:

The number of federally funded EMS projects is greater in communities with EMSACs.

The total number of federally funded projects and the distribution by location categories are shown in Table 5. This table also indicates the observed ratio over the expected ratio of projects to communities. The closer the ratio is to 1.00, the smaller the difference between EMSAC/No EMSAC areas in each location category.
TABLE 4

TOTAL NUMBER OF COMMUNITIES
IN UNITED STATES BY EMSAC AND
NO EMSAC AND LOCATION CATEGORY

<table>
<thead>
<tr>
<th>Location Category</th>
<th>EMSAC</th>
<th>No EMSAC</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>I</td>
<td>34</td>
<td>34</td>
<td>66</td>
</tr>
<tr>
<td>II</td>
<td>32</td>
<td>14</td>
<td>232</td>
</tr>
<tr>
<td>III</td>
<td>28</td>
<td>3</td>
<td>868</td>
</tr>
<tr>
<td>IV</td>
<td>27</td>
<td>1</td>
<td>1798</td>
</tr>
<tr>
<td>TOTAL</td>
<td>121 *</td>
<td>4</td>
<td>2964</td>
</tr>
</tbody>
</table>

*Note: 121 respondents or 90% of the 135 EMSACs identified in U.S. on January 1, 1972. (The 14 that did not return information included four category I, one category II, four category III, and five category IV.)
TABLE 5

INFLUENCE OF PRESENCE OF EMSAC, AND COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY), ON NUMBER OF FEDERALLY FUNDED EMS PROJECTS

<table>
<thead>
<tr>
<th>Location Categories</th>
<th>EMSAC NO EMSAC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EMSAC</td>
</tr>
<tr>
<td></td>
<td>Number of Communities</td>
</tr>
<tr>
<td>TYPE I</td>
<td>34</td>
</tr>
<tr>
<td>TYPE II</td>
<td>33</td>
</tr>
<tr>
<td>TYPE III</td>
<td>28</td>
</tr>
<tr>
<td>TYPE IV</td>
<td>27</td>
</tr>
<tr>
<td>TOTAL</td>
<td>121</td>
</tr>
<tr>
<td>TOTAL CONTROLLED BY SIZE</td>
<td>121</td>
</tr>
</tbody>
</table>

\( \chi^2 = 41.12; p < .01 \)

\( \chi^2 = 123.60; p < .01 \)

\( \chi^2 = 60.65; p < .01 \)

\( \chi^2 = 2.85; n.s. \)

\( \chi^2 = 1,039.88; p < .01 \)

\( \chi^2 = 117.26; p < .01 \)

(Refers to hypothesis 1)
Chi-square analyses of data presented in Table 5 support hypothesis 1 in all location categories except type IV, the smallest areas. The presence of an EMSAC in location categories I, II, and III had a favorable effect on the number of federally funded EMS projects. In all location categories where EMSACs existed, the observed over the expected ratio of projects was higher than that for the locations without EMSACs. This was most notable in location categories II and III, where over three and four times the expected projects were funded.

The summary chi-square analysis also supports hypothesis 1. The presence of an EMSAC revealed that more than five times the expected number of projects were actually observed. Further, when the data were controlled by size (location category), the presence of EMSACs was a significant factor for project funding.

In addition to classifying the total number of EMS projects by location category, the projects were further classified by program activity. For example, as identified previously, four major activities were developed in order to classify each EMS project. These activities are: (1) emergency facility operation, (2) communications, (3) ambulances and equipment, and (4) training and education. The relationship between these activities and the existence of EMSACs is expressed in hypothesis 1A which follows:

Hypothesis 1A:

The number of federally funded EMS projects in emergency facility operation, communications, ambulances and equipment, and training and education is greater in communities with EMSACs.
The total number of federally funded projects in the EMS activities and the distribution by location categories is presented in Tables 6 through 9. The results of each program activity are discussed separately.

Activities in Emergency Facility Operation

Chi-square analyses of data presented in Table 6 support hypothesis 1A in all location categories except type I. The presence of an EMSAC in location categories II and III had a favorable effect on the number of federally funded emergency facility operation projects. No analysis was performed on category IV data because of small ratios obtained. In locations where EMSACs existed and significance was found, the observed ratio of projects was higher than the same ratio for locations without EMSACs. This is notable in categories types II and III where three and six times the expected projects were received.

The summary chi-square analysis also supports hypothesis 1A. Where an EMSAC existed, more than eight times the expected number of projects were actually observed. Further, when the data were controlled by size (location category), the presence of EMSACs was a significant factor for project funding.

Activities in Communications

Chi-square analyses of data presented in Table 7 support hypothesis 1A in location category II. The presence of an EMSAC in this location category favorably influenced the number of communications projects where the observed over the expected ratio of projects was four times higher than the same ratio for the location without EMSAC.
Again, because of small ratios obtained, no analysis was performed on data for categories III and IV.

The summary chi-square analysis also supports hypothesis 1A. The presence of an EMSAC indicates that six times the expected number of communications projects were actually observed. Further, when the data were controlled by size (location category), EMSAC presence was a significant factor in project funding.

Activities in Ambulances and Equipment

Chi-square analyses of data presented in Table 8 support hypothesis 1A in all location categories except type IV. Location categories I, II and III influenced the number of ambulances and equipment projects for those locations where EMSACs existed. In these location categories the observed over the expected ratio of projects was higher than the same ratio for locations without EMSACs.

The summary chi-square analysis also supports hypothesis 1A. Where EMSACs existed, more than four times the expected number of projects were observed. Further, when the data were controlled by size (location category), EMSAC presence was found to be a significant factor in project funding.

Activities in Training and Education

Chi-square analyses of data presented in Table 9 support hypothesis 1A in location category II. In this location category the observed over the expected ratio was higher than the counterpart ratio where EMSACs did not exist. In this case more than three times the expected projects were received.
Only 133 EMS projects out of the 1,215 projects were allocated to activities in training and education. Also, in location categories III and IV for areas with EMSACs, very small ratios were obtained. Consequently, these data did not lend themselves to the chi-square analysis. For the overall analysis of the total number of projects allocated to this category of activity, the cell sizes were sufficiently large to perform chi-square analysis.

The summary chi-square analysis also supports hypothesis 1A. The presence of an EMSAC revealed that more than 10 times the expected number of training and education projects were actually observed. Further, when the data were controlled by size (location category), the presence of EMSACs was a significant factor for project funding.
TABLE 6
INFLUENCE OF PRESENCE OF EMSA, AND
COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY),
ON NUMBER OF FEDERALLY FUNDED EMS PROJECTS

<p>| Location Cate- | Number of | EMSA | Observed | Expected | No EMSA | Observed | Expected |</p>
<table>
<thead>
<tr>
<th>categories</th>
<th>Communities</th>
<th>Projects</th>
<th></th>
<th>projects</th>
<th></th>
<th>communities</th>
<th>projects</th>
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<tbody>
<tr>
<td>TYPE I</td>
<td>34</td>
<td>29</td>
<td>.85</td>
<td>28.9</td>
<td>1.00</td>
<td>66</td>
<td>.85</td>
</tr>
<tr>
<td>TYPE II</td>
<td>32</td>
<td>14</td>
<td>.44</td>
<td>4.1</td>
<td>.13</td>
<td>232</td>
<td>.09</td>
</tr>
<tr>
<td>TYPE III</td>
<td>22</td>
<td>5</td>
<td>.18</td>
<td>.7</td>
<td>.03</td>
<td>868</td>
<td>17</td>
</tr>
<tr>
<td>TYPE IV</td>
<td>27</td>
<td>2</td>
<td>.07</td>
<td>.3</td>
<td>.01</td>
<td>1798</td>
<td>20</td>
</tr>
<tr>
<td>TOTAL</td>
<td>121</td>
<td>50</td>
<td>.41</td>
<td>6.3</td>
<td>.05</td>
<td>2964</td>
<td>113</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 0.00; \text{N.S.} \]

\[ \chi^2 = 27.18; p < .01 \]

\[ \chi^2 = 27.28; p < .01 \]

Ratios too small for performance of chi-square testing.

<table>
<thead>
<tr>
<th></th>
<th>EMSA</th>
<th>Observed</th>
<th>Expected</th>
<th>No EMSA</th>
<th>Observed</th>
<th>Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL CONTROLLED BY SIZE</td>
<td>121</td>
<td>50</td>
<td>.41</td>
<td>34.0</td>
<td>.28</td>
<td>1.46</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 9.51; p < .01 \]

(Refers to hypothesis 1A)
TABLE 7
INFLUENCE OF PRESENCE OF EMSAC, AND COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY), ON NUMBER OF FEDERALLY FUNDED EMS PROJECTS

| Location Categories | Number of Communities | Observed Number of Projects | Observed Ratio | Expected Number of Projects | Expected Ratio | Number of Communities | Observed Number of Projects | Expected Number of Projects | Expected Ratio |
|---------------------|-----------------------|-----------------------------|----------------|-----------------------------|----------------|-----------------------|-----------------------------|-----------------------------|----------------|}
| EMSAC               | TYPE I                | 34                          | 17             | .60                         | 15.0           | 1.14                  | 66                          | 21.0                       | .41            | 20.0           | .44            | .93          |
|                     | TYPE II               | 32                          | 14             | .44                         | 3.4            | .11                   | 232                         | 14                         | .06            | 24.6           | .11            | .55          |
|                     | TYPE III              | 28                          | 4              | .14                         | .7             | .03                   | 808                         | 19                         | .02            | 22.3           | .03            | .67          |
|                     | TYPE IV               | 27                          | 1              | .04                         | .8             | .03                   | 1238                        | 55                         | .03            | 55.2           | .03            | 1.00         |
| TOTAL               | 121                   | 36                          | 6.0            | .30                         | 6.0            | .05                   | 2964                        | 115                        | .04            | 145.0          | .05            | .80          |

χ² = 146.21; p < .01

(Refers to hypothesis 1A)

(Refers to hypothesis 1A)
TABLE 8
INFLUENCE OF PRESENCE OF EMSAC, AND
COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY),
ON NUMBER OF FEDERALLY FUNDED EMS PROJECTS
ACTIVITIES IN AMBULANCES AND EQUIPMENT

<table>
<thead>
<tr>
<th>Location Categories</th>
<th>EMSAC</th>
<th>No EMSAC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Communities</td>
<td>Observed Number of Projects</td>
</tr>
<tr>
<td>TYPE I</td>
<td>34</td>
<td>190</td>
</tr>
<tr>
<td>TYPE II</td>
<td>28</td>
<td>12</td>
</tr>
<tr>
<td>TYPE III</td>
<td>27</td>
<td>10</td>
</tr>
<tr>
<td>TOTAL</td>
<td>121</td>
<td>131</td>
</tr>
<tr>
<td>CONTROLLED BY SIZE</td>
<td>121</td>
<td>131</td>
</tr>
</tbody>
</table>

\( \chi^2 = 102.42; p < .01 \)

\( \chi^2 = 30.08; p < .01 \)

\( \chi^2 = 15.71; p < .01 \)

\( \chi^2 = 1.41; \text{N.S.} \)

\( \chi^2 = 352.03; p < .01 \)

\( \chi^2 = 108.35; p < .01 \)

(Refers to hypothesis 1A)
TABLE 9
INFLUENCE OF PRESENCE OF EMSAC, AND
COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY),
on Number of Federally Funded EMS Projects

ACTIVITIES IN TRAINING AND EDUCATION

<table>
<thead>
<tr>
<th>Location Category</th>
<th>EMSAC</th>
<th></th>
<th>No EMSAC</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Communities</td>
<td>Observed</td>
<td>Number of Projects</td>
<td>Observed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Observed Ratio</td>
<td>Expected Number of Projects</td>
<td>Ratio</td>
</tr>
<tr>
<td>TYPE I</td>
<td></td>
<td>34</td>
<td>31</td>
<td>.91</td>
</tr>
<tr>
<td>TYPE II</td>
<td></td>
<td>32</td>
<td>15</td>
<td>.47</td>
</tr>
<tr>
<td>TYPE III</td>
<td></td>
<td>23</td>
<td>3</td>
<td>.11</td>
</tr>
<tr>
<td>TYPE IV</td>
<td></td>
<td>27</td>
<td>0</td>
<td>.00</td>
</tr>
<tr>
<td>TOTAL</td>
<td>121</td>
<td>49</td>
<td>.41</td>
<td>5.2</td>
</tr>
<tr>
<td>CONTROLLED BY SIZE</td>
<td>121</td>
<td>49</td>
<td>.41</td>
<td>33.7</td>
</tr>
</tbody>
</table>

\( \chi^2 = 383.95; p < .01 \)

\( \chi^2 = 9.30; p < .01 \)

(Refers to hypothesis 1A)
Existence of EMSACs

The next analysis of federal funding concerned the number of EMS projects to locations where EMSACs existed. Analysis was made of the total number of EMS projects (hypothesis 2), as well as the four major areas of activity (hypothesis 2A), for location categories type I through type IV.

Hypothesis 2:

Where EMSACs exist, the number of federally funded EMS projects is greater and is influenced by community size and available emergency medical services.

The total number of federally funded projects to communities where EMSACs existed and the distribution by location categories are shown in Table 10. Chi-square analysis of the data presented in Table 10 supports hypothesis 2. The community size and EMS availability influenced the number of projects in that location category type I received greater than two times the number of projects expected while the other location categories received less than 1.00 in each instance.
<table>
<thead>
<tr>
<th>Location Categories</th>
<th>Number of Communities</th>
<th>Number of Projects</th>
<th>Observed Ratio</th>
<th>Expected Number of Projects</th>
<th>Expected Ratio</th>
<th>Observed Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE I</td>
<td>34</td>
<td>167</td>
<td>4.91</td>
<td>74.7</td>
<td>2.20</td>
<td>2.23</td>
</tr>
<tr>
<td>TYPE II</td>
<td>32</td>
<td>62</td>
<td>1.94</td>
<td>70.3</td>
<td>2.20</td>
<td>.88</td>
</tr>
<tr>
<td>TYPE III</td>
<td>28</td>
<td>24</td>
<td>.86</td>
<td>61.6</td>
<td>2.20</td>
<td>.39</td>
</tr>
<tr>
<td>TYPE IV</td>
<td>27</td>
<td>13</td>
<td>.48</td>
<td>59.4</td>
<td>2.20</td>
<td>.22</td>
</tr>
<tr>
<td>TOTAL</td>
<td>121</td>
<td>266</td>
<td>2.20</td>
<td>266.0</td>
<td>2.20</td>
<td>1.00</td>
</tr>
</tbody>
</table>

(Refers to hypothesis 2) \( \chi^2 = 173.97; p < .01 \)
Hypothesis 2A:
Where EMSACs exist, the number of federally funded EMS projects in emergency facility operation, communications, ambulances and equipment, and training and education is greater and is influenced by community size and available emergency medical services.

As in hypothesis 1, projects were classified into four categories of EMS activity. The total number of federally funded projects in these EMS activities to locations where EMSACs existed are presented in Tables 11 through 14.

Where EMSACs existed, in each of the program activities the location category influenced the number of EMS projects. Chi-square analysis in each area of activity supports hypothesis 2A. Location category I received approximately two times the expected projects in each of the EMS activity areas. For the other location categories, the observed over the expected ratio decreased from location category II to location category IV.
TABLE 11

INFLUENCE OF COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY) ON NUMBER OF FEDERALLY FUNDED EMS PROJECTS (LOCATIONS WITH EMSAGS)

ACTIVITIES IN EMERGENCY FACILITY OPERATION

<table>
<thead>
<tr>
<th>Location Categories</th>
<th>Number of Communities</th>
<th>Observed Number of Projects</th>
<th>Observed Ratio</th>
<th>Expected Number of Projects</th>
<th>Expected Ratio</th>
<th>Observed Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE I</td>
<td>34</td>
<td>29</td>
<td>.85</td>
<td>14.1</td>
<td>.41</td>
<td>2.07</td>
</tr>
<tr>
<td>TYPE II</td>
<td>32</td>
<td>14</td>
<td>.44</td>
<td>13.2</td>
<td>.41</td>
<td>1.07</td>
</tr>
<tr>
<td>TYPE III</td>
<td>28</td>
<td>5</td>
<td>.19</td>
<td>11.6</td>
<td>.41</td>
<td>.46</td>
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<tr>
<td>TYPE IV</td>
<td>27</td>
<td>2</td>
<td>.07</td>
<td>11.1</td>
<td>.41</td>
<td>.17</td>
</tr>
<tr>
<td>TOTAL</td>
<td>121</td>
<td>50</td>
<td>.41</td>
<td>50.0</td>
<td>.41</td>
<td>1.00</td>
</tr>
</tbody>
</table>

(Refers to hypothesis 2A) \( \chi^2 = 27.09; p < .01 \)
TABLE 12

INFLUENCE OF COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY) ON NUMBER OF FEDERALLY FUNDED EMS PROJECTS (LOCATIONS WITH EMSACS)

ACTIVITIES IN COMMUNICATIONS

<table>
<thead>
<tr>
<th>Location Categories</th>
<th>Number of Communities</th>
<th>Observed Number of Projects</th>
<th>Observed Ratio Projects Communities</th>
<th>Expected Number of Projects</th>
<th>Expected Ratio</th>
<th>Observed Ratio</th>
<th>Expected Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE I</td>
<td>34</td>
<td>17</td>
<td>.50</td>
<td>10.1</td>
<td>.30</td>
<td>1.67</td>
<td></td>
</tr>
<tr>
<td>TYPE II</td>
<td>32</td>
<td>14</td>
<td>.44</td>
<td>9.5</td>
<td>.30</td>
<td>1.47</td>
<td></td>
</tr>
<tr>
<td>TYPE III</td>
<td>28</td>
<td>4</td>
<td>.14</td>
<td>8.3</td>
<td>.30</td>
<td>.47</td>
<td></td>
</tr>
<tr>
<td>TYPE IV</td>
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<td>1</td>
<td>.04</td>
<td>8.1</td>
<td>.30</td>
<td>.13</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
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<td>36</td>
<td>.30</td>
<td>36.0</td>
<td>.30</td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

(Refers to hypothesis 2A) \( \chi^2 = 15.29; p < .01 \)
TABLE 13

INFLUENCE OF COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY) ON NUMBER OF FEDERALLY FUNDED EMS PROJECTS (LOCATIONS WITH EMSACS)

ACTIVITIES IN AMBULANCES AND EQUIPMENT

<table>
<thead>
<tr>
<th>Location Categories</th>
<th>Number of Communities</th>
<th>Observed Number of Projects</th>
<th>Observed Ratio Projects Communities</th>
<th>Expected Number of Projects</th>
<th>Expected Ratio</th>
<th>Observed Ratio</th>
<th>Expected Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE I</td>
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<td>90</td>
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<td>36.8</td>
<td>1.08</td>
<td>2.45</td>
<td></td>
</tr>
<tr>
<td>TYPE II</td>
<td>32</td>
<td>19</td>
<td>.59</td>
<td>34.7</td>
<td>1.08</td>
<td>.55</td>
<td></td>
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<tr>
<td>TYPE III</td>
<td>28</td>
<td>12</td>
<td>.43</td>
<td>30.3</td>
<td>1.08</td>
<td>.40</td>
<td></td>
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<tr>
<td>TYPE IV</td>
<td>27</td>
<td>10</td>
<td>.37</td>
<td>29.2</td>
<td>1.08</td>
<td>.34</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>121</td>
<td>131</td>
<td>1.08</td>
<td>131.0</td>
<td>1.08</td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

(Refers to hypothesis 2A) \( \chi^2 = 107.69; p < .01 \)
TABLE 14

INFLUENCE OF COMMUNITY SIZE AND
EMS AVAILABILITY (LOCATION CATEGORY) ON
NUMBER OF FEDERALLY FUNDED EMS PROJECTS
(LOCATIONS WITH EMSACS)

ACTIVITIES IN TRAINING AND EDUCATION

<table>
<thead>
<tr>
<th>Location Categories</th>
<th>Number of Communities</th>
<th>Observed Number of Projects</th>
<th>Observed Ratio Projects Communities</th>
<th>Expected Number of Projects</th>
<th>Expected Ratio</th>
<th>Observed Ratio Expected Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE I</td>
<td>34</td>
<td>31</td>
<td>.91</td>
<td>13.8</td>
<td>.41</td>
<td>2.22</td>
</tr>
<tr>
<td>TYPE II</td>
<td>32</td>
<td>15</td>
<td>.47</td>
<td>13.0</td>
<td>.41</td>
<td>1.15</td>
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<tr>
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<td>3</td>
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<td>11.3</td>
<td>.41</td>
<td>.27</td>
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<td>TYPE IV</td>
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<td>49</td>
<td>.41</td>
<td>49.0</td>
<td>.41</td>
<td>1.00</td>
</tr>
</tbody>
</table>

(Refers to hypothesis 2A) $\chi^2 = 38.95; p < .01$
Non-Existence of EMSACs

The same analysis that was made where EMSACs were present was made for locations where EMSACs did not exist.

Hypothesis 3:
Where EMSACs do not exist, the number of federally funded EMS projects is greater and is influenced by community size and available emergency medical services.

The total number of federally funded projects to communities where EMSACs did not exist and the distribution by location categories are shown in Table 15. Chi-square analysis of the data presented in Table 15 supports hypothesis 3. As was noticed in analysis of data where EMSACs were in existence, community size and availability of EMS also influenced the number of federally funded projects to locations where EMSACs did not exist. However, in location category type I greater than seven times the expected projects were observed. For category type II the ratio was approximately 1.00 while it is less than 1.00 for types III and IV. It is interesting to note that there was not the decreasing trend from category type I to category type IV as the type IV ratio was higher than location category type III.
TABLE 15

INFLUENCE OF COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY) ON NUMBER OF FEDERALLY FUNDED EMS PROJECTS (LOCATIONS WITHOUT EMSACS)

<table>
<thead>
<tr>
<th>Location Category</th>
<th>Number of Communities</th>
<th>Observed Number of Projects</th>
<th>Observed Ratio Projects Community</th>
<th>Expected Number of Projects</th>
<th>Expected Ratio</th>
<th>Observed Ratio</th>
<th>Expected Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE I</td>
<td>66</td>
<td>162</td>
<td>2.45</td>
<td>21.1</td>
<td>.32</td>
<td>7.21</td>
<td></td>
</tr>
<tr>
<td>TYPE II</td>
<td>232</td>
<td>86</td>
<td>.37</td>
<td>74.3</td>
<td>.32</td>
<td>1.16</td>
<td></td>
</tr>
<tr>
<td>TYPE III</td>
<td>868</td>
<td>158</td>
<td>.18</td>
<td>277.9</td>
<td>.32</td>
<td>.56</td>
<td></td>
</tr>
<tr>
<td>TYPE IV</td>
<td>1798</td>
<td>543</td>
<td>.30</td>
<td>575.7</td>
<td>.32</td>
<td>.94</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>2964</td>
<td>949</td>
<td>.32</td>
<td>949.0</td>
<td>.32</td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

(Refers to hypothesis 3) \( \chi^2 = 994.51; p < .01 \)
As performed previously for location categories where EMSACs existed, the total number of EMS projects were classified by area of activity but in this instance to location categories without the presence of EMSACs. Chi-square analyses were also accomplished on data representing each of these activity areas.

**Hypothesis 3A:**

Where EMSACs do not exist, the number of federally funded EMS projects in emergency facility operation, communications, ambulances and equipment, and training and education is greater and is influenced by community size and available emergency medical services.

The total number of federally funded EMS projects by area of activity to locations where EMSACs were not in existence are identified in Tables 16 through 19. Analysis of the data in each of these tables supports hypothesis 3A. The number of federally funded EMS projects in each of the activities was influenced by community size and availability of EMS. The observed ratio over the expected ratio of projects was greater in location category type I than for any of the other location categories. In emergency facility operation and training and education, the observed ratio over the expected ratio decreased from location category type I to type IV. However, in communications and ambulances and equipment, for location category type IV, this ratio was higher than the ratio for type III.
TABLE 16

INFLUENCE OF COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY) ON NUMBER OF FEDERALLY FUNDED EMS PROJECTS (LOCATIONS WITHOUT EMSACS)

ACTIVITIES IN EMERGENCY FACILITY OPERATION

<table>
<thead>
<tr>
<th>Location Category</th>
<th>Number of Communities</th>
<th>Observed Number of Projects</th>
<th>Observed Ratio Projects/Communities</th>
<th>Expected Number of Projects</th>
<th>Expected Ratio</th>
<th>Observed Ratio</th>
<th>Expected Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE I</td>
<td>66</td>
<td>56</td>
<td>.85</td>
<td>2.5</td>
<td>.04</td>
<td>21.25</td>
<td></td>
</tr>
<tr>
<td>TYPE II</td>
<td>232</td>
<td>20</td>
<td>.09</td>
<td>8.8</td>
<td>.04</td>
<td>2.25</td>
<td></td>
</tr>
<tr>
<td>TYPE III</td>
<td>868</td>
<td>17</td>
<td>.02</td>
<td>33.1</td>
<td>.04</td>
<td>.50</td>
<td></td>
</tr>
<tr>
<td>TYPE IV</td>
<td>1798</td>
<td>20</td>
<td>.01</td>
<td>68.6</td>
<td>.04</td>
<td>.25</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>2964</td>
<td>113</td>
<td>.04</td>
<td>113.0</td>
<td>.04</td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

(Refers to hypothesis 3A) \( \chi^2 = 1,193.17; p < .01 \)
### TABLE 17

**INFLUENCE OF COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY) ON NUMBER OF FEDERALLY FUNDED EMS PROJECTS (LOCATIONS WITHOUT EMSACS)**

**ACTIVITIES IN COMMUNICATIONS**

<table>
<thead>
<tr>
<th>Location Category</th>
<th>Number of Communities</th>
<th>Observed Number of Projects</th>
<th>Observed Ratio Projects/Communities</th>
<th>Expected Number of Projects</th>
<th>Expected Ratio</th>
<th>Observed Ratio</th>
<th>Expected Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE I</td>
<td>66</td>
<td>27</td>
<td>.41</td>
<td>2.5</td>
<td>.04</td>
<td>10.25</td>
<td></td>
</tr>
<tr>
<td>TYPE II</td>
<td>232</td>
<td>14</td>
<td>.06</td>
<td>9.0</td>
<td>.04</td>
<td>1.50</td>
<td></td>
</tr>
<tr>
<td>TYPE III</td>
<td>868</td>
<td>19</td>
<td>.02</td>
<td>33.7</td>
<td>.04</td>
<td>.50</td>
<td></td>
</tr>
<tr>
<td>TYPE IV</td>
<td>1798</td>
<td>55</td>
<td>.03</td>
<td>69.8</td>
<td>.04</td>
<td>.75</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>2964</td>
<td>115</td>
<td>.04</td>
<td>115.0</td>
<td>.04</td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

(Refers to hypothesis 3A) \[ \chi^2 = 245.54; p < .01 \]
### TABLE 18

**INFLUENCE OF COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY) ON NUMBER OF FEDERALLY FUNDED EMS PROJECTS (LOCATIONS WITHOUT EMSACS)**

**ACTIVITIES IN AMBULANCES AND EQUIPMENT**

<table>
<thead>
<tr>
<th>Location Category</th>
<th>Number of Communities</th>
<th>Observed Number of Projects</th>
<th>Observed Ratio Projects Communities</th>
<th>Expected Number of Projects</th>
<th>Expected Ratio</th>
<th>Observed Ratio Expected Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE I</td>
<td>66</td>
<td>24</td>
<td>.36</td>
<td>14.2</td>
<td>.22</td>
<td>1.64</td>
</tr>
<tr>
<td>TYPE II</td>
<td>232</td>
<td>32</td>
<td>.14</td>
<td>49.8</td>
<td>.22</td>
<td>.67</td>
</tr>
<tr>
<td>TYPE III</td>
<td>868</td>
<td>119</td>
<td>.14</td>
<td>186.6</td>
<td>.22</td>
<td>.67</td>
</tr>
<tr>
<td>TYPE IV</td>
<td>1798</td>
<td>462</td>
<td>.26</td>
<td>386.4</td>
<td>.22</td>
<td>1.18</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2964</td>
<td>637</td>
<td>.22</td>
<td>637.0</td>
<td>.22</td>
<td>1.00</td>
</tr>
</tbody>
</table>

(Refers to hypothesis 3A) \[ \chi^2 = 52.41; p < .01 \]
TABLE 19

INFLUENCE OF COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY) ON NUMBER OF FEDERALLY FUNDED EMS PROJECTS (LOCATIONS WITHOUT EMSAGS)

ACTIVITIES IN TRAINING AND EDUCATION

<table>
<thead>
<tr>
<th>Location Category</th>
<th>Number of Communities</th>
<th>Observed Number of Projects</th>
<th>Observed Ratio Projects/Communities</th>
<th>Expected Number of Projects</th>
<th>Expected Ratio</th>
<th>Observed Ratio/Expected Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE I</td>
<td>66</td>
<td>55</td>
<td>.83</td>
<td>1.9</td>
<td>.03</td>
<td>27.67</td>
</tr>
<tr>
<td>TYPE II</td>
<td>232</td>
<td>20</td>
<td>.09</td>
<td>6.6</td>
<td>.03</td>
<td>3.00</td>
</tr>
<tr>
<td>TYPE III</td>
<td>863</td>
<td>3</td>
<td>.003</td>
<td>24.6</td>
<td>.03</td>
<td>.10</td>
</tr>
<tr>
<td>TYPE IV</td>
<td>1798</td>
<td>6</td>
<td>.003</td>
<td>50.9</td>
<td>.03</td>
<td>.10</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2964</td>
<td>84</td>
<td>.03</td>
<td>84.0</td>
<td>.03</td>
<td>1.00</td>
</tr>
</tbody>
</table>

(Refers to hypothesis 3A) \( \chi^2 = 1595.21; p < .01 \)
The last analysis of data concerning the federal funding of EMS projects pertains to the average dollar amounts funded to these projects. These dollar amounts reflect funding by the Division of Emergency Health Services, DHEW, and the National Highway Traffic Safety Administration, DOT. Hypotheses 4 and 4A pertain to these analyses. Because of the extreme skewness of the data utilized in these hypotheses, it was necessary to perform a logarithmic transformation of the data in order to complete each analysis of variance.

Hypothesis 4:

The average dollar amount of federally funded EMS projects is greater in communities with EMSACs; and is influenced by community size and available emergency medical services.

The total and mean dollar amounts of federally funded EMS projects to location categories with and without EMSACs in existence are shown in Table 20. Analysis of variance, Table 21, performed on these data supports hypothesis 4 indicating the influence of the presence of EMSACs on the average dollar amount of federal funding per project. Similarly there is significant effect of community size and EMS availability on the average funding per project, with a decreasing trend from location category type I to type IV.
### Table 20

**Influence of an EMSAC, and Community Size and EMS Availability (Location Category), on Mean Dollar Amount of Federal Funding of EMS Projects**

<table>
<thead>
<tr>
<th>Location Category</th>
<th>EMSAC</th>
<th></th>
<th></th>
<th>NO EMSAC</th>
<th></th>
<th></th>
<th>COMBINED</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Total Dollar</td>
<td>Mean Dollar</td>
<td>N</td>
<td>Total Dollar</td>
<td>Mean Dollar</td>
<td>N</td>
<td>Total Dollar</td>
<td>Mean Dollar</td>
</tr>
<tr>
<td>TYPE I</td>
<td>115</td>
<td>3,097,316</td>
<td>26,933</td>
<td>48</td>
<td>1,792,587</td>
<td>37,346</td>
<td>163</td>
<td>4,889,903</td>
<td>29,999</td>
</tr>
<tr>
<td>TYPE II</td>
<td>36</td>
<td>881,727</td>
<td>24,492</td>
<td>65</td>
<td>1,117,846</td>
<td>17,198</td>
<td>101</td>
<td>1,999,573</td>
<td>19,798</td>
</tr>
<tr>
<td>TYPE III</td>
<td>24</td>
<td>267,887</td>
<td>11,162</td>
<td>156</td>
<td>2,061,194</td>
<td>13,213</td>
<td>180</td>
<td>2,329,081</td>
<td>12,939</td>
</tr>
<tr>
<td>TYPE IV</td>
<td>13</td>
<td>132,041</td>
<td>10,157</td>
<td>515</td>
<td>3,892,236</td>
<td>7,558</td>
<td>528</td>
<td>4,024,277</td>
<td>7,622</td>
</tr>
<tr>
<td>COMBINED</td>
<td>188</td>
<td>4,378,971</td>
<td>23,292</td>
<td>784</td>
<td>8,863,863</td>
<td>11,306</td>
<td>972</td>
<td>13,242,834</td>
<td>13,624</td>
</tr>
</tbody>
</table>

(Refers to Hypothesis 4)
<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>d.f.</th>
<th>MS</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Presence of EMSAC)</td>
<td>7.899</td>
<td>1</td>
<td>7.899</td>
<td>6.533</td>
<td>&lt;.02</td>
</tr>
<tr>
<td>B (Community Size and EMS Availability)</td>
<td>24.885</td>
<td>3</td>
<td>8.295</td>
<td>6.861</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>AxB</td>
<td>2.232</td>
<td>3</td>
<td>0.744</td>
<td>0.616</td>
<td>NS</td>
</tr>
<tr>
<td>Experimental Error</td>
<td>1165.056</td>
<td>964</td>
<td>1.209</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1200.072</td>
<td>971</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Refers to Hypothesis 4)
Analysis of variance was also performed on data reflecting the dollar amounts of federal funding for EMS activities in emergency facility operation, communications, ambulances and equipment, and training and education.

**Hypothesis 4A:**

The average dollar amount of federally funded EMS projects in emergency facility operation, communications, ambulances and equipment, and training and education is greater in communities with EMSACs; and is influenced by community size and available emergency medical services.

The total and mean dollar amounts of federally funded EMS projects by areas of activity are shown in Tables 22, 24, 26 and 28. Because of the extent of these analyses, each activity area will be discussed separately.

**Emergency Facility Operation (Table 22)**

Analysis of variance, Table 23, on the data representing emergency facility operation projects indicated that the presence of EMSACs had no significant effect on the average dollar amount of federal funding of these projects. Also, community size and EMS availability did not appear to influence this finding. However, there was apparent interaction between EMSAC presence and location category. The larger location category, type I, with EMSAC had greater per project average funding; but this tendency was reversed in all other location categories, most noticeably in category type II. This interaction is shown graphically in Figure 3.
Communications (Table 24)

Analysis of variance, Table 25, on the data representing communications projects indicated that the presence of EMSACs had no significant effect on the average dollar amount of federal funding of these projects. However, community size and EMS availability did appear to influence this funding. Additionally, there was interaction between EMSAC presence and location category. The largest location category, Type I, with no EMSAC had the greatest average project funding. The same tendency appeared in location category III but the trend was reversed in categories II and IV. This interaction is presented graphically in Figure 4.

Ambulances and Equipment (Table 26)

Analysis of variance, Table 27, on the data representing ambulances and equipment projects, indicated that the presence of EMSACs had significant effect on the average dollar amount of federal funding of these projects. Also, there was an apparent influence on the funding by community size and EMS availability. The larger the location category, e.g., Type I, the greater the average dollar amount of funding.

Training and Education (Table 28)

Analysis of variance, Table 29, on the data representing training and education projects indicated that the presence of EMSACs had no significant effect on the average dollar amount of federal funding. However, community size and EMS availability did appear to influence
the average dollar funding of these projects. In this instance the trend was reversed. The larger location category, type I, received the smallest average amount of funding, while the smaller location category, type IV, received the greatest average amount of federal funding.
### Table 22

**Influence of an EMSAC, and Community Size and EMS Availability (Location Category), on Mean Dollar Amount of Federal Funding for Emergency Facility Operation Projects**

<table>
<thead>
<tr>
<th>Location Category</th>
<th>EMSAC</th>
<th></th>
<th>No EMSAC</th>
<th></th>
<th>Combined</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Total Dollar Amount</td>
<td>Mean Dollar Amount</td>
<td>N</td>
<td>Total Dollar Amount</td>
<td>Mean Dollar Amount</td>
</tr>
<tr>
<td>TYPE I</td>
<td>8</td>
<td>1,357,994</td>
<td>169,749</td>
<td>12</td>
<td>231,196</td>
<td>19,266</td>
</tr>
<tr>
<td>TYPE II</td>
<td>1</td>
<td>19,895</td>
<td>19,895</td>
<td>11</td>
<td>420,111</td>
<td>38,192</td>
</tr>
<tr>
<td>TYPE III</td>
<td>5</td>
<td>75,346</td>
<td>15,069</td>
<td>16</td>
<td>490,475</td>
<td>30,655</td>
</tr>
<tr>
<td>TYPE IV</td>
<td>2</td>
<td>9,974</td>
<td>4,987</td>
<td>20</td>
<td>191,254</td>
<td>9,563</td>
</tr>
<tr>
<td>COMBINED</td>
<td>16</td>
<td>1,463,209</td>
<td>91,451</td>
<td>59</td>
<td>1,333,036</td>
<td>22,594</td>
</tr>
</tbody>
</table>

(Refers to Hypothesis 4A)
# TABLE 23

**ANALYSIS OF VARIANCE**

**INFLUENCE OF AN EMSAC, AND COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY), ON MEAN DOLLAR AMOUNT OF FEDERAL FUNDING EMERGENCY FACILITY OPERATION PROJECTS**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>d.f.</th>
<th>MS</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Presence of EMSAC)</td>
<td>2.671</td>
<td>1</td>
<td>2.671</td>
<td>1.333</td>
<td>NS</td>
</tr>
<tr>
<td>B (Community Size and EMS Availability)</td>
<td>9.200</td>
<td>3</td>
<td>3.067</td>
<td>1.531</td>
<td>NS</td>
</tr>
<tr>
<td>AxB</td>
<td>21.753</td>
<td>3</td>
<td>7.251</td>
<td>3.619</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Experimental Error</td>
<td>124.226</td>
<td>67</td>
<td>2.003</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Total</td>
<td>167.850</td>
<td>74</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

(Refers to Hypothesis 4A)
ILLUSTRATION OF THE NATURE OF THE INTERACTION
FUNDING OF EMS PROJECTS
EMERGENCY FACILITY OPERATION

Fig. 3
(Refers to Hypothesis 4A)
TABLE 24

INFLUENCE OF AN EMSAC, AND COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY), ON MEAN DOLLAR AMOUNT OF FEDERAL FUNDING COMMUNICATIONS PROJECTS

<table>
<thead>
<tr>
<th>Location Category</th>
<th>EMSAC</th>
<th>NO EMSAC</th>
<th>COMBINED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Total Dollar Amount</td>
<td>Mean Dollar Amount</td>
</tr>
<tr>
<td>TYPE I</td>
<td>9</td>
<td>129,882</td>
<td>14,431</td>
</tr>
<tr>
<td>TYPE II</td>
<td>9</td>
<td>248,927</td>
<td>27,659</td>
</tr>
<tr>
<td>TYPE III</td>
<td>4</td>
<td>20,559</td>
<td>5,140</td>
</tr>
<tr>
<td>TYPE IV</td>
<td>1</td>
<td>13,154</td>
<td>13,154</td>
</tr>
<tr>
<td>COMBINED</td>
<td>23</td>
<td>412,522</td>
<td>17,936</td>
</tr>
</tbody>
</table>

(Refers to Hypothesis 4A)
### TABLE 25

**ANALYSIS OF VARIANCE**

**INFLUENCE OF AN EMSAC, AND COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY), ON MEAN DOLLAR AMOUNT OF FEDERAL FUNDING COMMUNICATIONS PROJECTS**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>d.f.</th>
<th>MS</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Presence of EMSAC)</td>
<td>0.071</td>
<td>1</td>
<td>0.071</td>
<td>0.041</td>
<td>NS</td>
</tr>
<tr>
<td>B (Community Size and EMS Availability)</td>
<td>72.840</td>
<td>3</td>
<td>24.280</td>
<td>14.157</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>AxB</td>
<td>22.278</td>
<td>3</td>
<td>7.426</td>
<td>4.330</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Experimental Error</td>
<td>185.117</td>
<td>108</td>
<td>1.715</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>280.306</td>
<td>115</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Refers to Hypothesis 4A)
ILLUSTRATION OF THE NATURE OF THE INTERACTION
FEDERAL FUNDING OF EMS PROJECTS
COMMUNICATIONS

Fig. 4

(Frefers to Hypothesis 4A)
<table>
<thead>
<tr>
<th>Location Category</th>
<th>EMSAC</th>
<th></th>
<th></th>
<th>NO EMSAC</th>
<th></th>
<th></th>
<th>COMBINED</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Total Dollar</td>
<td>Mean Dollar</td>
<td>N</td>
<td>Total Dollar</td>
<td>Mean Dollar</td>
<td>N</td>
<td>Total Dollar</td>
<td>Mean Dollar</td>
</tr>
<tr>
<td>Type I</td>
<td>82</td>
<td>1,551,700</td>
<td>18,923</td>
<td>8</td>
<td>664,825</td>
<td>83,103</td>
<td>90</td>
<td>2,216,525</td>
<td>24,628</td>
</tr>
<tr>
<td>Type II</td>
<td>17</td>
<td>546,165</td>
<td>32,127</td>
<td>29</td>
<td>435,816</td>
<td>15,028</td>
<td>46</td>
<td>981,981</td>
<td>21,347</td>
</tr>
<tr>
<td>Type III</td>
<td>12</td>
<td>155,700</td>
<td>12,975</td>
<td>118</td>
<td>1,314,264</td>
<td>11,138</td>
<td>130</td>
<td>1,469,964</td>
<td>11,307</td>
</tr>
<tr>
<td>Type IV</td>
<td>10</td>
<td>106,913</td>
<td>10,691</td>
<td>434</td>
<td>3,449,953</td>
<td>7,949</td>
<td>444</td>
<td>3,556,866</td>
<td>8,011</td>
</tr>
<tr>
<td>Combined</td>
<td>121</td>
<td>2,360,478</td>
<td>19,508</td>
<td>589</td>
<td>5,864,858</td>
<td>9,957</td>
<td>710</td>
<td>8,225,336</td>
<td>11,585</td>
</tr>
</tbody>
</table>

(Refers to Hypothesis 4A)
TABLE 27

ANALYSIS OF VARIANCE

INFLUENCE OF AN EMSAC, AND COMMUNITY SIZE
AND EMS AVAILABILITY (LOCATION CATEGORY), ON
MEAN DOLLAR AMOUNT OF FEDERAL FUNDING

AMBULANCES AND EQUIPMENT PROJECTS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>d.f.</th>
<th>MS</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Presence of EMSAC)</td>
<td>4.067</td>
<td>1</td>
<td>4.067</td>
<td>5.116</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>B (Community Size and EMS Availability)</td>
<td>10.567</td>
<td>3</td>
<td>3.522</td>
<td>4.430</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>AxB</td>
<td>0.882</td>
<td>3</td>
<td>0.294</td>
<td>0.369</td>
<td>NS</td>
</tr>
<tr>
<td>Experimental Error</td>
<td>568.027</td>
<td>702</td>
<td>0.795</td>
<td>——</td>
<td>——</td>
</tr>
<tr>
<td>Total</td>
<td>573.543</td>
<td>709</td>
<td>——</td>
<td>——</td>
<td>——</td>
</tr>
</tbody>
</table>

(Refers to Hypothesis 4A)
TABLE 28

INFLUENCE OF AN EMSAC, AND COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY), ON MEAN DOLLAR AMOUNT OF FEDERAL FUNDING

TRAINING AND EDUCATION PROJECTS

<table>
<thead>
<tr>
<th>Location Category</th>
<th>EMSAC</th>
<th></th>
<th>NO EMSAC</th>
<th></th>
<th>COMBINED</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Dollar Amount</td>
<td>Mean Dollar Amount</td>
<td>Total Dollar Amount</td>
<td>Mean Dollar Amount</td>
<td>Total Dollar Amount</td>
<td>Mean Dollar Amount</td>
</tr>
<tr>
<td>TYPE I</td>
<td>16</td>
<td>57,740</td>
<td>3,609</td>
<td>20</td>
<td>93,296</td>
<td>4,665</td>
</tr>
<tr>
<td>TYPE II</td>
<td>10</td>
<td>66,740</td>
<td>6,674</td>
<td>14</td>
<td>66,887</td>
<td>4,778</td>
</tr>
<tr>
<td>TYPE III</td>
<td>3</td>
<td>16,282</td>
<td>5,427</td>
<td>3</td>
<td>19,937</td>
<td>6,646</td>
</tr>
<tr>
<td>TYPE IV</td>
<td>1</td>
<td>2,000</td>
<td>2,000</td>
<td>6</td>
<td>71,841</td>
<td>11,974</td>
</tr>
<tr>
<td>COMBINED</td>
<td>30</td>
<td>142,762</td>
<td>4,759</td>
<td>43</td>
<td>251,961</td>
<td>5,860</td>
</tr>
</tbody>
</table>

(Refers to Hypothesis 4A)
ANALYSIS OF VARIANCE

INFLUENCE OF AN EMSAC, AND COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY), ON MEAN DOLLAR AMOUNT OF FEDERAL FUNDING TRAINING AND EDUCATION PROJECTS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>d.f.</th>
<th>MS</th>
<th>F Ratio</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Presence of EMSAC)</td>
<td>0.154</td>
<td>1</td>
<td>0.154</td>
<td>0.162</td>
<td>NS</td>
</tr>
<tr>
<td>B (Community Size and EMS Availability)</td>
<td>11.038</td>
<td>3</td>
<td>3.679</td>
<td>3.884</td>
<td>&lt;.02</td>
</tr>
<tr>
<td>AxB</td>
<td>2.291</td>
<td>3</td>
<td>0.764</td>
<td>0.806</td>
<td>NS</td>
</tr>
<tr>
<td>Experimental Error</td>
<td>61.525</td>
<td>65</td>
<td>0.927</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>Total</td>
<td>75.008</td>
<td>72</td>
<td>-----</td>
<td>---------</td>
<td>-------</td>
</tr>
</tbody>
</table>

(Refers to Hypothesis 4A)
B. Activities of the EMSACs

During the period February 15 to April 15, 1972, extensive follow-up was conducted with non-respondents identified in the survey. At the cut-off date April 15, 1972, which was selected for purposes of data reduction and processing, 121 questionnaires had been returned from the initial survey population of 168. However, 33 respondents indicated either no council in existence, or that their present council was inactive and, therefore, participation in the study would not be appropriate. Thus, only 14 potential survey participants failed to complete the questionnaire as of the cut-off date, resulting in a 90 per cent response rate. Figure 5 identifies the location of the EMSACs by number and state. Of the 14 non-respondents, eight are located in the state of California where legislation exists directing the establishment of county emergency medical care committees. Through final telephone contact with representatives of the 14 non-participating councils, reasons were given such as:

1. Questionnaire had been completed by a council representative, was mailed, but was not received. Time did not permit completion of another questionnaire. Two fell in this category.

2. Council representatives were extremely active in busy medical practices. They did not have time to complete questionnaires. Six were in this category.

3. Council was in existence but representatives felt that they could not adequately complete the questionnaire without
TOTAL NUMBER AND LOCATION OF EMERGENCY MEDICAL SERVICES ADVISORY COUNCILS PARTICIPATING IN SURVEY

TOTAL = 121
(Identified Councils in U.S. = 135)

Fig. 5
sending it to each member. With the time constraint and the low frequency of council meetings, this would delay return of the questionnaire beyond the cited cut-off date. Six were in this category.

The data presented in this section were obtained from the survey questionnaire sent to EMSACs in the United States. Question 24 of the questionnaire, titled "Councils Activities Inventory," asked the EMSACs to comment on their activities in four major areas: (1) emergency facility operation; (2) communications; (3) ambulances and equipment; and (4) training and education.

Involvement of the EMSACs

Hypothesis 5:

The number of activities of an EMSAC in emergency facility operation, communications, ambulances and equipment, and training and education is influenced by community size and available emergency medical services.

Each EMSAC was asked to indicate whether they were involved in sub-activities of the four major EMS areas. Their responses and percentage distribution by location category are presented in Tables 30 through 33. Chi-square analysis was performed for each sub-activity. Where significance was found, the results of these tests are noted separately for each EMS program area.

Activity in Emergency Facility Operation (Table 30)

The number of activities in "categorization of emergency medical facilities," and "use of forms for data collection" was favorably influenced by community size and EMS availability. In both of these
sub-activities a decreasing trend of involvement was noticed from location category I to IV (larger to smaller area).

Activity in Ambulances and Equipment (Table 32)

The number of activities in "purchase of ambulances" was influenced by community size and EMS availability. Greatest activity was noticed in location categories III and IV while the smallest activity occurred in category II.
TABLE 30
INFLUENCE OF COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY) ON EMSAC ACTIVITIES

ACTIVITIES IN EMERGENCY FACILITY OPERATION

<table>
<thead>
<tr>
<th>Location Category</th>
<th>Plan for Regionalization of Services</th>
<th>Categorization of EMPs</th>
<th>Survey of Staffing Patterns</th>
<th>Location of EMPs</th>
<th>Survey of Equipment</th>
<th>Use of Fonas for Data Collection</th>
<th>Development of Tax Base</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
</tr>
<tr>
<td>TYPE I (N=34)</td>
<td>24 71</td>
<td>27 79</td>
<td>25 74</td>
<td>14 41</td>
<td>28 82</td>
<td>21 62</td>
<td>14 41</td>
</tr>
<tr>
<td>TYPE II (N=32)</td>
<td>18 56</td>
<td>24 75</td>
<td>20 63</td>
<td>16 50</td>
<td>23 72</td>
<td>15 47</td>
<td>8 25</td>
</tr>
<tr>
<td>TYPE III (N=28)</td>
<td>18 64</td>
<td>16 57</td>
<td>17 61</td>
<td>18 64</td>
<td>19 68</td>
<td>13 46</td>
<td>11 39</td>
</tr>
<tr>
<td>TYPE IV (N=27)</td>
<td>17 63</td>
<td>11 41</td>
<td>14 52</td>
<td>11 41</td>
<td>18 67</td>
<td>6 22</td>
<td>8 30</td>
</tr>
<tr>
<td>TOTAL (121)</td>
<td>77 64</td>
<td>78 64</td>
<td>76 63</td>
<td>59 49</td>
<td>88 73</td>
<td>55 45</td>
<td>41 34</td>
</tr>
</tbody>
</table>

$\chi^2 = 1.475$  $\chi^2 = 12.155$  $\chi^2 = 3.114$  $\chi^2 = 4.198$  $\chi^2 = 2.434$  $\chi^2 = 9.491$  $\chi^2 = 2.517$

| p | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. |

*%R = Percentage of EMSACs in this category that responded positively to this question.
(Refers to hypothesis 5)
### TABLE 31

**INFLUENCE OF COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY) ON EMSAC ACTIVITIES**

#### ACTIVITIES IN COMMUNICATIONS

<table>
<thead>
<tr>
<th>Location Category</th>
<th>Survey of Communication Network</th>
<th>Common EMS Phone No.</th>
<th>Common Communication Hospitals Ambulances</th>
<th>Intercommunication EMS System</th>
<th>Central Dispatching</th>
<th>Toll-Free Telephone Service</th>
<th>Telemetry Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>$%R^*$</td>
<td>Number</td>
<td>$%R^*$</td>
<td>Number</td>
<td>$%R^*$</td>
<td>Number</td>
</tr>
<tr>
<td>TYPE I (N=34)</td>
<td>33</td>
<td>97</td>
<td>25</td>
<td>74</td>
<td>33</td>
<td>97</td>
<td>32</td>
</tr>
<tr>
<td>TYPE II (N=32)</td>
<td>27</td>
<td>84</td>
<td>26</td>
<td>81</td>
<td>29</td>
<td>91</td>
<td>27</td>
</tr>
<tr>
<td>TYPE III (N=28)</td>
<td>25</td>
<td>89</td>
<td>21</td>
<td>75</td>
<td>26</td>
<td>93</td>
<td>23</td>
</tr>
<tr>
<td>TYPE IV (N=27)</td>
<td>23</td>
<td>85</td>
<td>14</td>
<td>52</td>
<td>22</td>
<td>81</td>
<td>22</td>
</tr>
<tr>
<td>TOTAL (N=121)</td>
<td>108</td>
<td>89</td>
<td>86</td>
<td>71</td>
<td>110</td>
<td>91</td>
<td>104</td>
</tr>
</tbody>
</table>

\[
\chi^2_3 = 3.42 \quad \chi^2_3 = 6.773 \quad \chi^2_3 = 4.590 \quad \chi^2_3 = 2.726 \quad \chi^2_3 = 2.207 \quad \chi^2_3 = 6.759 \quad \chi^2_3 = 7.488
\]

N.S. N.S. N.S. N.S. N.S. N.S. N.S.

$^*\%R = \text{Percentage of EMSACs in this category that responded positively to this question.}$

(Refers to hypothesis 5)
TABLE 32
INFLUENCE OF COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY) ON EMSAC ACTIVITIES

ACTIVITIES IN AMBULANCES AND EQUIPMENT

<table>
<thead>
<tr>
<th>Location Category</th>
<th>Survey of Ambulance Service</th>
<th>Survey of Ambulance Equipment</th>
<th>Location of New Ambulance Bases</th>
<th>Purchase of EMS Equipment</th>
<th>Use of Air Ambulances</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%R</td>
<td>Number</td>
<td>%R</td>
<td>Number</td>
</tr>
<tr>
<td>TYPE I (N=34)</td>
<td>33</td>
<td>97</td>
<td>32</td>
<td>94</td>
<td>22</td>
</tr>
<tr>
<td>TYPE II (N=32)</td>
<td>30</td>
<td>94</td>
<td>27</td>
<td>84</td>
<td>26</td>
</tr>
<tr>
<td>TYPE III (N=28)</td>
<td>23</td>
<td>82</td>
<td>24</td>
<td>86</td>
<td>16</td>
</tr>
<tr>
<td>TYPE IV (N=27)</td>
<td>25</td>
<td>93</td>
<td>22</td>
<td>81</td>
<td>13</td>
</tr>
<tr>
<td>TOTAL (121)</td>
<td>111</td>
<td>92</td>
<td>105</td>
<td>87</td>
<td>77</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 4.866 \quad \chi^2 = 2.878 \quad \chi^2 = 7.616 \quad \chi^2 = 8.712 \quad \chi^2 = 4.902 \quad \chi^2 = 1.245 \]

N.S. \quad N.S. \quad N.S. \quad p < .05 \quad N.S. \quad N.S.

*%R = Percentage of EMSACs in this category that responded positively to this question.
(Refers to hypothesis 5)
TABLE 33

INFLUENCE OF COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY) ON EMSAC ACTIVITIES

ACTIVITIES IN TRAINING AND EDUCATION

<table>
<thead>
<tr>
<th>Location Category</th>
<th>Survey of Training Requirements</th>
<th>Training of EMS Personnel</th>
<th>Training of Ambulance Personnel</th>
<th>Disaster Training Programs</th>
<th>Community EMS Education Programs</th>
<th>First Aid Training for Selected Community Populations</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE I (N=34)</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
</tr>
<tr>
<td></td>
<td>31 91</td>
<td>29 85</td>
<td>32 94</td>
<td>25 74</td>
<td>24 71</td>
<td>18 53</td>
</tr>
<tr>
<td>TYPE II (N=32)</td>
<td>29 91</td>
<td>30 94</td>
<td>31 97</td>
<td>26 81</td>
<td>20 63</td>
<td>19 59</td>
</tr>
<tr>
<td>TYPE III (N=28)</td>
<td>24 86</td>
<td>25 89</td>
<td>26 93</td>
<td>25 89</td>
<td>21 75</td>
<td>20 71</td>
</tr>
<tr>
<td>TYPE IV (N=27)</td>
<td>22 82</td>
<td>19 70</td>
<td>22 82</td>
<td>20 74</td>
<td>17 63</td>
<td>19 70</td>
</tr>
<tr>
<td>TOTAL (121)</td>
<td>106 88</td>
<td>103 85</td>
<td>111 92</td>
<td>96 79</td>
<td>82 68</td>
<td>76 63</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 1.692 \quad \chi^2 = 6.905 \quad \chi^2 = 5.16 \quad \chi^2 = 2.918 \quad \chi^2 = 1.486 \quad \chi^2 = 3.129 \]

\[ \text{N.S.} \quad \text{N.S.} \quad \text{N.S.} \quad \text{N.S.} \quad \text{N.S.} \quad \text{N.S.} \quad \text{N.S.} \quad \text{N.S.} \quad \text{N.S.} \quad \text{N.S.} \]

*%R = Percentage of EMSACs in this category that responded positively to this question.

(Refers to hypothesis 5)
Size of the EMSAC

The next hypothesis concerned the differences between the size of the EMSACs and their involvement in sub-categories of EMS activities.

Hypothesis 6:

The size of an EMSAC favorably influences the number of activities in emergency facility operation, communications, ambulances and equipment, and training and education.

The EMSACs reported their sub-activities in the four major EMS areas. Their responses and percentage distribution by size of EMSAC are presented in Tables 34 through 37. Chi-square analysis performed on each sub-activity revealed significance in only one of the four major EMS activity areas—emergency facility operation (Table 34). The number of activities in "survey of staffing patterns" and "use of forms for data collection" was influenced by the size of the EMSAC. In both of these sub-activities the greatest involvement occurred in EMSACs having 10 members or more.
TABLE 34

INFLUENCE OF SIZE OF EMSAC ON ACTIVITIES

ACTIVITIES IN EMERGENCY FACILITY, OPERATION

<table>
<thead>
<tr>
<th>Size of Council</th>
<th>Plan for Regionalization of Services</th>
<th>Categorization of EMFs</th>
<th>Survey of Staffing Patterns</th>
<th>Location of EMFs</th>
<th>Survey of Equipment</th>
<th>Use of Forms for Data Collection</th>
<th>Development of Tax Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
</tr>
<tr>
<td>10 or More Members (N=66)</td>
<td>39 59</td>
<td>47 71</td>
<td>47 71</td>
<td>32 48</td>
<td>50 76</td>
<td>44 67</td>
<td>18 27</td>
</tr>
<tr>
<td>9 or Less Members (N=53)</td>
<td>- -</td>
<td>30 57</td>
<td>28 53</td>
<td>25 47</td>
<td>38 72</td>
<td>22 42</td>
<td>22 42</td>
</tr>
<tr>
<td>119 TOTAL</td>
<td>76 64</td>
<td>77 65</td>
<td>75 63</td>
<td>57 48</td>
<td>88 74</td>
<td>66 55</td>
<td>40 34</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 1.464 \quad \chi^2 = 2.747 \quad \chi^2 = 4.262 \quad \chi^2 = 0.020 \quad \chi^2 = 0.251 \quad \chi^2 = 7.53 \quad \chi^2 = 2.670 \]

N.S. N.S. p<.05 N.S. N.S. p<.01 N.S.

*%R = Percentage of EMSACs in this category that responded positively to this question.

(Refers to hypothesis 6)
### Table 35

#### Influence of Size of EMSAC on Activities

**Activities in Communications**

<table>
<thead>
<tr>
<th>Size of Council</th>
<th>Survey of Communication Network</th>
<th>Common EMS Phone No.</th>
<th>Communication Hospitals</th>
<th>Intercommunication Ambulances</th>
<th>EMS System Dispatching</th>
<th>Toll-free Telephone Service</th>
<th>Telemetry Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 or More Members (N=66)</td>
<td>Number</td>
<td>%R*</td>
<td>Number</td>
<td>%R*</td>
<td>Number</td>
<td>%R*</td>
<td>Number</td>
</tr>
<tr>
<td>61</td>
<td>92</td>
<td>48.73</td>
<td>61</td>
<td>92</td>
<td>57</td>
<td>86</td>
<td>53</td>
</tr>
<tr>
<td>9 or Less Members (N=53)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>(N=119) TOTAL</td>
<td>106</td>
<td>89</td>
<td>85</td>
<td>71</td>
<td>108</td>
<td>91</td>
<td>103</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 1.707 \]
\[ \chi^2 = 0.122 \]
\[ \chi^2 = 0.247 \]
\[ \chi^2 = 0.004 \]
\[ \chi^2 = 0.513 \]
\[ \chi^2 = 0.347 \]
\[ \chi^2 = 0.022 \]

| N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. |

*%R* = Percentage of EMSACs in this category that responded positively to this question.

(Refers to hypothesis 6)
TABLE 36
INFLUENCE OF SIZE OF EMSAC ON ACTIVITIES

ACTIVITIES IN AMBULANCES AND EQUIPMENT

<table>
<thead>
<tr>
<th>Size of Council</th>
<th>Survey of Ambulance Service</th>
<th>Survey of Ambulance Equipment</th>
<th>Location of New Ambulance Bases</th>
<th>Purchase of Ambulances</th>
<th>Purchase of EMS Equipment</th>
<th>Use of Air Ambulances</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
</tr>
<tr>
<td>10 or More Members</td>
<td>62   94</td>
<td>61   92</td>
<td>39   59</td>
<td>35   53</td>
<td>40   61</td>
<td>46   70</td>
</tr>
<tr>
<td>(N=66)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 or Less Members</td>
<td>48   91</td>
<td>44   83</td>
<td>26   49</td>
<td>29   55</td>
<td>28   53</td>
<td>32   60</td>
</tr>
<tr>
<td>(N=53)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>110  92</td>
<td>105  88</td>
<td>65   55</td>
<td>64   54</td>
<td>68   57</td>
<td>78   66</td>
</tr>
</tbody>
</table>

\[ \chi^2_{1} = 0.245 \quad \chi^2_{1} = 2.505 \quad \chi^2_{1} = 1.194 \quad \chi^2_{1} = 0.010 \quad \chi^2_{1} = 0.726 \quad \chi^2_{1} = 0.411 \]

<table>
<thead>
<tr>
<th></th>
<th>N.S.</th>
<th>N.S.</th>
<th>N.S.</th>
<th>N.S.</th>
<th>N.S.</th>
<th>N.S.</th>
</tr>
</thead>
</table>

*%R = Percentage of EMSACs in this category that responded positively to this question.
(Refers to hypothesis 6)
### TABLE 37

**INFLUENCE OF SIZE OF EMSAC ON ACTIVITIES**

**ACTIVITIES IN TRAINING AND EDUCATION**

<table>
<thead>
<tr>
<th>Size of Council</th>
<th>Survey of Training Requirements</th>
<th>Training of EMF Personnel</th>
<th>Training of Ambulance Personnel</th>
<th>Disaster Training Programs</th>
<th>Community EMS Programs</th>
<th>Community Education Programs</th>
<th>First Aid Training for Selected Populations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
</tr>
<tr>
<td>10 or More Members (N=66)</td>
<td>62 94</td>
<td>58 88</td>
<td>61 92</td>
<td>54 82</td>
<td>46 70</td>
<td>44 67</td>
<td></td>
</tr>
<tr>
<td>9 or Less Members (N=53)</td>
<td>42 79</td>
<td>44 83</td>
<td>48 91</td>
<td>42 79</td>
<td>34 64</td>
<td>32 60</td>
<td></td>
</tr>
<tr>
<td>TOTAL (N=119)</td>
<td>104 87</td>
<td>102 86</td>
<td>109 92</td>
<td>96 81</td>
<td>80 67</td>
<td>76 64</td>
<td></td>
</tr>
</tbody>
</table>

χ^2 = 2.793  χ^2 = 0.270  χ^2 = 0.132  χ^2 = 0.056  χ^2 = 0.153  χ^2 = 0.178

N.S.  N.S.  N.S.  N.S.  N.S.  N.S.

*%R = Percentage of EMSACs in this category that responded positively to this question. (Refers to hypothesis 6)*
EMSAC As Only Planning Agency in Area

Investigation was also made concerning differences between the EMSACs as the only planning agency in the area and their involvement in sub-categories of EMS activities.

Hypothesis 7:

When the EMSAC is the only EMS planning agency in the area, the number of activities in emergency facility operation, communications, ambulances and equipment, and training and education is greater.

The EMSAC responses indicating their involvement in the sub-categories of EMS activities and the percentage of distribution are presented in Tables 38 through 41. Chi-square analyses performed on the data in these tables revealed significance in two of the four major EMS activity areas. These significances are discussed separately.

Emergency Ambulances and Equipment (Table 40)

The number of activities in "survey of ambulance service" was influenced by the EMSAC being the only EMS planning agency in the area. Greatest involvement was evidenced when in fact the EMSAC was the EMS planning agency.

Emergency Medical Training and Education (Table 42)

In "community EMS education programs," greatest involvement occurred when the EMSAC was not the only agency concerned with EMS planning.
TABLE 38
INFLUENCE ON ACTIVITIES
WHEN EMSAC IS ONLY
EMS PLANNING AGENCY IN AREA

<table>
<thead>
<tr>
<th>Planning Agency in Area</th>
<th>Regionalization of Services</th>
<th>Categorization of EMFs</th>
<th>Survey of Staffing Patterns</th>
<th>Location of EMFs</th>
<th>Survey of Equipment</th>
<th>Use of Forms for Data Collection</th>
<th>Development of Tax Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
<td>Number %R*</td>
</tr>
<tr>
<td>(N=119) TOTAL</td>
<td>77:65</td>
<td>77:65</td>
<td>75:63</td>
<td>58:49</td>
<td>87:73</td>
<td>55:46</td>
<td>41:34</td>
</tr>
</tbody>
</table>

\[ \chi^2 = \frac{(O - E)^2}{E} \]

\[ \chi^2 = 0.184 \quad \chi^2 = 1.058 \quad \chi^2 = 1.450 \quad \chi^2 = 0.316 \quad \chi^2 = 0.509 \quad \chi^2 = 1.217 \quad \chi^2 = 0.001 \]

N.S. N.S. N.S. N.S. N.S. N.S. N.S.

%R* = Percentage of EMSACs in this category that responded positively to this question.
(Refers to hypothesis 7)
### TABLE 39

INFLUENCE ON ACTIVITIES WHEN EMSAC IS ONLY EMS PLANNING AGENCY IN AREA

<table>
<thead>
<tr>
<th>EMSAC only Planning Agency in Area</th>
<th>Survey of Communication Network</th>
<th>Common EMS Phone No.</th>
<th>EMS Hospital Communication</th>
<th>Intercommunication Ambulances EMS System Dispatching</th>
<th>Toll-Free Telephone Service</th>
<th>Telemetry Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMSAC only Planning Agency in Area</td>
<td>EMS Communication Network</td>
<td>Common EMS Phone No.</td>
<td>EMS Hospital Communication</td>
<td>Intercommunication Ambulances EMS System Dispatching</td>
<td>Toll-Free Telephone Service</td>
<td>Telemetry Systems</td>
</tr>
<tr>
<td>Number</td>
<td>Percentage</td>
<td>Number</td>
<td>Percentage</td>
<td>Number</td>
<td>Percentage</td>
<td>Number</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>(N=96) Yes</td>
<td>88</td>
<td>92</td>
<td>68</td>
<td>71</td>
<td>87</td>
<td>91</td>
</tr>
<tr>
<td>(N=23) No</td>
<td>19</td>
<td>83</td>
<td>17</td>
<td>74</td>
<td>22</td>
<td>96</td>
</tr>
<tr>
<td>(119) TOTAL</td>
<td>107</td>
<td>90</td>
<td>85</td>
<td>71</td>
<td>109</td>
<td>92</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>$\chi^2_1 = 1.679$</th>
<th>$\chi^2_1 = 0.086$</th>
<th>$\chi^2_1 = 0.609$</th>
<th>$\chi^2_1 = 2.159$</th>
<th>$\chi^2_1 = 3.182$</th>
<th>$\chi^2_1 = 0.448$</th>
<th>$\chi^2_1 = 0.062$</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.S.</td>
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<td>N.S.</td>
<td>N.S.</td>
<td>N.S.</td>
<td>N.S.</td>
<td>N.S.</td>
</tr>
</tbody>
</table>

*%R = Percentage of EMSACs in this category that responded positively to this question.

(Refers to hypothesis 7)
TABLE 40

INFLUENCE ON ACTIVITIES
WHEN EMSAC IS ONLY
EMS PLANNING AGENCY IN AREA

ACTIVITIES IN AMBULANCES AND EQUIPMENT

<table>
<thead>
<tr>
<th>EMSAC only Planning Agency in Area</th>
<th>Survey of Ambulance Service</th>
<th>Survey of Ambulance Equipment</th>
<th>Location of New Ambulance Bases</th>
<th>Purchase of EMS Equipment</th>
<th>Use of Air Ambulances</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>$%R$</td>
<td>Number</td>
<td>$%R$</td>
<td>Number</td>
</tr>
<tr>
<td>(N=96) Yes</td>
<td>88</td>
<td>92</td>
<td>83</td>
<td>87</td>
<td>54</td>
</tr>
<tr>
<td>(N=23) No</td>
<td>12</td>
<td>52</td>
<td>21</td>
<td>91</td>
<td>11</td>
</tr>
<tr>
<td>(119) TOTAL</td>
<td>100</td>
<td>84</td>
<td>104</td>
<td>87</td>
<td>65</td>
</tr>
</tbody>
</table>

$\chi^2 = 21.569$  
$\chi^2 = 0.395$  
$\chi^2 = 0.530$  
$\chi^2 = 0.407$  
$\chi^2 = 0.162$  
$\chi^2 = 0.003$

*%R = Percentage of EMSACs in this category that responded positively to this question.

(Refers to hypothesis 7)
### TABLE 41

**INFLUENCE ON ACTIVITIES WHEN EMSAC IS ONLY EMS PLANNING AGENCY IN AREA**

**ACTIVITIES: IN TRAINING AND EDUCATION**

<table>
<thead>
<tr>
<th>EMSAC only Planning Agency in Area</th>
<th>Survey of Training Requirements</th>
<th>Training of EMF Personnel</th>
<th>Training of Ambulance Personnel</th>
<th>Disaster Training Programs</th>
<th>Community EMS Education Programs</th>
<th>Community First Aid Training for Selected Populations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>%R*</td>
<td>Number</td>
<td>%R*</td>
<td>Number</td>
<td>%R*</td>
<td>Number</td>
</tr>
<tr>
<td><strong>(N=96) Yes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84</td>
<td>88</td>
<td>81</td>
<td>84</td>
<td>87</td>
<td>91</td>
<td>77</td>
</tr>
<tr>
<td><strong>(N=23) No</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>87</td>
<td>21</td>
<td>91</td>
<td>22</td>
<td>96</td>
<td>18</td>
</tr>
<tr>
<td><strong>(119) TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>104</td>
<td>87</td>
<td>102</td>
<td>86</td>
<td>109</td>
<td>92</td>
<td>95</td>
</tr>
<tr>
<td>( \chi^2 = 0.005 )</td>
<td>( \chi^2 = 0.727 )</td>
<td>( \chi^2 = 0.609 )</td>
<td>( \chi^2 = 0.045 )</td>
<td>( \chi^2 = 4.697 )</td>
<td>( \chi^2 = 0.022 )</td>
<td></td>
</tr>
<tr>
<td>N.S.</td>
<td>N.S.</td>
<td>N.S.</td>
<td>N.S.</td>
<td>N.S.</td>
<td>P &lt; .05</td>
<td></td>
</tr>
</tbody>
</table>

*%R = Percentage of EMSACs in this category that responded positively to this question.

(Refers to hypothesis 7)
EM SAC Longevity

The next hypothesis concerned the differences between EMSAC involvement in sub-categories of EMS activity and the length of time the EMSACs had been in existence.

Hypothesis 8:

The length of time that an EMSAC has been established influences the number of activities in emergency facility operation, communications, ambulances and equipment, and training and education.

The EMSAC responses to the length of time that they have been in existence, their involvement in EMS activities, and percentage of distribution are shown in Tables 42 through 45. Chi-square analysis performed for each sub-activity revealed significance in two of the four major EMS areas.

Activity in Emergency Facility Operation (Table 42)

EMSACs which were established in year group 1971-1972 influenced the number of activities in "plan for regionalization of services."

Activity in Communications

Again, EMSACs in year group 1971-1972 had greater involvement than the other year groups in "survey of communication network." In fact, 100 per cent of these EMSACs were involved in this sub-activity.
TABLE 42

INFLUENCE OF EMSAC LONGEVITY ON ACTIVITIES

ACTIVITIES IN EMERGENCY FACILITY OPERATION

<table>
<thead>
<tr>
<th>Years of EMSAC Existence</th>
<th>Plan for Regionalization of Services</th>
<th>Categorization of EMFs</th>
<th>Survey of Staffing Patterns of EMFs</th>
<th>Location of EMFs</th>
<th>Survey of Equipment</th>
<th>Use of Forms for Date Collection</th>
<th>Development of Tax Base</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%R*</td>
<td>Number</td>
<td>%R*</td>
<td>Number</td>
<td>%R*</td>
<td>Number</td>
</tr>
<tr>
<td>(N=19) 1971-1972</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>84</td>
<td>14</td>
<td>74</td>
<td>15</td>
<td>79</td>
<td>10</td>
</tr>
<tr>
<td>(N=63) 1969-1970</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>41</td>
<td>65</td>
<td>43</td>
<td>68</td>
<td>38</td>
<td>60</td>
<td>33</td>
</tr>
<tr>
<td>(N=34) Earlier</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>50</td>
<td>19</td>
<td>56</td>
<td>21</td>
<td>62</td>
<td>13</td>
</tr>
<tr>
<td>(116) TOTAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>74</td>
<td>64</td>
<td>76</td>
<td>66</td>
<td>74</td>
<td>64</td>
<td>56</td>
</tr>
</tbody>
</table>

\[
\chi^2 = 6.275, \quad \chi^2 = 2.167, \quad \chi^2 = 2.279, \quad \chi^2 = 1.942, \quad \chi^2 = 1.232, \quad \chi^2 = 3.057, \quad \chi^2 = 5.511
\]

\[ p < .05, \quad \text{N.S., N.S., N.S., N.S., N.S., N.S., N.S.} \]

*%R = Percentage of EMSACs in this category that responded positively to this question.

(Refers to hypothesis 8)
### Table 43

**INFLUENCE OF EMSAC LONGEVITY ON ACTIVITIES**

**ACTIVITIES IN COMMUNICATIONS**

<table>
<thead>
<tr>
<th>Years of EMSAC Existence</th>
<th>Survey of EMS Communication</th>
<th>Common EMS Phone No.</th>
<th>Communication Hospitals</th>
<th>Intercommunication Ambulances</th>
<th>EMS System Central Dispatching</th>
<th>Toll-Free Telephone Service</th>
<th>Telemetry Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%R*</td>
<td>Number</td>
<td>%R*</td>
<td>Number</td>
<td>%R*</td>
<td>Number</td>
</tr>
<tr>
<td>1971-1972 (N=19)</td>
<td>19</td>
<td>100</td>
<td>15</td>
<td>79</td>
<td>18</td>
<td>95</td>
<td>13</td>
</tr>
<tr>
<td>1969-1970 (N=63)</td>
<td>58</td>
<td>92</td>
<td>43</td>
<td>68</td>
<td>55</td>
<td>87</td>
<td>54</td>
</tr>
<tr>
<td>Earlier (N=34)</td>
<td>27</td>
<td>79</td>
<td>25</td>
<td>74</td>
<td>32</td>
<td>94</td>
<td>27</td>
</tr>
<tr>
<td>TOTAL (N=116)</td>
<td>104</td>
<td>90</td>
<td>83</td>
<td>72</td>
<td>105</td>
<td>91</td>
<td>99</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 6.433 \]
\[ \chi^2 = 0.912 \]
\[ \chi^2 = 1.666 \]
\[ \chi^2 = 2.304 \]
\[ \chi^2 = 0.857 \]
\[ \chi^2 = 4.193 \]
\[ \chi^2 = 0.002 \]

*%R = Percentage of EMSACs in this category that responded positively to this question.

(Refers to hypothesis 8)
### Table 44

**Influence of EMSAC Longevity on Activities**

**Activities in Ambulances and Equipment**

<table>
<thead>
<tr>
<th>Years of EMSAC Existence</th>
<th>Survey of Ambulance Service</th>
<th>Survey of Ambulance Equipment</th>
<th>Location of New Ambulance Bases</th>
<th>Purchase of EMS Ambulances</th>
<th>Purchase of EMS Equipment</th>
<th>Use of Air Ambulances</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%R*</td>
<td>Number</td>
<td>%R*</td>
<td>Number</td>
<td>%R*</td>
</tr>
<tr>
<td>(N=19) 1971-1972</td>
<td>18</td>
<td>95</td>
<td>17</td>
<td>89</td>
<td>14</td>
<td>74</td>
</tr>
<tr>
<td>(N=63) 1969-1970</td>
<td>56</td>
<td>89</td>
<td>54</td>
<td>86</td>
<td>34</td>
<td>54</td>
</tr>
<tr>
<td>(N=34) Earlier</td>
<td>32</td>
<td>94</td>
<td>30</td>
<td>88</td>
<td>16</td>
<td>47</td>
</tr>
<tr>
<td>(N=116) TOTAL</td>
<td>106</td>
<td>91</td>
<td>101</td>
<td>87</td>
<td>64</td>
<td>55</td>
</tr>
</tbody>
</table>

\[
\chi^2 = 1.091 \quad \chi^2 = 0.241 \quad \chi^2 = 3.574 \quad \chi^2 = 1.284 \quad \chi^2 = 4.737 \quad \chi^2 = 0.093
\]

<table>
<thead>
<tr>
<th>Test</th>
<th>N.S.</th>
<th>N.S.</th>
<th>N.S.</th>
<th>N.S.</th>
<th>N.S.</th>
</tr>
</thead>
</table>

*%R = Percentage of EMSACs in this category that responded positively to this question.*

*(Refers to hypothesis 8)*
TABLE 45

INFLUENCE OF EMSAC LONGEVITY ON ACTIVITIES

ACTIVITIES IN TRAINING AND EDUCATION

<table>
<thead>
<tr>
<th>Years of EMSAC Existence</th>
<th>Survey of Training Requirements</th>
<th>Training of EMF Personnel</th>
<th>Training of Ambulance Personnel</th>
<th>Disaster Training Programs</th>
<th>Community EMS Education Programs</th>
<th>First Aid Training for Community Populations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%R*</td>
<td>Number</td>
<td>%R*</td>
<td>Number</td>
<td>%R*</td>
</tr>
<tr>
<td>(N=19) 1971-1972</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>95</td>
<td>17</td>
<td>89</td>
<td>19</td>
<td>100</td>
</tr>
<tr>
<td>(N=63) 1969-1970</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>55</td>
<td>87</td>
<td>53</td>
<td>84</td>
<td>55</td>
<td>87</td>
</tr>
<tr>
<td>(N=34) Earlier</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>85</td>
<td>28</td>
<td>82</td>
<td>33</td>
<td>97</td>
</tr>
<tr>
<td>(116) TOTAL</td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td>102</td>
<td>88</td>
<td>98</td>
<td>84</td>
<td>107</td>
<td>92</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 1.075 \]
\[ \chi^2 = 0.484 \]
\[ \chi^2 = 4.848 \]
\[ \chi^2 = 0.113 \]
\[ \chi^2 = 0.508 \]
\[ \chi^2 = 1.012 \]

| N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. |

*%R = Percentage of EMSACs in this category that responded positively to this question.

(Refers to hypothesis 8)
C. EMSAC Self-Rating of Performance and Effectiveness

Information was also solicited from the EMSACs concerning appraisal of performance and evaluation of effectiveness. From the survey questionnaire, comments were extracted on the overall effectiveness of the EMSACs; effectiveness of the EMSACs in the major EMS activities pertaining to emergency facility operation, communications, ambulances and equipment, and training and education; and EMSAC self-rating on the assessment of community EMS needs. Additionally, the EMSACs were asked to rate their council's capability, present and potential, in functional areas such as information gathering and exchange, programs and policy recommendations, planning and coordination, implementation, and appraisal and evaluation. The primary interest in this section was two-fold: first, to determine the attitudes and opinions of the EMSACs as to the effectiveness of the council in accomplishing certain activities pertaining to EMS programs; and second, to obtain an assessment from the EMSACs as to the present and potential capability of the council in developing successful EMS programs at the community level. Hypotheses 9 through 13, which follow, are concerned with EMSAC self-ratings of performance and appraisal of EMS activities.

EMSAC Self-Rating of Effectiveness, By Location Category

This investigation concerned differences between EMSAC self-rating of effectiveness and location categories, expressed in Hypothesis 9 which follows.
Hypothesis 9:

Self-rating of overall effectiveness by EMSACs is influenced by community size and available emergency medical services.

Each EMSAC was asked to rate their council's overall effectiveness on a scale of four ranging from "extremely effective" to "not very effective." Responses, subdivided by location category, are presented in Table 46. All but two EMSACs completed the overall rating of their council's effectiveness. Analysis of variance, presented in Table 47, does not support hypothesis 9, indicating no differences between EMSAC self-rating of effectiveness and location categories. Thus, community size and available EMS do not appear to influence the EMSAC ratings of their overall effectiveness.
TABLE 46

INFLUENCE OF COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY) ON EMSAC MEAN SELF-RATING OF OVERALL EFFECTIVENESS

<table>
<thead>
<tr>
<th>Location Category</th>
<th>N</th>
<th>Mean*</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE I</td>
<td>33</td>
<td>2.33</td>
</tr>
<tr>
<td>TYPE II</td>
<td>32</td>
<td>2.56</td>
</tr>
<tr>
<td>TYPE III</td>
<td>28</td>
<td>2.14</td>
</tr>
<tr>
<td>TYPE IV</td>
<td>26</td>
<td>2.33</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td><strong>119</strong></td>
<td></td>
</tr>
</tbody>
</table>

Standard Deviation: .82

*Lower mean indicates greater self-rating of overall effectiveness.

(Refers to hypothesis 9)
**TABLE 47**

**ANALYSIS OF VARIANCE**

INFLUENCE OF COMMUNITY SIZE AND EMS AVAILABILITY (LOCATION CATEGORY) ON EMSAC MEAN SELF-RATING OF OVERALL EFFECTIVENESS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>d.f.</th>
<th>MS</th>
<th>F</th>
<th>Ratio</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Location Category)</td>
<td>2.97</td>
<td>3</td>
<td>.99</td>
<td>1.47</td>
<td>N.S.</td>
<td></td>
</tr>
<tr>
<td>Experimental Error</td>
<td>77.25</td>
<td>115</td>
<td>.67</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>80.22</td>
<td>118</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Refers to hypothesis 9)
EMSAC Self-Rating of Effectiveness by EMS Activity

The next hypothesis also concerned EMSAC self-ratings but in this instance as related to their effectiveness in the four major EMS activities. Hypothesis 10 is expressed as follows:

Hypothesis 10:
Means self-ratings differ among EMSACs and between activities in emergency facility operation, communications, ambulances and equipment, and training and education.

The EMSACs were asked to indicate their ratings of effectiveness in each of the four major EMS activities on a scale of four ranging from "extremely effective" to "not very effective." The mean ratings by EMS activity for 119 EMSACs are shown in Table 48. Hypothesis 10 was tested by analysis of variance followed by a test of the difference between mean scores for each of the EMS activities. The results of these tests are presented in Tables 49 and 50. There were significant differences between individual EMSAC means (average of the four activity categories for each EMSAC) and significant differences between the means ratings by EMS activity for all EMSACs. The activity training and education received the highest mean self-rating of effectiveness, followed by ambulances and equipment, communications, and emergency facility operation. Further analysis was made to determine where the differences occurred. The test procedure presented in Table 50 was the Newman-Keuls test. The rating for emergency facility operation differs from (1) ambulances and equipment and (2) training and education. Also, the rating for communications differs from (1) ambulances and equipment and (2) training and education.
### TABLE 48

MEANS SELF-RATINGS OF EFFECTIVENESS IN SELECTED ACTIVITIES BY EMSACS

<table>
<thead>
<tr>
<th>EMSAC Activities</th>
<th>N</th>
<th>Mean*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Facility Operation</td>
<td>119</td>
<td>2.60</td>
</tr>
<tr>
<td>Communications</td>
<td>119</td>
<td>2.58</td>
</tr>
<tr>
<td>Ambulances and Equipment</td>
<td>119</td>
<td>2.22</td>
</tr>
<tr>
<td>Training and Education</td>
<td>119</td>
<td>2.19</td>
</tr>
</tbody>
</table>

Standard Deviation: .79

*Lower mean indicates greater self-rating of overall effectiveness.

(Refers to hypothesis 10)
### Table 49

**Analysis of Variance**

*Means self-ratings of effectiveness in selected activities by EMSACs*

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>d.f.</th>
<th>MS</th>
<th>F Ratio</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Individual EMSAC Ratings)</td>
<td>193.71</td>
<td>118</td>
<td>1.65</td>
<td>2.70</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>B (Selected Activities)</td>
<td>17.45</td>
<td>3</td>
<td>5.82</td>
<td>9.54</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Experimental Error</td>
<td>128.73</td>
<td>354</td>
<td>0.61</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Total</td>
<td>429.94</td>
<td>475</td>
<td></td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

(Refers to hypothesis 10)
TABLE 50
NEWMAN-KEULS MULTIPLE RANGE TEST

EMS ACTIVITY

<table>
<thead>
<tr>
<th>Emergency Facility Operation</th>
<th>Communications</th>
<th>Ambulances &amp; Equipment</th>
<th>Training &amp; Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
</tr>
<tr>
<td>Means:</td>
<td>2.60</td>
<td>2.58</td>
<td>2.22</td>
</tr>
</tbody>
</table>

Ordered Means:
- \( T_1 \)
- \( T_2 \)
- \( T_3 \)
- \( T_4 \)

Means:
- \( d \)
- \( c \)
- \( b \)
- \( a \)

No Significance: (Activities underlined by a common line do not differ from each other):
- \( d \)
- \( c \)
- \( b \)
- \( a \)

Significance:
- \( ac \): Emergency Facility Operation differs from Ambulances and Equipment
- \( ad \): Emergency Facility Operation differs from Training and Education
- \( bc \): Communications differs from Ambulances and Equipment
- \( bd \): Communications differs from Training and Education

(Refers to hypothesis 10)

EMSAC Assessment of Community Needs by EMS Activity

Hypothesis 11 is concerned with EMSAC assessment of community needs for the four major EMS activities. Investigation of differences in assessment of community EMS needs is expressed in the following hypothesis.

**Hypothesis 11:**

Means of community needs assessments differ among EMSACs and between activities in emergency facility operation, communications, ambulances and equipment, and training and education.

The EMSACs reported assessment of need for the four major EMS activities in their area. The means of the responses, on a scale of four, ranging from "very substantial unmet needs" to "only a few unmet needs," are reported in Table 51. Hypothesis 11 was tested by analysis of variance followed by a test of the difference between mean scores for each of the EMS activities. The results of these tests are presented in Tables 52 and 53. The activity communications was assessed as having the greatest community EMS needs followed by training and education, ambulances and equipment, and emergency facility operation. There were differences between the EMSACs. The Newman-Keuls multiple range comparison test, reported in Table 53, indicated differences in the assessment of needs between communications and each of the other major EMS activities (1) emergency facility operation, (2) ambulances and equipment, and (3) training and education.
<table>
<thead>
<tr>
<th>EMS Activities</th>
<th>N</th>
<th>Means*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Facility Operation</td>
<td>119</td>
<td>2.97</td>
</tr>
<tr>
<td>Communications</td>
<td>119</td>
<td>2.44</td>
</tr>
<tr>
<td>Ambulances &amp; Equipment</td>
<td>119</td>
<td>2.90</td>
</tr>
<tr>
<td>Training &amp; Education</td>
<td>119</td>
<td>2.74</td>
</tr>
</tbody>
</table>

Standard Deviation: .78

*Lower mean indicates greater community needs assessment.

(Refers to hypothesis 11)
**TABLE 52**

ANALYSIS OF VARIANCE

MEANS EMSAC RATINGS ASSESSING COMMUNITY NEEDS FOR FOUR SELECTED EMS ACTIVITIES

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>d.f.</th>
<th>MS</th>
<th>F</th>
<th>Ratio</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Individual EMSAC Ratings)</td>
<td>210.70</td>
<td>118</td>
<td>1.79</td>
<td>2.93</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>B (Selected Activities)</td>
<td>19.84</td>
<td>3</td>
<td>6.61</td>
<td>10.83</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>Experimental Error</td>
<td>216.13</td>
<td>354</td>
<td>.61</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>446.67</td>
<td>475</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Refers to hypothesis 11)
### TABLE 53
NEWMAN-KEULS MULTIPLE RANGE TEST

<table>
<thead>
<tr>
<th>EMT ACTIVITY</th>
<th>EMS ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Facility Operation</td>
<td>Communications</td>
</tr>
<tr>
<td>(a)</td>
<td>(b)</td>
</tr>
<tr>
<td>Means:</td>
<td>2.97</td>
</tr>
</tbody>
</table>

Ordered Means:

| b₁ | c₂ | d₃ | a₄ |

No Significance: (Activities underlined by a common line do not differ from each other):

b d c a

Significance:
- ba: Communications differs from Emergency Facility Operation
- bc: Communications differs from Ambulances and Equipment
- bd: Communications differs from Training and Education

(Refers to hypothesis 11)
EMSAC Self-Rating of Present Capability
by Administrative Activity Areas

The final two hypotheses concern the EMSAC self-rating of present and potential capability in selected administrative areas. The investigation of differences in these self-ratings is expressed in hypotheses 12 and 13 which follow.

Hypothesis 12:

Means of present capability ratings differ among EMSACs and between administrative areas of information gathering and exchange, programs and policy recommendations, planning and coordination, implementation, and appraisal and evaluation.

The EMSACs rated their present capability in the selected administrative areas on a scale of four, ranging from "extremely active" to "not very active." The mean ratings for the administrative areas are shown in Table 54. Hypothesis 12 was tested by analysis of variance followed by a test of the difference between mean scores for each of the administrative areas. The administrative area information gathering and exchange received the highest mean self-rating of present capability followed by planning and coordination, programs and policy recommendations, appraisal and evaluation, and implementation. The results of these tests are presented in Tables 55 and 56. There were significant differences between EMSACs. The Newman-Keuls test indicated differences between the area of implementation and (1) information gathering and exchange, (2) planning and coordination, and (3) programs and policy recommendations. Also, appraisal and evaluation was significantly different from information gathering and exchange.
TABLE 54

MEANS SELF-RATINGS OF PRESENT CAPABILITY
IN SELECTED ADMINISTRATIVE AREAS BY EMSACS

<table>
<thead>
<tr>
<th>Administrative Areas</th>
<th>N</th>
<th>Mean*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Gathering and Exchange</td>
<td>119</td>
<td>2.39</td>
</tr>
<tr>
<td>Programs and Policy Recommendations</td>
<td>119</td>
<td>2.51</td>
</tr>
<tr>
<td>Planning and Coordination</td>
<td>119</td>
<td>2.41</td>
</tr>
<tr>
<td>Implementation</td>
<td>119</td>
<td>2.79</td>
</tr>
<tr>
<td>Appraisal and Evaluation</td>
<td>119</td>
<td>2.66</td>
</tr>
</tbody>
</table>

Standard Deviation: .67

*Lower mean indicates greater self-rating of present capability.

(Refers to hypothesis 12)


**TABLE 55**

**ANALYSIS OF VARIANCE**

Means Self-Ratings of Present Capability in Five Selected Administrative Areas by EMSACS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>d.f.</th>
<th>MS</th>
<th>F Ratio</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Individual EMSAC Ratings)</td>
<td>369.37</td>
<td>118</td>
<td>3.13</td>
<td>7.11</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>B (Selected Administrative Areas)</td>
<td>13.68</td>
<td>4</td>
<td>3.42</td>
<td>7.77</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Experimental Error</td>
<td>209.88</td>
<td>472</td>
<td>0.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>592.93</td>
<td>594</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Refers to hypothesis 12)
TABLE 56

NEWMAN-KEULS MULTIPLE RANGE TEST

ADMINISTRATIVE AREAS

<table>
<thead>
<tr>
<th>Information Gathering &amp; Exchange</th>
<th>Programs &amp; Policy Recommendations</th>
<th>Planning and Coordination</th>
<th>Implementation</th>
<th>Appraisal &amp; Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
</tr>
<tr>
<td>Means:</td>
<td>Means:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.39</td>
<td>2.51</td>
<td>2.41</td>
<td>2.79</td>
<td>2.66</td>
</tr>
</tbody>
</table>

Ordered Means:  \( T_1 \), \( T_2 \), \( T_3 \), \( T_4 \), \( T_5 \)

Means: \( a \), \( c \), \( b \), \( d \), \( e \)

No Significance: (Activities underlined by a common line do not differ from each other):

\[ a \ c \ b \ e \ d \]

Significance: \( da \): Implementation differs from Information Gathering & Exchange
\( db \): Implementation differs from Programs & Policy Recommendations
\( dc \): Implementation differs from Planning & Coordination
\( as \): Information Gathering & Exchange differs from Appraisal & Evaluation

(Refers to hypothesis 12)
Hypothesis 13:

Means of potential capability ratings differ among EMSACs and between administrative areas of information gathering and exchange, programs and policy recommendations, planning and coordination, implementation, and appraisal and evaluation.

In addition to their rating of present capability in certain administrative areas, the EMSACs were asked to rate their potential capability for these areas. The same rating scale was used as in hypothesis 12. The mean EMSAC ratings for each of the five administrative areas is presented in Table 57. Hypothesis 13 was tested by analysis of variance followed by a test of the difference between mean scores for each of the administrative areas. The administrative area information gathering and exchange received the highest mean self-rating of potential capability followed by planning and coordination, programs and policy recommendations, appraisal and evaluation, and implementation. The results of these tests are presented in Tables 58 and 59. There were significant differences between EMSACs. The Newman-Keuls test showed differences between the area of implementation and (1) information gathering and exchange, (2) planning and coordination, and (3) program and policy recommendations.
### TABLE 57

**MEANS SELF-RATINGS OF POTENTIAL CAPABILITY IN FIVE SELECTED ADMINISTRATIVE AREAS BY EMSACS**

<table>
<thead>
<tr>
<th>Administrative Areas</th>
<th>N</th>
<th>Mean*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Gathering and Exchange</td>
<td>119</td>
<td>1.82</td>
</tr>
<tr>
<td>Programs and Policy Recommendations</td>
<td>119</td>
<td>1.92</td>
</tr>
<tr>
<td>Planning and Coordination</td>
<td>119</td>
<td>1.88</td>
</tr>
<tr>
<td>Implementation</td>
<td>119</td>
<td>2.16</td>
</tr>
<tr>
<td>Appraisal and Evaluation</td>
<td>119</td>
<td>2.02</td>
</tr>
</tbody>
</table>

**Standard Deviation:** .67

*Lower mean indicates greater self-rating of present capability.*

(Refers to hypothesis 13)
TABLE 58
ANALYSIS OF VARIANCE
MEANS SELF-RATINGS OF POTENTIAL CAPABILITY
IN FIVE SELECTED ADMINISTRATIVE AREAS BY EMSACS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>d.f.</th>
<th>MS</th>
<th>F Ratio</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Individual EMSAC Ratings)</td>
<td>301.63</td>
<td>118</td>
<td>2.56</td>
<td>8.53</td>
<td>.001</td>
</tr>
<tr>
<td>B (Selected Administrative Areas)</td>
<td>8.29</td>
<td>4</td>
<td>2.07</td>
<td>6.90</td>
<td>.001</td>
</tr>
<tr>
<td>Experimental Error</td>
<td>140.00</td>
<td>472</td>
<td>.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>451.00</td>
<td>594</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Refers to hypothesis 13)
### TABLE 59
NEWMAN-KEULS MULTIPLE RANGE TEST

**ADMINISTRATIVE AREAS**

<table>
<thead>
<tr>
<th>Information Gathering &amp; Exchange</th>
<th>Programs &amp; Policy Recommendations</th>
<th>Planning and Coordination</th>
<th>Implementation</th>
<th>Appraisal &amp; Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
</tr>
<tr>
<td>Means:</td>
<td>1.82</td>
<td>1.92</td>
<td>1.88</td>
<td>2.16</td>
</tr>
</tbody>
</table>

Ordered: $\overline{T}_1\ \overline{T}_2\ \overline{T}_3\ \overline{T}_4\ \overline{T}_5$

Means: $\bar{a}_1\ \bar{a}_2\ \bar{a}_3\ \bar{a}_4\ \bar{a}_5$

No Significance: (Activities underlined by a common line do not differ from each other):

a c b d

Significance: da: Implementation differs from Information Gathering & Exchange
dc: Implementation differs from Planning & Coordination
db: Implementation differs from Programs & Policy Recommendations

(Refers to hypothesis 13)
A summary of the above findings is presented in Appendix XI. The survey questionnaire also contained information that was not suitable for statistical analysis but was notable in describing organizational characteristics about the EMSACs. These data and comments are presented in Appendix XII.
CHAPTER V

DISCUSSION

The proliferation of EMSACs in the United States occurred rather dramatically in recent years, from about a dozen councils known to be in existence in the early 1960's to the 135 identified on April 15, 1972. Much of this growth resulted from general concern for improvement in emergency health services. In many communities EMSACs were formed to bring together key professional and administrative leaders of EMS in an organizational framework that could meet the challenges of improving the delivery of EMS in the given area. At the same time, Areawide Health Planning Agencies were emerging in many parts of the United States and the planning of EMS appeared to fall logically within their responsibility. Traditional health care and rescue organizations (i.e., hospitals, local and state health departments, police and fire departments) were involved in providing emergency health services. This created a division of responsibility and a fragmentation of EMS into poorly coordinated components.

Federal level involvement in EMS was also changing rapidly. Several agencies of the Departments of HEW, Transportation, Defense, and many other federal organizations were providing financial and technical assistance to states and communities throughout the U.S. However, there appeared to be little coordination of these efforts.
at the federal level resulting, in many instances, in fragmentary funding of components of EMS, without overall plans for maximum benefit. Against this background two questions emerged: (1) Are there community organizations that can put together the pieces and make a case for federal support that would better favor community needs? (2) Can such organizations succeed in attracting a greater share of the funds allocated by federal agencies for EMS?

In the present study the distribution of EMS funds by federal agencies was the dependent variable, and the main effects tested were the existence of EMSACs and the size of community (location category). It is clear that among the communities with EMSACs, location category was a significant factor, both in the overall allocation of project support and in the allocation of support for the specific types of projects investigated (Tables 10 through 14, pages 71 through 76). The same effect was seen in the communities that did not have EMSACs (Tables 15 through 19, pages 78 through 83). However, the present study was concerned primarily with the impact of EMSAC on the project fund allocation. Comparing all of the communities with EMSACs to all of the communities without EMSACs, the effect of EMSAC presence on the funding of projects was significant for each type of project and for overall projects. However, when EMSAC communities were compared to non-EMSAC communities of similar location category, there were instances in which the effect
of EMSAC was not significant. Nonetheless, EMSAC was significant overall, when controlled for location category (Tables 5 through 9, pages 61 through 69).

The results of the study have potential value in the planning of EMS programs and may indicate guidelines for establishing future EMSACs in the United States. In addition to the examination of funding allocation, the present study considered the reported activities of existing EMSACs, their assessment of effectiveness, community EMS needs, and present and potential capabilities. These reported data were examined in relation to location category in 121 of the 135 EMSACs identified as of April 15, 1972.

A. Federal Assistance to Community EMS

EMS Projects - Overall

The overall distribution of federally funded EMS projects is displayed in Tables 5 through 9 (pages 61 through 69) by presence of EMSAC and location categories. Generally, the number of projects per community was greater in the larger location categories. There were over three projects per community in category I, while in the other three smaller categories (II, III and IV) the range was from .2 to .5 projects per community. Considering all of the communities and projects in the three smaller categories, there was an average of one-third of a project per community. This appears to be in part due to the fact that while 34 per cent of category I communities had established EMSACs, only 14 per cent of category II had EMSACs, and
category III and IV had EMSACs in only three per cent and one per cent of the communities, respectively. While the presence of a large population in a given area is probably the most significant factor in attracting federal funds, the additional factor of the presence of an EMSAC clearly favored the award of grants for EMS. As indicated in Table 5 (page 61), the presence of an EMSAC was positively associated with the number of federally funded EMS projects in location categories I, II, and III, the trend was present but not statistically significant in location category IV. The overall trend may be explained by the presence of the type of organization that includes influential people who possess knowledge of the grants procurement mechanism. In addition, the federal granting agency may feel more confident in awarding funds to communities that present this organizational structure. Certain of the data discussed below will also indicate that the EMSACs are involved in a variety of activities that give evidence of performance. The respondents estimated their present capability and future potential in a way that would favor the investment of grant funds. It is also possible that in the communities where EMS need is recognized, organizations such as EMSAC are established and priority is assigned to acquisition of funds for these purposes. From visits made to 25 communities for on-site observation in areas with EMSACs and nearby areas without EMSACs, it was found that small initial funding served as a stimulus to the organization of an EMSAC, which then stimulated further award of additional funds.
In the smallest communities, location category IV, the general problem of "smallness" affected the award of EMS grants. These areas are too small in population and resources to develop an EMS system entirely of their own. They most frequently depend on communities peripheral to their immediate area for services. Granting organizations appear to be reluctant to fund the setting-up of programs in areas of category IV. Consequently, although there is a trend that may indicate that EMSACs do have an effect in attracting EMS projects to such areas, the differences are not significant.

It appeared that the total number of projects awarded to category IV communities (556 projects to 1,825 communities) was fairly evenly spread throughout. There was little concentration of projects in the 27 communities of this size where EMSACs existed. Once a community of this size receives a project, it appears that the acquisition of another is rather unlikely and that more than half of the communities with EMSACs either did not apply for or did not receive a federally funded project.

Emergency Facility Operation

In location category I, the number of projects relating to emergency facility operation did not appear to be significantly associated with the presence of EMSAC. Location categories II and III showed a significant relationship between EMSAC and this type of project. The number of projects awarded to the category IV communities was too small for inclusion in the statistical test. Nevertheless, for all of the communities taken together, the relationship between the
presence of EMSAC and the number of projects was significant. From observations made in visits to communities of category I, it appeared that emergency facility operation was largely funded through means other than EMS projects. In large population areas there are administrative personnel and other health officials who are knowledgeable in the area of hospital funding and can proceed independently of an EMSAC. However, in communities of categories II and III, where the population is smaller, the presence of EMSAC did appear to influence the award of projects in this category. This trend might hold as well for the category IV communities, but the total number of projects awarded was so small that this could not be demonstrated.

**Communications**

Similarly, with regard to projects related to communications, the relationship between the presence of EMSAC and the award of such projects was not significant for communities of category I. For communities of categories III and IV the total number of communications projects was too small for inclusion in the statistical test. However, for communities of category II the relationship between presence of EMSAC and the award of such projects was significant. A similar trend also appeared in communities of categories III and IV, but the significance could not be demonstrated. In site visits made in the present study, it was learned that emergency communications in large population centers were developed with funding which was often obtained by the police or fire departments through avenues other than the funding mechanisms investigated. Consequently,
the presence of EMSAC was not significantly related to this component of the emergency system in terms of grant acquisition. Nevertheless, the overall trend is such that considering all of the communities together, the presence of EMSAC was related to the award of such grants.

**Ambulances and Equipment**

With respect to funds for ambulances and equipment, the data are very similar to those obtained for total number of projects. Ambulance and equipment projects were almost entirely awarded through the grants program of the Department of Transportation and administered through state government. They also made up the largest number of the projects awarded, comprising 768 of the total number of 1,215 projects. The influence of the EMSAC was significant in communities of categories I, II and III and although a trend in that direction was exhibited, the influence was not significant with respect to communities of category IV. The smallest communities were generally awarded ambulances and equipment through state government, utilizing funds from the Department of Transportation. These awards were conditioned by the need of state agencies to meet the demands of the many localities and to maintain an even-handed political posture.

**Training and Education**

Considering the award of projects related to emergency training and education, the pattern appears to be similar to that observed in communications projects. The presence of EMSAC significantly affected the award of such projects in communities of category II. Although
there was a slight trend in that direction in communities of category I, the relationship was not significant. It was learned in site visits that in many communities project awards were made on the basis of other characteristics, such as the presence of an effective educational program in the fire department. Awards were frequently made through state or municipal departments of education. This was not greatly affected by the presence of EMSAC. Once again, the total number of awards to communities of categories III and IV was so small that the statistical test was not appropriate. It is interesting to note that a large number of projects for ambulances and equipment was awarded to communities of categories III and IV. In general, these smaller communities do not have access to effective training and education programs for ambulance personnel. It would appear that this is a fault in the system of grant awards, since placing ambulances in areas where personnel are not adequately trained would relegate such awards to the improvement of transportation only, a goal that falls short of the requirements of the Department of Transportation itself. It would seem most important to link the two grant mechanisms, ambulances and training, so that they foster the necessary relationship between equipment and EMS capability.

The Problem of Community Size

Relating all of the above to the distribution of EMSACs by community size, it would seem that smaller communities, that have the fewest EMSACs, would perhaps benefit most by their development. On
the other hand, such communities cannot generally develop an emergency medical system of their own, and in many cases cannot muster the expertise necessary to form an EMSAC. It would seem, therefore, that regionalization in which a number of such smaller communities join together, perhaps under the aegis of a comprehensive health planning agency, might serve to develop an EMSAC that would benefit all of the constituent communities. The strict definition of territories by county line, which seems to pervade most of the United States, serves effectively to bog down the development of regional arrangements that would allow EMSACs to serve the areas that need them most. The area-wide health planning agencies are among the few sub-state organizations in the health field that cross county boundaries and can serve as useful organizations for the development of EMSACs.

**Average Dollar Amount—Federal Funding EMS Projects**

In addition to the examination of the relationship of the presence of EMSAC and the size of community to the number of federally funded EMS projects, analysis was made of the relationship between these main effects and the mean dollar amount per federally funded EMS project. Considering all of the projects, the mean dollar amount was significantly greater for the communities that had EMSACs. This was true in each location category. Among the communities that had EMSACs the trend was for the larger communities to have larger mean dollar amounts. The trend was also evident in the mean dollar amounts per project concerned with ambulances and equipment. This reflects the relationship noted in the analysis of the number of projects
awarded, since ambulance and equipment projects comprised a large percentage of the total projects. On the other hand, in projects concerned with emergency facility operation the main effects of EMSAC and community size were not significant. However, the interaction of these two variables was significant. As may be seen in Table 22 (page 90), this is due largely to the great disparity in mean dollar amount for such projects awarded to category I communities. EMSAC communities attracted a mean dollar amount of $169,749 as compared with non-EMSAC communities that received a mean dollar amount of $19,266. For communities in categories II, III and IV, those without EMSAC received larger mean dollar amounts, but the differences were not nearly as marked. This would indicate that category I communities with EMSACs can develop and command support for large enterprises involving emergency facility operation. The expertise available in large population areas, plus the organizational impact of an EMSAC appears to offer such communities an advantage. This probably reflects the confidence of the granting organizations, as well as the skill of the community advocates in stating the case for EMS need.

With respect to projects concerned with emergency communications, the presence of EMSAC is not a significant factor, but community size is significant. The interaction of EMSAC and community size is also significant. In Table 24 (page 93) it may be seen that the major disparity lies in the mean dollar amount of communications projects in communities of category I. Communities without EMSAC received a much
greater mean dollar amount. The trend crosses over for communities of category II and then again for communities of categories III and IV. However, in these cases the differences are not as marked. In the communications projects of category I communities the disparity may be due to the fact that large communities with EMSAC tend to have well-established communications projects through their fire departments or other rescue services. Therefore, the projects they attract are not of great magnitude, since they are supplementary to well-established existing services. On the other hand, communities without EMSAC appear to be still in the process of developing the communications component and require larger mean dollar amounts per project.

Projects concerned with emergency training and education did not appear to be significantly affected by the presence of EMSAC, but community size was of significance. However, in communities without EMSAC, category IV attracted the largest mean dollar amount for this type of project. This may reflect the ability of small communities with EMSAC to make cooperative training arrangements with nearby communities or to better utilize resources in their areas to develop training programs, without requiring project funds of great magnitude. It may also reflect recognition on the part of granting agencies that the level of training of emergency personnel in communities without EMSAC requires greater support.
B. Activities of the EMSACs

Location Category

In each of the four project areas (emergency facility operation, communications, ambulances and equipment, and training and education) a series of variables such as location category, size of council membership, presence of other planning agencies in the region, and the length of EMSAC existence were related to a set of specific activities reported by the responding EMSACs. These data are displayed in Tables 30 through 45 (pages 104 through 122). Considering the location category as the independent variable, there was a significant difference between EMSACs in the "categorization of emergency medical facilities" and the "use of special forms for data collection." In both of these activities there was a positive relationship with community size. This is understandable with regard to categorization, since larger areas would have a greater number of facilities and would feel more impelled to undertake categorization of emergency facilities to serve patients with specific problems. Categorization has received a great deal of federal emphasis during the past few years and would be a factor in considering application for funds. With respect to the use of special data forms, one would expect that larger communities with more complex systems would tend to require greater coordination of reporting in order to monitor the system and maintain accountability. In the smaller areas, with fewer facilities and a less complex system, the already established hospital records would more likely suffice. As will be noted in Table 30 (page 104)
not all of the EMSACs responded to these specific questions. There was generally a higher percentage of response in the larger EMSACs. Through telephone conversations and site visits with EMSAC personnel it was determined that the nonrespondents were almost uniformly those who did not carry out the specified activity.

With respect to communications related projects there appeared to be no significant relationship with location category. Similarly, location category and activities related to ambulances and equipment showed no significant relationship, except in "purchase of ambulances." Category III communities reported this activity most frequently. This might be explained by the inability of the smaller category IV communities to make ambulance purchases unless they received project awards. As was indicated in Table 8 (page 68), only 10 of 27 such EMSAC communities received project awards for ambulances and equipment. Category III communities, being somewhat larger, could afford to purchase ambulances even in areas where awards were not made. Consequently, 21 of the 28 category III EMSACs reported such activity. On the other hand, the larger communities of categories I and II were for the most part already supplied with ambulances and equipment prior to the recent activity of the EMSACs. As indicated in Table 26 (page 96), the mean dollar amount per project was markedly greater for communities of category II. Hence a great many ambulances may be purchased in one EMSAC area and yet be reported in the activity data as a single indication of EMSAC action. In category I communities, site visits indicated that the purchase of ambulances was frequently carried
out with funds other than those awarded by federal agencies and was not as frequently considered in EMSAC activity.

No significant relationships could be detected between the location categories and activities in training and education. These data are displayed in Table 33 (page 107). While the trend was generally that of a greater number of activities in larger communities, the differences were slight. It appeared that while size of community did have an influence on EMSAC activity in areas of complexity and multiplicity, such as "categorization of facilities" and the "utilization of special data systems," there was little effect of size on activities in training and education.

Size of EMSAC Membership

The size of the membership of the EMSACs was considered as an independent variable that could be related to activities, since larger councils may be able to undertake certain activities that require the expenditures of large amounts of time (Tables 34 through 37, pages 109 through 112). Significant relationships could be detected only in the "survey of emergency facility staffing patterns" and in the "use of special data systems." Both of these activities require a great deal of preparation and the involvement of hospital administrators, emergency room physicians, and other related EMS personnel. It is understandable that the larger councils would either have the personnel to make contact with these individuals or include them as members of their councils.
Effects of the Presence of Other Planning Agency in the Area on EMSAC Activities

It was assumed that in areas where the EMSAC was the only planning agency, they might undertake certain activities that otherwise would be carried out by others. By relating this variable to a specific list of activities, as indicated in Tables 38 through 41 (pages 114 through 117), it was possible to test this relationship. It was determined by site visits that the non-respondents to these questions were almost exclusively those who did not engage in the specified activity. There were no significant relationships between presence of other planning agencies and activities in emergency facility operation or in communications. In activities related to ambulances and equipment, EMSACs that were the sole planning agency were significantly more involved in "community EMS education programs." This might indicate that, in the presence of other agencies engaged in health planning, the area of "community EMS education" is still reserved for the EMSAC, and that this activity appeared to be a valid undertaking for these councils, most of which are in their early stages of development. Where other planning agencies existed they pre-empted the task of "survey of ambulance services."

Relationship of the Age of the EMSAC to Activities

It was assumed that the older and perhaps better established EMSACs, having passed through their earlier organizational development, would be able to address themselves to problems and activities that were different from those of the new EMSACs. The EMSACs were
divided into those established before 1969; those established in 1969-1970; and those established in 1971-1972. These measures of age were considered as independent variables to be related to the variety of reported activities (Tables 42 through 45, pages 119 through 122). No significant relationship appeared with regard to ambulances and equipment or to training and education. However, in the area of emergency facility operation, there was a significant difference with respect to EMSAC age. The newer EMSACs were more involved in this activity. This is related to a trend of new councils becoming involved in activities that were previously reserved for other organizations in the health system. The newer EMSACs more frequently involved members of hospital boards and administrators in a way that related the council more closely to actual operation of emergency medical facilities. There also appeared to be a significant relationship between age of EMSAC and "survey of emergency communications network." Again the tendency is for the younger organization to be more involved. This is clearly related to the emphasis that has been placed in recent years on emergency communications, both on the part of communities themselves and the granting agencies. With the development of new forms of equipment and a growing interest in rapid and efficient communications, new organizations have become engrossed in this component of the emergency health system. It is interesting to note that no significance was found between EMSAC age and ambulances and equipment or training
and education, since these are the older and more established activities. They are distributed fairly uniformly between the newer and the older EMSACs.

C. EMSAC Self-Rating of Performance and Effectiveness; Assessment of Community Needs; Present Capability; and Future Potential

The EMSACs were requested to rate their effectiveness in four EMS activities (emergency facility operation, communications, ambulances and equipment, and training and education). The relationship between location category and self-rating of effectiveness was tested by analysis of variance. An overall effectiveness score for each EMSAC was obtained by averaging the effectiveness rating in each of the four activities. Location category did not appear to influence overall effectiveness rating (Tables 46 and 47, pages 125 and 126). It seems that EMSACs in communities of all sizes generally considered their overall effectiveness to be about the same. However, when all of the EMSACs were considered together a difference did appear between the individual activities. The EMSACs rated their effectiveness in ambulances and equipment and in training and education to be greater than in emergency facility operation and in communications (Tables 48 through 50, pages 128 through 130). This is understandable as involvement in ambulances and equipment and training activities is the most established and easiest to accomplish. Also, ambulances and equipment activity offers tangible evidence of performance and the complexity of setting up a training program is not nearly as great as
entry into the operation and management of an emergency medical facility or the improvement of a communications system.

In the assessment of community EMS needs there was a significant difference between the appreciation of need for communications improvement and the need for additional support for emergency facility operation, ambulances and equipment, and training and education. Apparently, although the EMSACs rated themselves as relatively ineffective in both emergency facility operation and communications, they singled out communications as the most pressing community need. This may be due to the fact that they did not view emergency facility operation as one of their potential areas of involvement, while they considered communications definitely to be within their realm of activity. This was borne out by information obtained during site visits.

The EMSACs were also asked to rate their present capability in five administrative areas: information gathering and exchange, programs and policy recommendations, planning and coordination, implementation, and appraisal and evaluation. Their estimate of present capability in implementation and in appraisal and evaluation of EMS was significantly lower than the ratings of present capability in the other three administrative areas (Tables 54 through 56, pages 136 through 138). This bears out the overall impression that most of the EMSACs have been functioning on an information gathering and advisory level and have been associated somewhat in the development of community plans. It is only recently, and mainly with the newer
EMSACs, that attempts have been made for members to become involved in the implementation of new programs and in the appraisal and evaluation of the impact of such programs. From the site visits it was determined that this tendency may increase in time, particularly as EMSAC representatives become more involved in the review of community EMS plans. While health planning agencies are reluctant to enter into the implementation of plans, the EMSACs may do so through inclusion in their membership of individuals and groups who are active in EMS implementation. Such linkage of planning with implementation is important.

The comparison of present with potential self-ratings of EMSAC capability revealed similarities. Implementation capability was still rated lowest and was significantly different from the other administrative areas (Tables 57 through 59, pages 140 through 142). However, the rating of EMSAC potential ability in appraisal and evaluation indicates greater optimism. This activity rating was not significantly different from the other administrative areas except implementation. The overall reluctance to enter into implementation of EMS most likely stems from the traditional assignment of responsibility for such activities to the health care and ambulance service organizations. The EMSACs are still too new to make inroads into this established tradition.
D. Additional Analyses

In a study of this magnitude, many additional relationships may be investigated by utilizing the data collected. Additional studies are now in progress to explore some of these possibilities:

1. Study of the relationship between the funding distribution by EMS projects and:
   a. EMSAC self-rating of overall effectiveness, by location category.
   b. EMSAC self-rating of effectiveness in the four EMS program areas, by location category.


3. Study of the relationship between EMSACs and Comprehensive Health Planning Agencies and Regional Medical Programs representation and:
   a. EMSAC self-ratings of overall effectiveness, by location category.
   b. EMSAC self-ratings of effectiveness in the four EMS program areas, by location category.
   c. EMSAC assessment of community EMS needs in the four EMS program areas, by location category.

5. Study of all of the above ratings in relation to the known project fund allocations.

E. Additional Problems in Interpreting the Results of the Present Study

The format in which the data regarding EMSAC activity was obtained did not allow for the resolution of the problem of the relative effect of EMSAC on attracting project funds, and the effect of project funds on stimulating the formation of an EMSAC. From the project site visits that were made, it appeared that the EMSACs became active in time to stimulate significant additional project awards. It was much more difficult to obtain information in communities that did not have an EMSAC. In these communities, the responsibility was fragmented in a number of agencies and a unified answer to the questions posed could not be obtained.

It was also impossible, within the scope of the present study, to resolve the problem of the influence of energetic, talented, and knowledgeable individuals in the given communities in attracting project funds through their activities. Similarly, it appeared that the presence of such individuals also spurred the formation of an EMSAC. It appeared, however, that the presence of an EMSAC offered an avenue through which such effective individuals could express themselves. The EMSAC appeared to become a rallying point around which the resources of the community could be mustered.

Despite a lengthy period of time spent by the author in discussions with federal authorities in the granting agencies, it was not
possible to delineate a clearly stated set of policies or decision rules for the allocation of funds. Generally, guidelines and policies for the application of federal funds are difficult to interpret at local levels and in some instances they do not exist. One of the important questions raised by the present study involves the effect of the presence of an EMSAC, made known to the granting organizations, on their fund allocation decisions. Obviously the presence of an EMSAC offers a vehicle for the generation of requests for funding and some kind of organizational legitimation for the request. It is not clear, however, whether it is this format and organizational development that supercedes estimates of need or actual capability in the award of project funds. From personal conversations with EMSAC representatives and federal agency personnel, the author concluded that the decision rule to consider the presence of an EMSAC as an important factor in fund allocation may be appropriate. The very presence of an organizational framework for making community decisions with respect to EMS appears to favor the effective utilization of funds and the direction of these expenditures to legitimate needs. Unfortunately this is difficult to assess from the self-evaluation data obtained from EMSACs. There are as yet very few external measures that can be used.

The present study was faced with the dilemma of the inability to obtain comparable information regarding activities, and self-evaluation of effectiveness, community needs, present capabilities, and potential capability from the communities that had no EMSAC. No comparable
focus could be identified in these communities from which such information could be obtained. Some of these questions were partly resolved by site visits, during which the overall community structure and the operation of the emergency medical care system were examined. Table 60 is a list of communities visited during the course of the present study. Because of the extent and complexity of the information being obtained, some communities were visited more than once. In most instances additional visits were made to nearby communities in order to assess the relative effectiveness of the emergency health care system. However, where EMSACs did not exist, the information obtained was so fragmentary and difficult to interpret, it could not be made a part of the analysis conducted in the present study. In these communities it was necessary for the author, on his own, to identify the individuals concerned with emergency medical services. In most cases, they did not hold positions similar to their counterparts in communities with EMSAC nor were they as oriented as such representatives. In future studies it may be important to select a small number of comparable communities and to study the pairing in death over a time period sufficient to obtain the information necessary to make comparisons.
TABLE 60

IDENTIFICATION OF COMMUNITIES VISITED DURING CONDUCT OF STUDY

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<tr>
<th>Arizona</th>
<th>Hawaii</th>
<th>Nevada</th>
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<td>* Phoenix</td>
<td>** Honolulu</td>
<td>** Las Vegas</td>
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<td>Harrisburg</td>
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<td>** Denver</td>
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<th>Washington</th>
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* EMSAC (Local)
** EMSAC (State)
CHAPTER VI

SUMMARY

The current problem and potential development of emergency medical services in the United States have been conditioned to a significant degree by the interaction of related federal, state and local EMS programs. As the federal programs developed in a fragmented way in a variety of different perceptions of mission and responsibility, local activities were also progressing in an uncoordinated fashion. To meet these problems, community EMSACs were formed for the purpose of becoming involved with EMS systems at the local level. The councils offer a forum for the interaction by representatives of the specific components of EMS systems, and allow them to find areas of mutual concern and cooperative endeavor.

In recent years medical and administrative professionals have advocated the development of EMSACs to assist in improving EMS in the United States. As a result, councils have been formed in many states, usually in one of three patterns of organization: (1) an independent agency reporting to local government or county officials, (2) a separate committee of the areawide health planning agency, or (3) a subcommittee of the Health Services Committee, also in the areawide health planning agency. Many questions have been asked by those concerned with EMS at federal, state and local levels
regarding the viability and potential success of these councils. With large amounts of federal dollars being allocated to local EMS programs and standards being recommended by federal agencies for EMS activities, the stage was set for local councils to organize and become involved in all of the components of the EMS system. Physicians, hospital administrators, providers of EMS such as police, fire rescue and private ambulance services, public officials, para-medical personnel and private citizens became members of the EMSACs, hoping to improve the delivery of EMS in their areas of responsibility. Councils were formed in large population areas representing several million people as well as in rural counties of the United States where the populations number in the hundreds. The ability of these EMSACs to attract federal interest in terms of financial assistance and the ability of the councils to engage in successful EMS activities were the central interests of this study.

The purpose of this study was to identify the impact of EMSACs on EMS systems in their respective areas of responsibility, and to review relationships that have emerged with areawide health planning agencies or other health planning organizations. Additionally, the investigation included a study of the federal financing of EMS projects during a selected period of time to determine whether the existence or non-existence of an EMSAC influenced project and dollar allocation from the federal government.
In the Department of HEW, the central office concerned with the
development of EMSACs is DEHS. Based on reports from field repre-
sentatives and personal contact with persons in local EMS programs,
DEHS prepared a source document in October, 1971, identifying over
200 EMSACs in the United States. This document became the basic
source of information concerning EMSACs in the present study. In
addition to the DEHS office, RMPS, DHEW, and the Division of Emer-
gency Medical Programs, DOT, produced information concerning the
federal financing of EMS for the study period. In this regard,
over 1,200 EMS projects were reviewed.

A survey questionnaire was used as the investigative instrument
in order to obtain data from the EMSACs participating in the study.
As of April 15, 1972, 135 active councils were identified. This
represented a substantial reduction from the original master list-
ing. Although 14 of the active EMSACs did not participate in the
current study, the participating councils represent the most current
information that was available.

The results of this investigation were centered around three
areas of consideration: (1) analysis of the federal funding of EMS
by selected federal agencies, (2) analysis of the activities of the
EMSACs, and (3) analysis of the self-ratings of EMSAC performance
and effectiveness.

Present funding of EMS to local communities is provided primarily
by three federal agencies, DEHS and RMPS in DHEW, and by NHTSA in
DOT with the latter agency currently allocating the greatest dollar
amounts. Investigation revealed that existence of EMSAC significantly influenced the funding of EMS. In larger population areas there was also a greater influence of EMSAC on federal funding.

The activities of the EMSACs concerned emergency facility operation, communications, ambulances and equipment, and training and education. EMSACs reported their current activities, with regard to questions based on standards recommended by government and non-government agencies. Generally, all of the EMSACs had activity in the 26 standards mentioned. EMSAC activity was greater in the larger location categories, i.e., greater population and EMS availability.

The investigation further revealed that the EMSACs considered themselves effective in improving the local EMS programs regardless of population size and EMS availability. However, they assessed emergency communications as the most pressing need in the communities they represented. In assessing present and potential capability, the council representatives indicated that the strongest administrative areas were planning and coordinating EMS activities. Conversely, they reported implementation and evaluation as their weakest administrative areas.

Additional questionnaire information revealed that the council chairmen were usually physicians, and EMSACs were the primary agencies concerned with EMS in their areas of responsibility. In California, every county was directed to have an EMSAC by state law.
EMSAC development in the U.S. is a rapidly growing phenomenon that apparently has an important influence on funding and the directions of development. A study of this organizational approach to EMS improvement offers insights into the overall operation of community EMS systems and potential guidance in putting together the components of these systems in a rational and effective way.
APPENDIX I

ACTIVITIES OF COUNCILS
SIZE OF COUNCILS
COMPOSITION OF COUNCILS
APPENDIX I

ACTIVITIES OF THE EMSAGS

A. Planning
B. Review and Approval
C. Fund Application
D. Legislation
E. Public Information
F. Emergency Medical Technician Training
G. Other Training
H. Registry for Emergency Medical Technicians
I. Surveys, Data Collection, and Analytical Reports
J. Investigation
K. Implementation of Plans and Program

SIZE OF COUNCIL

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<tr>
<th>Percentage</th>
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<tbody>
<tr>
<td>50%</td>
<td>6 - 12 members</td>
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<tr>
<td>25%</td>
<td>13 - 20 members</td>
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<tr>
<td>25%</td>
<td>20 members or more</td>
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## COMPOSITION OF COUNCIL

<table>
<thead>
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<th>Percentage Range</th>
<th>Representative Groups</th>
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| **75% - 100%**   | Health department,
                  | Medical society,
                  | Law enforcement agencies,
                  | Ambulance association/Funeral directors association |
| **50% - 74%**    | Fire department,
                  | Hospital associations or councils,
                  | Hospital administrators and/or medical staff,
                  | American National Red Cross,
                  | Civil defense/Disaster corps |
| **25% - 49%**    | Citizen organizations/Private citizens (non-physician),
                  | Private physicians/Physician specialists,
                  | Board of education/University-Junior college staffs,
                  | Comprehensive health planning/Regional medical programs,
                  | City council/Board of supervisors,
                  | Highway safety/Public safety/Motorist association,
                  | Nurses association,
                  | American College of Surgeons' Committee on Trauma |
| **Less than 25%** | Dental association,
                  | Pharmacists association,
                  | American Academy of Orthopaedic Surgeons,
                  | Optometric association,
                  | Bar association,
                  | League of municipalities,
                  | Communication companies,
                  | Insurance companies,
                  | Press |
APPENDIX II

GOVERNMENTAL EMS INTERACTION
(OTHER FEDERAL AGENCIES)
APPENDIX II

GOVERNMENTAL EMS INTERACTION
(OTHER FEDERAL AGENCIES)

The Department of Defense: The commanders of local military installations are responsible for the medical care of authorized personnel and dependents, including emergency medical services and transportation to treatment centers. Aid for civilians may be provided on an emergency basis, where no other adequate services are available. Some new approaches have been made. Specifically, the program of Military Assistance in Safety and Traffic has been instituted at five locations in the United States. The use of trained paramedical personnel and military helicopters to supplement the civilian emergency medical system, offers a new type of public service. This constitutes an important interface of military and civilian systems, federal and local activities, and the coordination of activities among a variety of federal agencies. In the development of the program of Military Assistance in Safety and Traffic, the Department of Transportation and the Department of Health, Education, and Welfare, joined with the Department of Defense. It has been suggested that military installations, reserve units, and National Guard units are presently located in areas that would allow coverage of the vast majority of the American population with similar supplementation of community emergency services. In addition, the
Department of Defense can have great impact through the training of emergency medical technicians, who eventually enter the civilian community systems.

The Office of Education: Through the Manpower Development Training Act, the Office of Education is in a position to fund training programs for emergency medical technicians in accredited junior colleges and associate degree programs. This could become an important source of additional manpower in the emergency health care system. Emphasis is generally placed on the education of the economically deprived.

The Appalachia Regional Commission: Similarly, the Appalachia Regional Health Act allows funding of demonstration projects in health services in areas designated as Appalachia. These include emergency medical services. The combination of training programs and demonstration projects in areas of economic deprivation can serve as an important avenue of improvement of emergency and general health services in underserved areas.

The Bureau of Health Manpower Education: The Division of Allied Manpower of the National Institutes of Health is concerned with the education of medical students and post-graduate medical education. They are concerned also with the training of a variety of allied health manpower. It is quite possible to develop training programs that emphasize the integration of public health services and medical
care, as well as community health services and hospital services in this area of emergency care.

Health Services Research and Development (DHEW): The National Center for Health Services Research and Development is concerned with the demonstration of innovative programs of health care at the local level. Funding of emergency medical service demonstrations compete with such projects as health maintenance organizations and other primary care programs; chronic disease programs; etc. A periodic list of funded research is prepared, but it is not sufficiently subcategorized to reveal relationships to emergency medical services. A key-word retrieval mechanism for extracting such information would be useful.

Other federal programs are involved in a variety of central and peripheral activities related to emergency medical services. The Office of Emergency Preparedness and the Office of Civil Defense are not concerned with health care delivery, but the problems of mobilization of disaster care are intimately bound with the ongoing emergency health care system. The question has been raised as to whether an effective emergency medical service system may constitute the most appropriate base for expansion to meet the demands of disasters involving mass casualties. Most disaster plans suffer from atrophy of disuse unless they are tied to a system of day-by-day activity. The Search and Rescue Operation of the U.S. Coast Guard must be considered as another adjunct of emergency health services systems. The
Office of Economic Opportunity may stand in the same relation to demonstration and training programs in deprived urban areas and rural areas outside of Appalachia, as does the Appalachia Regional Commission in their area. The Department of Labor might also be brought in through the manpower programs administered under that aegis. There are undoubtedly still other federal agencies with current and potential input, that are as yet unknown to the author.

APPENDIX III

RECOMMENDED ITEMS
OF INTEREST FOR COUNCILS
APPENDIX III

RECOMMENDED ITEMS OF INTEREST FOR COUNCILS

| AMBULANCES | 1. Should meet the vehicle design specifications as recommended by the National Academy of Engineering, National Research Council. |
| AMBULANCE PERSONNEL | 1. Should have basic training of at least seventy instruction, plus ten or more additional, hours of emergency room training. |
| | 2. Should routinely maintain skills by observation and instruction in a hospital emergency department under the supervision of a physician, including regular critique by emergency room physicians with ambulance personnel of care administered to the patient prior to his arrival at the emergency room. |
| | 3. Should meet or exceed requirements of the National Emergency Medical Technician Registry, once established. |
| | 4. Two emergency medical technicians, one of whom may be the driver, should staff each emergency ambulance. |

| HOSPITAL EMERGENCY FACILITIES | 1. Should promote the development of satisfactory plans for regionalization of services. |
| | 2. Should be categorized using the National Academy of Sciences' recommended criteria. |
3. Should provide for ongoing self-improvement training for all emergency department staff, both clinical and administrative.

4. Should meet or exceed the emergency department standards recommended by the Joint Commission on Accreditation of Hospitals.

5. Should accept a leadership role in providing training for emergency medical technicians.

6. Should base ambulance services at the hospital, wherever and whenever feasible.

COMMUNICATIONS

1. A single telephone number for emergency medical services, i.e., "911," should be instituted throughout the Nation.

2. Central dispatch should be provided for all emergency ambulances.

3. Radio or environmentally secure communications should exist between:
   a) Central dispatch center
   b) Ambulance
   c) Hospitals
   d) Law enforcement and fire units
   e) Emergency operating centers

SUPPORTIVE ACTIONS

1. Toll-free public telephone services should be available for all emergency calls from pay telephones.

2. Emergency Medical Identification should be carried by all persons with conditions or medical histories which should be known to anyone rendering emergency medical care.

3. At least one member of every family should be trained in Medical Self-Help and/or Red Cross first aid.

4. Highway signs (coordinated with hospital categorization) should be placed in adequate numbers and locations to identify emergency medical care facilities.
5. Tetanus toxoid immunization should be promoted to obviate the need for administering dangerous horse serum or expensive human serum after trauma.

Important: Promotion and development of State and community Emergency Medical Services Councils and EMS supporting legislation are recognized by the Division of Emergency Health Services as two of the most important tools for implementing emergency medical care programs. Although these are not included in the Recommended Standards, DEHS strongly supports them.
APPENDIX IV

LETTER FROM DIRECTOR,
DIVISION OF COMMUNITY HEALTH
TO DEPARTMENT OF HEN
Dear Dr. Huntley:

The Ohio State University has commenced its study of the impact and effectiveness of Emergency Medical Services Advisory Councils throughout the United States. An Emergency Medical Services Advisory Council is defined as "any council or committee whose expressed purpose is to bring about improvements in the provision of emergency medical care for communities." The study aims to evaluate the impact of such organizations on the emergency medical care systems in the respective communities. At the termination of the study we will prepare a report on the current status of Emergency Medical Services Advisory Councils in the United States, with recommendations for future developments and guidelines for the further establishment of Emergency Medical Services Advisory Councils, and a check-list for self-evaluation of communities will be developed. It is our feeling that Emergency Medical Services Advisory Councils are a prime force in the future development of emergency medical services in this country. There is much to be learned from them that will be generalizable for the benefit of the nation.

An approach has been developed for collecting data from representatives of these Councils and we are ready to establish contact with Council officials. We have held several sessions with members of the Biometrics Laboratory and the Behavioral Science Laboratory at the Ohio State University in preparation for the study. Emergency Medical Services Advisory Councils have been identified as to location and we are in the process of obtaining data regarding their communities from the National Community Data Profile Center. The questionnaire that will be used in gathering information for the present study should be in the mail to each Council by December 1, 1971.
Our initial contact with Council representatives will begin in November. We would greatly appreciate your informing the Councils of our study. The enclosed postcards have been prepared for their use to identify for us the staff members with whom we may work.

Thank you for your assistance in the study of this important area of health care. My warmest regards to your colleagues.

Sincerely yours,

Martin D. Keller, M.D., Ph.D.
Professor, Preventive Medicine
Head, Division of Community Health
APPENDIX V

POST CARD
APPENDIX V

Director
Division of Community Health
Department of Preventive Medicine
B-122 Starling-Loving Hall
The Ohio State University
410 W. 10th Avenue
Columbus, Ohio 43210

NATIONAL STUDY OF
COMMUNITY EMERGENCY MEDICAL SERVICES ADVISORY COUNCILS

Please reply to the following and return promptly:
1. Name of Council or equivalent organization
   Address

2. Person to be contacted:
   Address
   Phone:

3. Alternate, if applicable:
   Address
   Phone:

Thank you for your cooperation.

Division of Community Health
APPENDIX VI

LETTER FROM DEPARTMENT OF HEW
TO COUNCIL CHAIRMEN
November 3, 1971

Chairmen and Members
Emergency Medical Services Advisory Councils and Committees

Dear Sirs:

In a July 27, 1971 letter to you from the Division of Emergency Health Services, we mentioned that the University of Ohio would be performing an analysis of EMS councils in the near future. Dr. Martin D. Keller, Professor, Preventive Medicine, and Head of the Division of Community Health at the University of Ohio has indicated that the University is now ready to make direct contact with EMS Councils. A copy of Dr. Keller's letter to me is enclosed along with a post card requesting names of persons that they could contact within your council (or committee).

We, of course, are supportive of the effort, and feel that the results of their study will be useful to existing councils as well as to those that might be formed in the future. Further, it will help provide an information base from which this Division can make program decisions regarding development of materials or programs which would be assistive to your efforts to upgrade emergency medical care in your community.

Sincerely yours,

[Signature]
Henry C. Huntley, M.D.
Director
Division of Emergency Health Services

Enclosures
APPENDIX VII

COVER LETTER
Dear

The Department of Preventive Medicine of The Ohio State University is engaged in a national study of Emergency Medical Services Advisory Councils (EMSACS). The objective of this study is the evaluation of the impact of many types of organizations concerned with the emergency medical care system. It is hoped that a description of the national status of such efforts will lead to recommendations for future development. An attempt will also be made to develop guidelines for self-evaluation by communities or areas served by a variety of EMSACS.

We have communicated with the advisory groups that were identified for us by H.E.W. and we are now in the second phase of the study. This requires collection of information regarding individual EMSAC structure and activities. I am, therefore, addressing this letter to you and enclosing a copy of a questionnaire that has been field-tested in ten communities. We are aware that the response will involve some time and effort, and we apologize for this imposition on your busy schedule. Please be assured, however, that these data will be put to use in a way that will benefit all of us. I should be most grateful to you and your colleagues for filling out the enclosed questionnaire and returning it to us by February 10, 1972. We will feed back the information to you after we have analyzed the responses. In no way will our report present information on individual programs without the permission of the program director. We will only present aggregate information to illustrate the status of development in the United States. We hope, as the study progresses, to highlight individual programs that illustrate features that may be of use to others in improving emergency medical services in specific ways. With the permission of the programs in question, individual achievements will be presented as possible avenues for advancement of other programs in the United States.

One aspect of the study that will be of interest to participants is the relationship of emergency medical services to demographic and health care variables currently gathered by
the National Community Data Profile Center. Such comparisons may reveal patterns in the development of emergency medical services in the United States that will be useful in planning future systems.

We are greatly interested in your thoughts and suggestions. Please do not hesitate to call or write at your convenience. We are all most grateful to you for your kind cooperation.

Sincerely yours,

[Signature]

Martin D. Keller, M.D., Ph.D.
Professor, Preventive Medicine
Head, Division of Community Health

MDK:cah
Enclosure
APPENDIX VIII

QUESTIONNAIRE
APPENDIX VIII

Department of Preventive Medicine
Division of Community Health

SURVEY
OF EMERGENCY MEDICAL SERVICES ADVISORY COUNCILS

DEFINITION OF TERMS

Emergency Medical Services:
Services rendered by physicians, or other specially trained personnel, to patients for treatment of complaints considered to be in need of urgent medical care.

Emergency Medical Services Advisory Council (EMSA)
Any council, committee, or group of individuals organized for the purpose of improving the provision of emergency medical care in the area.

Chairman, Emergency Medical Services Advisory Council:
The person who is assigned primary administrative responsibility for the activities of the Council.

Council Working Staff:
Persons serving on the Emergency Medical Services Advisory Council as full or part-time staff personnel.

Areswide Health Planning Agency
The health planning agency designated under Public Law 89-749 (Comprehensive Health Planning) to conduct comprehensive health planning programs within certain geographic boundaries.

Health Planner:
A person engaged primarily in the planning of health services, on the staff of a health planning agency.

Hospital and Health Services Administrator:
A person engaged in health care administration in hospitals, nursing homes, clinics or similar type of medical treatment facilities.

Public Health Administrator:
A person engaged in any aspect of the administration of public health departments or official health programs at federal, state, or local levels.

Paramedical Professional:
Any person serving in one of the allied medical professions such as dentistry, nursing, veterinary, etc., not specifically assigned to emergency health service.
### PLEASE ANSWER ALL QUESTIONS

1. **List the official title and address of your Emergency Medical Services Advisory Council\(^*\) or equivalent.**

   [Blank lines]

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tbody>
<tr>
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</tbody>
</table>

2. **List the name and address of your present Chairman\(^*\).**

   [Blank lines]

<p>| |</p>
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<th></th>
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<tbody>
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</tbody>
</table>

3. **What is the educational background of your present Chairman?** (Check appropriate box(es))

   - [ ] B.A.  [ ] B.S.
   - [ ] M.A.  [ ] M.S.
   - [ ] Other (specify)  
   - [ ] Ph.D.
   - [ ] M.D. or D.O.
   - [ ] Other (specify)

   **Field of Specialization**

   **Institution**

<table>
<thead>
<tr>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. **What is his area of specialization?**

   [Blank lines]

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

5. **What is the composition of the working staff?**

<table>
<thead>
<tr>
<th>Profession</th>
<th>Total No. of Personnel</th>
<th>Approximate No. of Full-Time Equivalents (40 hr/week = 1 FTE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paid</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unpaid</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   **If available, please attach a list of Council members and the organizations that they represent.**

   - [ ] Copy is attached  [ ] Copy is not attached

---

\(^*\) Council refers to the Emergency Medical Services Advisory Council.
5. When was the Council established?

<table>
<thead>
<tr>
<th>Years</th>
<th>Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td></td>
</tr>
</tbody>
</table>

6. Under what authority was the Council established?

- Government
  - By legislation
  - By executive order (specify) _______
  - Other (specify) _______

- Non-Government
  - By professional association
  - By private agency
  - By executive order (specify) _______
  - By citizen action
  - Other (specify) _______

If Government, specify level:
- Federal
- State (specify) _______
- County
- Municipality

7. The Council is the formal advisory group for:
- Governor
- County Commissioners or Board of Supervisors
- City Council or Mayor
- Director, State Health Department
- Director, County/City Health Department
- Council of Governments
- Area-wide Health Planning Agency*
- Other (specify) _______

8. 10. 11. 12.

10. How is the Emergency Medical Services Advisory Council Chairman chosen?

- Formally elected by members
- Appointed after consultation with: _______________________
- Appointed by: _______________________
- Other (specify) _______________________

11. What is the tenure of office for your Chairman?

- Number of years
- Unspecified

12. How often does the full Emergency Medical Services Advisory Council meet?

- Weekly
- Quarterly
- Monthly
- Annually
- Other (specify) _______________________

13. Is your Council the only planning group in your area with Emergency Medical Services* as their primary concern?

- Yes
- No

If not, please name the others and indicate whether they are represented on your Council.

<table>
<thead>
<tr>
<th>Name:</th>
<th>Represented on your Council</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Definitions identified on cover page
14. Please indicate other agencies/activities devoting part of their efforts to planning Emergency Medical Services in your area, and their representation on your Council.

<table>
<thead>
<tr>
<th>Regional Medical Program</th>
<th>Represented on your Council</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comprehensive Health Planning</th>
<th>Represented on your Council</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Local Health Department</th>
<th>Represented on your Council</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hospitals</th>
<th>Represented on your Council</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Others (specify)</th>
<th>Represented on your Council</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

15. Did other Emergency Medical Services Advisory Councils assist in your area prior to the formation of the present Council?

| Yes | No |

If so, please indicate reason(s) for their termination (check as many items as appropriate).

- Lack of financial resources
- Lack of community interest
- Lack of effective leadership
- Lack of interest among Council members
- Unknown
- Other (specify)

21. Providers of ambulance service currently operating in your area:

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Number of Providers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private (ambulance services)</td>
<td>61 62</td>
</tr>
<tr>
<td>Private funeral homes</td>
<td>63 64</td>
</tr>
<tr>
<td>Fire rescue services</td>
<td>65 66</td>
</tr>
<tr>
<td>Police rescue services</td>
<td>67 68</td>
</tr>
<tr>
<td>Volunteer rescue services</td>
<td>69 70</td>
</tr>
<tr>
<td>Hospital ambulance services</td>
<td>71 72</td>
</tr>
<tr>
<td>Other (specify)</td>
<td>73 74</td>
</tr>
</tbody>
</table>

22. Has your Council been instrumental in obtaining financial assistance for Emergency Medical Services Projects?

| Yes | No |

If yes, sources of funding include:

- Department of Transportation
- Regional Medical Programs
- Comprehensive Health Planning
- Other federal sources (specify)

- State sources (specify)
- Other sources (specify)
16. What geographic units are represented by your Council?

<table>
<thead>
<tr>
<th>County</th>
<th>Municipalities/Suburbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Less than one county</td>
<td>□ 1</td>
</tr>
<tr>
<td>□ 1 county</td>
<td>□ 2</td>
</tr>
<tr>
<td>□ 2 counties</td>
<td>□ 3</td>
</tr>
<tr>
<td>□ 3 counties</td>
<td>□ 4</td>
</tr>
<tr>
<td>□ 4 or more counties</td>
<td>□ 10 or more</td>
</tr>
</tbody>
</table>

17. Are these geographic boundaries colinear with the area represented by an Area-wide Health Planning Agency?

□ Yes □ No

18. What is the approximate population of the area represented by your Council?


19. Has the population of the area represented by your Council remained relatively stable, decreased, or increased over the past ten years?

□ Decreased
□ Remained relatively stable
□ Increased slightly (5-10%)
□ Increased moderately (10-30%)
□ Increased significantly (more than 30%)

20. Most of the population in your area of responsibility is:

<table>
<thead>
<tr>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Farm</td>
<td>□ Non-Industrial</td>
</tr>
<tr>
<td>□ Industrial</td>
<td>□ Suburban</td>
</tr>
</tbody>
</table>

There has been much recent concern regarding the categorization of hospitals according to their emergency care facility and services. One scheme includes the following categories:

Type 1: Comprehensive Emergency Treatment Facility. Capable of providing comprehensive emergency care with 24-hour staffing by medical and hospital support personnel. Specialists are available at all times.

Type 2: Major Emergency Treatment Facility. Hospital facilities providing outpatient emergency medical services. Twenty-four-hour physician coverage but all specialists are not available.

Type 3: Limited Emergency Treatment Facility. Hospital facilities providing outpatient emergency medical services with physician on call.

21. Have the emergency medical facilities in your Council's area been classified into the above or similar type of categorization?

□ Yes □ No

If yes, by whom were they classified?

If available, please attach a copy of the categorization scheme in your area.

□ Statement of categories attached
□ Statement of categories not available

*Definitions identified on cover page
<table>
<thead>
<tr>
<th>Activity</th>
<th>Time Period</th>
<th>Has been considered and rejected</th>
<th>Pre-agenda evaluation</th>
<th>On agenda for consideration</th>
<th>In planning stage</th>
<th>Has been implemented</th>
<th>In post-implementation evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Emergency Medical Facilities</td>
<td>Prior to 1970</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>1. Development of satisfactory plans for regionalization of services</td>
<td>1970-1971</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. Categorization of hospital emergency departments</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. Survey of staffing patterns</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4. Location of new emergency medical facilities</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5. Survey of equipment in emergency medical facilities</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6. Use of standard forms for emergency medical services data collection</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>7. Development of tax base to support local emergency medical services</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>B. Emergency Medical Communications</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>1. Survey of emergency medical communications network</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. Establishment of a common emergency telephone number</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. Specific communications between ambulances and hospitals</td>
<td>☐</td>
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</tr>
<tr>
<td>4. Intercommunication between all phases of rescue and emergency medical services</td>
<td>☐</td>
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<td>☐</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>5. Central dispatching of ambulances</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
<td>☐</td>
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<tr>
<td>6. Toll-free public telephone services</td>
<td>☐</td>
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<tr>
<td>7. Telemetry systems</td>
<td>☐</td>
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<td>☐</td>
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</tr>
</tbody>
</table>
COUNCIL ACTIVITIES INVENTORY

For each item below, note in response columns 1 and 2 whether your Council has been active in any of these areas, and the present status in columns 3 through 8.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time Period</th>
<th>Has been considered and rejected</th>
<th>Has not been considered</th>
<th>Pre-agenda evaluation</th>
<th>De-agenda for consideration</th>
<th>In planning stage</th>
<th>Has been implemented</th>
<th>In post-implementation evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Survey of ambulance service</td>
<td>Prior to 1970</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>3. Location of new ambulance bases</td>
<td>Prior to 1970</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>5. Purchase of emergency medical equipment</td>
<td>Prior to 1970</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>6. Use of air ambulances</td>
<td>1970-1971</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>7. Training and Education</td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>1. Survey of emergency medical service training requirements</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2. Training of emergency medical facility personnel</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Training of ambulance personnel</td>
<td></td>
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<td></td>
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<tr>
<td>4. Disaster training program</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>5. Community educational programs in emergency medical services</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>6. First-aid training for selected community populations</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
23. From the Council's Activities Inventory, please identify in priority sequence the top five projects to which your Council is currently directing its efforts.

1. ____________________________________________
2. ____________________________________________
3. ____________________________________________
4. ____________________________________________
5. ____________________________________________

24. Please list your Council's top five priority projects/activities in order of importance for the next calendar year.

1. ____________________________________________
2. ____________________________________________
3. ____________________________________________
4. ____________________________________________
5. ____________________________________________

27. Given your Council's experience, how would you rate your effectiveness in each of the following activities?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Extremely Effective</th>
<th>Moderately Effective</th>
<th>Somewhat Effective</th>
<th>Not Very Effective</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Emergency Medical Facilities</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>B. Emergency Medical Communications</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>C. Ambulances and Equipment</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>D. Training and Education</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
29. Given the particular circumstances and needs for emergency medical services in your area, how would you rate the overall effectiveness of your Council?

- [ ] Extremely effective
- [ ] Moderately effective
- [ ] Somewhat effective
- [ ] Not very effective

29. Given your Council's experience, how would you assess your community's emergency medical services needs?

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Emergency Medical Facilities</td>
<td>[ ]</td>
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<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>B. Emergency Medical Communications</td>
<td>[ ]</td>
<td>[ ]</td>
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<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>C. Ambulances and Equipment</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>D. Training and Education</td>
<td>[ ]</td>
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<td>[ ]</td>
</tr>
</tbody>
</table>

30. Given your Council's experience, what are the major obstacles to developing effective emergency medical services in your area of responsibility? (Check as many items as appropriate.)

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>A. Emergency Medical Facilities</td>
<td>[ ]</td>
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<td>[ ]</td>
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<tr>
<td>B. Emergency Medical Communications</td>
<td>[ ]</td>
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<td>[ ]</td>
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<tr>
<td>C. Ambulances and Equipment</td>
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<tr>
<td>D. Training and Education</td>
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</tr>
</tbody>
</table>
31. How would you assess the capabilities of your Council in each of the following functional areas? (NOTE: Provide an assessment for each item even if your Council is not presently engaged in this activity.)

<table>
<thead>
<tr>
<th>Functional Area</th>
<th>Present</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Extremely Active</td>
<td>Moderately Active</td>
</tr>
<tr>
<td>A. Information Gathering and Exchange</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>B. Programs and Policy Recommendations</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>C. Planning and Coordination</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>D. Implementation</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>E. Appraisal and Evaluation</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Elaboration or Comments (Use reverse or additional page if necessary):

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

☐ Elaboration or Comments are attached on separate page.
APPENDIX IX

SECOND COVER LETTER
Dear

In response to our recent telephone call to you I am enclosing an additional copy of our questionnaire that has been field-tested in ten communities and is designed to support a national study of Emergency Medical Services Advisory Councils. We have received replies from over 100 of these Councils and hope to add your community's experience as we attempt to develop guidelines and recommendations for HEW to stimulate activity throughout the United States.

As we are currently processing the survey data we would greatly appreciate your returning the questionnaire by March 25, 1972.

Thank you for your cooperation. I shall be most happy to send you the results of this nation-wide study upon completion of our investigation.

Sincerely yours,

Martin D. Keller, M.D., Ph.D.
Professor, Preventive Medicine
Head, Division of Community Health
APPENDIX X

MASTER LISTING OF EMSACs
AND KEY REPRESENTATIVES
APPENDIX X

THE OHIO STATE UNIVERSITY

LISTING OF LOCAL EMERGENCY MEDICAL SERVICES
ADVISORY COUNCILS* AND
KEY REPRESENTATIVES
AS OF APRIL 15, 1972

Alabama

Alan R. Dimick, M.D.
EMS Committee
City Hall
Birmingham, Alabama 35203

Arizona

Ellis B. Sox, M.D.
Maricopa County EMS Cmtee
Maricopa Health Dept.
1825 E. Roosevelt
Phoenix, Ariz. 85001

C. Stanley Shumway
Apache County EMS Cmtee
County Court House
St. Johns, Ariz. 85936

Harry J. Mitchell, Actg Chmn
Cochise County EMS Cmtee
P.O. Dwr B
Bisbee, Ariz. 85603

G. Hebert Fredell, M.D.
Coconino County EMS Cmtee
120 W. Fine
Flagstaff, Ariz. 86001

Ted Lewis
Gila County EMS Cmtee
Gila County Sheriff's Office
Globe, Arizona 85001

Harry Purdy
Mohave County EMS Cmtee
Mohave General Hospital
3269 Stockton Hill
Kingman, Ariz. 86401

Eric L. Manola, Actg Chmn
Navajo County EMS Cmtee
P. O. Box K
Holbrook, Ariz. 86047

S. V. Hilts, M.D.
Pima County EMS Cmtee
Tucson Medical Center
Tucson, Ariz. 85711

John Colwell
Santa Cruz County EMS Cmtee
Box 8, Star Route
Nogales, Ariz. 85621

Clay C. Smith
Yavapai County EMS Cmtee
Prescott, Ariz. 86301

*TOTAL: 125
(Includes 4 identified after study close out date)
W. R. Sullivan, M.D.
Graham County EMS Cmtee
702 8th Avenue
Safford, Ariz. 85546

Dale E. Webb, M.D.
Yuma County EMS Cmtee
2224 South Avenue A
Yuma, Ariz. 85364

Forrest Wilkerson
Greenlee County EMS Cmtee
Box 998, Clifton, Ariz. 85533

Arkansas

Gary Robinson
Jefferson County EMS Adv. Cmtee
Jefferson Hospital, Box 8076
Pine Bluff, Ark. 71601

Quin M. Baber, Jr., M.D.
Saline County EMS Adv. Cmtee
Rt 3, Box 1099
Benton, Ark. 72015

California

Edward K. Blasdel, M.D.
Alameda County EMC Cmtee
Alameda County Health Dept.
504 5th St.
Alameda, Calif. 96120

Sheriff Stuart P. Merrill
Alpine County EMC Cmtee
Markleeville, Calif. 96120

R. L. Lynch, Health Officer
Amador County EMS Cmtee
810 Court St.
Jackson, Calif. 95642

William A. DeFries, M.D.
Fresno County EMC Cmtee
515 South Cedar Ave.
Fresno, Calif. 93702

Norton Ernest
Glenn County EMC Cmtee
1133 W. Sycamore St.
Willows, Calif. 95988

Ted Gumble
Humboldt County EMC Cmtee
825 Fifth Street
(Euro K. California 95501)

Chairman
Imperial County EMC Cmtee
935 Broadway
El Centro, California 92242

Helen W. Walker
Inyo County EMC Cmtee
207 West South Street
Bishop, Calif. 93514
George Degnan, M.D.
Contra Costa EMC Cmtee
2500 Alhambra Avenue
Martinez, Calif. 94553

William Parker
Del Norte County EMC Cmtee
567 C St.
Crescent City, Calif. 95531

Milton D. Bishop
Lassen County EMC Cmtee
Lassen Memorial Hospital
Susanville, Calif. 96130

M. H. Weil, M.D., Ph.D.
County of Los Angeles Cmtee
on Emergency Medical Care
1100 N. Mission R. CCM Bldg. #90
Los Angeles, Calif. 90033

Margaret E. Anderson
Comprehensive Health Planning
Council of Marin, Inc.
Civic Center
San Rafael, Calif. 94903

A. E. Sturm, M.D.
Mariposa County EMC Cmtee
Mariposa County Health Dept.
Mariposa, Calif. 95338

Dr. Robert Holtzer
Lake/Mendocino Counties
EMC Cmtee
207 South Pine St.
Ukiah, Calif. 95482

E. G. Nordman
Merced County EMC Cmtee
P.O. Box 231
Merced, Calif. 95340

Dr. James H. Schwartz
Modoc County EMC Cmtee
c/o Modoc Medical Center
Alturas, Calif. 96101

Owen A. Kearns, M.D.
Kern County EMC Cmtee
P.O. Box 997
Bakersfield, Calif. 93302

Crafton E. Stone, Chairman
Kings County EMC Cmtee
808 E. Myrtle St.
Hanford, Calif. 93230

Lewis W. Wright
Nevada County EMC Cmtee
Court House
Nevada City, Calif. 95959

S. L. Christenson
Emergency Care Sub-Committee
of Plumas County CHP Cmtee
P.O. Box 480
Quincy, Calif. 95971

L. Clay Freeman
Riverside County EMS Cmtee
c/o Administration Office
Riverside General Hospital
9851 Magnolia Ave.
Riverside, Calif. 92503

Glenn A. Pope, M.D.
Sacramento County Health
Advisory Board
827 7th Street
Sacramento, Calif. 95814

Harry Hill/Ernest Reyes, Jr.
County of San Benito EMC Cmtee
Health Dept.
Hollister, Calif. 95023

Arnold Michals, M.D., Coordinator
San Bernardino County EMC Cmtee
780 E. Gilbert St.
San Bernardino, Calif. 92404

Stephen P. Murphy, M.D.
San Diego County EMC Cmtee
209 County Administration Center
1600 Pacific Highway
San Diego, Calif. 92101
R. S. Fraser, M.D.
Monterey County EMC Cmtee
P.O. Box 2137
Salinas, Calif. 93901

Mr. Charles W. S. Jezycki
Napa County EMC Cmtee
100 Trancas Street
Napa, Calif. 94558

Jack J. Williams, M.D.
San Joaquin County EMC Cmtee
P.O. Box 2009
Stockton, Calif. 95201

H. H. Kusumoto, M.D.
San Luis Obispo County EMC Cmtee
P.O. Box 1489
San Luis Obispo, Calif. 93401

George F. Robertson
EMC Committee
San Mateo County CHP Council
225 37th Avenue
San Mateo, Calif. 94403

Joseph T. Nardo, M.D.
Santa Barbara County EMC Cmtee
P.O. Box 119
Santa Barbara, Calif. 93102

Edward Mattos
Santa Clara County EMC Cmtee
524 County Admin Bldg
70 W. Hedding St.
San Jose, Calif. 95110

Donald Pine, M.D.
Santa Cruz County EMC Cmtee
98 Mariposa
Watsonville, Calif. 95060

C. D. Nelson
Shasta County EMC Cmtee
Shasta Trinity Foundation
for Medical Care
1212 South St.
Redding, Calif. 96001

Miss M. Warren
San Francisco EMC Cmtee
Room 308, 101 Grove Street
San Francisco, Calif. 94102

Stephen C. Cary, M.D.
Sonoma County EMC Cmtee
121 Sotoyome St.
Santa Rosa, Calif. 95405

R. S. Milligan, Chairman
Stanislaus County EMC Cmtee
1700 McHenry Village Way
Modesto, Calif. 95350

Andrew Ward
Tehama County EMC Cmtee
P.O. Box 250
Red Bluff, Calif. 96080

Harold E. Jakes, M.D.
Tulare County EMC Cmtee
922 Cherry Ave.
Tulare, Calif. 93274

George G. Brotherton, FACHA
Tuolumne County EMC Cmtee
101 East Hospital Road
Sonora, Calif. 95370

Robert J. Boese, M.D.
Ventura County EMC Cmtee
40 Court House
Ventura, Calif. 93001

Robert A. Burns, M.D.
Yolo County EMC Cmtee
1207 Fairchild Court
Woodland, Calif. 95695
Colorado

Sadie M. Peirce, RN
Adams County EMS Cmtee
804 South 2nd Avenue
Brighton, Colo 80601

N. D. Riggs, President
Custer County Community
Health Council
Westcliffe, Colo 81252

Robert Collier, M.D.
Jefferson County CHP Council
Acute Care Committee
4045 Wadsworth
Wheat Ridge, Colo 80033

Scott P. Christensen, M.D.
Community EMS Council -- for
Grand Junction, Colo., and
Vicinity
600 Center Avenue
Grand Junction Colo 81501

Charles H. Dowding, Jr., M.D.
EMS Committee
Boulder City & County Health Dept.
3450 Broadway
Boulder, Colo 80302

Glen A. Hinshaw
Mineral County Ambulance Service
Creede, Colo 81130

Ralph M. Wexler
Pueblo County Medical Society
Disaster & EMC Cmtee
405 W. 15th
Pueblo, Colo 81003

Sgt Ray Ratzlaff
Rio Grande County EMC Cmtee
Search & Rescue Group for
San Luis Valley
Monte Vista, Colo 81144

Connecticut

Elliott R. Mayo, M.D.
Waterbury Disaster Committee
129 Prospect Street
Waterbury, Conn 06702

District of Columbia

Joseph R. Young, M.D.
District of Columbia
EMS Adv. Cmtee
Rogers Memorial Hospital
Washington, D.C. 20037

Florida

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Broward County EMS Council
303 SE 17th St, Suite 101
Pt. Lauderdale, Fla. 33316

Dr. W. T. Haeck
Duval County EMS Council
107 Market Street
Jacksonville, Fla. 32202
E. L. Nagel, M.D.  
Dade County Medical Assoc.  
EMS Cmtee  
Jackson Memorial Hospital  
Miami, Fla. 33136

Robert E. King, M.D.  
Manatee County CHP Council  
217 Manatee Avenue East  
Bradenton, Fla. 33505

Georgia

Dr. Norman J. Berry  
Committee on Emergency Health Services  
Suite 910, 100 Peachtree Street  
Atlanta, Georgia 30303

Kansas

Glea Gillium  
Salina-Saline County Ambulance & Civil Defense Board  
P.O. Box 329  
Salina, Kansas 67401

Kentucky

Dr. Mac Vandivere  
EMS Committee  
Bluegrass Regional Health Planning Council  
145 Burt Road  
Lexington, Kentucky 40503

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Joe A. Moreland, M.D.  
EMS Subcommittee  
Louisiana Area Health Planning Council  
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Baton Rouge, La. 70808

Massachusetts

Committee on EMS  
CHP Council of Central Mass.  
116 Belmont St.  
Worcester, Mass. 01605

Anthony S. Patton, M.D.  
Health Services Committee  
North Shore Health Planning Council  
17 Peabody Square  
Peabody, Mass. 01960
Jeb Boswell, M.D.
EMS Advisory Council
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818 Harrison Avenue
Boston, Mass. 02118

Michigan
Duane T. Freier, M.D.
Washtenaw County EMS Council
County Health Department
County Building
Ann Arbor, Michigan 48108

Minnesota
Robert J. Federer
Task Force on Emergency Health Care
Metropolitan Council--Twin Cities
300 Metro Square Bldg
7th & Robert
St. Paul, Minn. 55101

Missouri
James R. Cook, M.D.
Community EMS Council
2258 Barataria
Springfield, Mo. 65804

Charles B. Wheeler, M.D.
Kansas City Metropolitan
Emergency Care Agency
City Hall
Kansas City, Missouri 64101

Montana
Dr. John Googins
Cascade County EMS Cmtee
City-County Health Officer
Great Falls, Montana 59401

Elmer E. Kobold, M.D.
Yellowstone County EMS Cmtee
Billings, Montana 59102
Nebraska

Joseph S. Olewine
Metropolitan Area Committee for EMS
1201 So. 42nd
Omaha, Nebraska 68105

New Jersey

James P. Schuessler
Muhlenberg Area Rescue Squad
Council, Muhlenberg Hospital
Plainfield, N.J. 07061

New York

Frank D. Ganung
Schuyler County EMS Cmtee
Odessa, New York 14869

Ohio

Chairman
Northwestern Ohio Council on
Emergency Medical Care
424 West Woodruff Avenue
Toledo, Ohio 43624

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Health Planning Council of the
Greater Miami Valley
184 Salem Ave.
Dayton, Ohio 45406

Oklahoma

David J. Geigerman, M.D.
Disaster Medical Care Committee
Okla. County Medical Society
N.W. Highway
Oklahoma City, Okla. 73104

William A. Dwyer, M.D.
Passaic County EMS Cmtee
412 Park Avenue
Paterson, New Jersey 07504

James H. Cosgriff, Jr., M.D.
Erie County EMS Cmtee
1035 Edward A. Rath County Bldg.
95 Franklin Street
Buffalo, New York 14214

Millard Beyer, M.D.
Summit-Portage County
Subcommittee on EMS
612 Second National Tower
Akron, Ohio 44308

Clarence Warren
Emergency Medical Services Council
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Tulsa, Oklahoma 74101
Dr. William Blanchard  
McAlester-Pittsburg County Civil Defense EMS Advisory Council  
P.O. Box 578, Municipal Bldg  
McAlester, Oklahoma 74506

Oregon

Phil Huntley  
Emergency Medical Task Force Committee  
Jackson-Josephine CHP Council  
1313 Maple Grove Drive  
Medford, Oregon 97501

William Radakovich, Chairman  
Emergency Medical Task Force of the CHP Assoc. for the Metropolitan Portland Area  
1021 S.W. Fourth Avenue  
Portland, Oregon 97204

Pennsylvania

Dr. Peter Safar  
Allegheny County Council on EMS  
200 Ross St.  
Pittsburgh, Penna. 15219

John Howard, M.D.  
Delaware Valley Advisory Council on EMS  
Crozer-Chester Medical Center  
Chester, Penna. 19013

Melvin L. Ellis  
Altoona Mobile Emergency Dept. Ambulance Advisory Committee  
City Hall, Altoona, Penna. 16601

South Dakota

George W. Smith, M.D.  
Minnehaha County EMS Adv. Council  
2600 S. Western  
Sioux Falls, S. Dakota 57105

Howard W. Cockeram  
Treasure Valley Ambulance Association  
593 Smith Street  
Vale, Oregon

Arthur B. King, M.D.  
N.Y.-Penn Emergency Care Task Force  
Gutrie Clinic, Ltd.  
Sayre, Penna. 18840

City of Monessen EMS Cmtee  
528 Schoonmaker Avenue  
Monessen, Penna. 15062

Charles S. Glisan  
Henry Clay Township EMS Advisory Council  
P.O. Box 43  
Markleysburg, Penna. 15459
Texas

Mrs. Josephine Dimock, RN
Health Advisory Committee
Nortex Regional Planning Comm.
2414 9th St.
Wichita Falls, Texas 76031

Louis S. Riley, M.D.
Area Health Commission
Houston-Galveston Area Council
3311 Richmond Avenue
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APPENDIX XI

SUMMARY OF RESULTS

A. Federal Funding of EMS Projects

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Influence of EMSAC on number of federally funded EMS projects.</td>
<td>a. Overall, EMSACs received greater number of projects.</td>
</tr>
<tr>
<td></td>
<td>b. Presence of EMSAC influenced number of projects in location categories I, II &amp; III.</td>
</tr>
<tr>
<td>1A Influence of EMSAC on number of federally funded EMS projects in:</td>
<td>In each EMS activity:</td>
</tr>
<tr>
<td>a. emergency facility operation</td>
<td>a. Overall plus categories II &amp; III.</td>
</tr>
<tr>
<td>b. communications</td>
<td>b. Overall plus categories II &amp; III.</td>
</tr>
<tr>
<td>c. ambulances &amp; equipment</td>
<td>c. Overall plus categories I, II &amp; III.</td>
</tr>
<tr>
<td>d. training &amp; education</td>
<td>d. Overall plus categories II &amp; III.</td>
</tr>
<tr>
<td>2  Where EMSAC exists, influence of location category on number of federally funded EMS projects.</td>
<td>Community size and EMS availability influenced the number of federally funded projects.</td>
</tr>
<tr>
<td>2A Where EMSAC exists, influence of location category on number of federally funded EMS projects in:</td>
<td></td>
</tr>
<tr>
<td>a. emergency facility operation</td>
<td></td>
</tr>
<tr>
<td>b. communications</td>
<td></td>
</tr>
<tr>
<td>c. ambulances &amp; equipment</td>
<td></td>
</tr>
<tr>
<td>d. training &amp; education</td>
<td></td>
</tr>
</tbody>
</table>
Hypothesis

3 Where EMSAC does not exist, influence of location category on number of federally funded EMS projects.

3A Where EMSAC does not exist, influence of location category on number of federally funded EMS projects in:
   a. emergency facility operation
   b. communications
   c. ambulances & equipment
   d. training & education

4 Influence of EMSAC and location categories on the average dollar amount of federally funded projects.

4A Influence of EMSAC and location categories on the average dollar amount of federally funded projects in:
   a. emergency facility operation
   b. communications
   c. ambulances & equipment
   d. training & education

Findings

Community size and EMS availability influenced the number of federally funded EMS projects.

Community size and EMS availability influenced the number of federally funded EMS projects in each of the program areas.

a. Presence of EMSAC influenced average dollar amount of federal funding.
 b. Community size and EMS availability also influenced this funding.

In each EMS activity:
   a. No significance found.
   b. EMSAC – no significance; location categories influenced average dollar funding.
   c. EMSAC and location categories influenced average dollar funding.
   d. EMSAC – no significance; location categories influenced average dollar funding.
### B. Activities of the EMSACs

#### Hypothesis

<table>
<thead>
<tr>
<th>5</th>
<th>Influence of location category on number of EMSAC activities in:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>emergency facility operation</td>
</tr>
<tr>
<td>b.</td>
<td>communications</td>
</tr>
<tr>
<td>c.</td>
<td>ambulances &amp; equipment</td>
</tr>
<tr>
<td>d.</td>
<td>training &amp; education</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6</th>
<th>Influence of size of EMSAC on number of activities in:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>emergency facility operation</td>
</tr>
<tr>
<td>b.</td>
<td>communications</td>
</tr>
<tr>
<td>c.</td>
<td>ambulances &amp; equipment</td>
</tr>
<tr>
<td>d.</td>
<td>training &amp; education</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7</th>
<th>When EMSAC is only planning agency in the area, influence on the number of activities in:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>emergency facility operation</td>
</tr>
<tr>
<td>b.</td>
<td>communications</td>
</tr>
<tr>
<td>c.</td>
<td>ambulances &amp; equipment</td>
</tr>
<tr>
<td>d.</td>
<td>training &amp; education</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8</th>
<th>Influence of longevity of EMSAC on number of activities in:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>emergency facility operation</td>
</tr>
<tr>
<td>b.</td>
<td>communications</td>
</tr>
<tr>
<td>c.</td>
<td>ambulances &amp; equipment</td>
</tr>
<tr>
<td>d.</td>
<td>training &amp; education</td>
</tr>
</tbody>
</table>

#### Findings

| a. | Emergency facility operation: activities in "categorization of EMFs" and "use of forms for data collection" were influenced by community size and EMS availability. |
| b. | Ambulances & equipment: activities in "purchase of ambulances" were influenced by community size and EMS availability. |

| a. | Emergency facility operation: activities in "survey of staffing patterns" and "use of forms for data collection" were influenced; both for EMSACs with 10 members or more. |

| a. | Ambulances & equipment: activities in "survey of ambulance service" were influenced when EMSAC was only planning agency in area. |
| b. | Training & education: activities in "community EMS education programs" were influenced when EMSAC not only planning agency in area. |

| a. | Emergency facility operation: activities in "plan for regionalization of services" were influenced by EMSACs established in year group 1971-1972. |
| b. | Communications: activities in "survey of communications network" were influenced by EMSACs established in year group 1971-1972. |
C. EMSAC Self-Rating of Performance and Accomplishments

Hypothesis

9 Self-rating of overall effectiveness by EMSACs, influenced by community size and EMS availability.

10 Means self-ratings differ among EMSACs in:
   a. emergency facility operation
   b. communications
   c. ambulances & equipment
   d. training & education

11 Means of community needs assessment differ among EMSACs and between activities in:
   a. emergency facility operation
   b. communications
   c. ambulances & equipment
   d. training & education

12 Means of present capability ratings differ among EMSACs and between administrative areas of:
   a. information gathering & exchange
   b. programs & policy recommendations
   c. planning & coordination
   d. implementation
   e. appraisal & evaluation

Findings

No differences found.

a. Differences noted between EMSACs.
b. (1) emergency facility operation differs from ambulances & equipment and training & education.
   (2) communications differs from ambulances & equipment and training and education.

a. Differences noted between EMSACs.
b. Communications differs from emergency facility operation, ambulances & equipment, and training & education.

a. Differences noted between EMSACs.
b. (1) Implementation differs from
   (a) information gathering & exchange
   (b) planning & coordination
   (c) programs & policy recommendations
   (2) Information gathering & exchange differs from appraisal & evaluation.
Hypothesis

Means of potential capability ratings differ among EMSACs and between administrative areas of:

- a. information gathering & exchange
- b. programs & policy recommendations
- c. planning & coordination
- d. implementation
- e. appraisal & evaluation

Findings

- a. Differences noted between EMSACs.
- b. Implementation differs from
  (1) information gathering & exchange
  (2) planning & coordination
  (3) programs & policy recommendations
APPENDIX XII

OTHER INFORMATION FROM SURVEY QUESTIONNAIRE
APPENDIX XII

OTHER INFORMATION FROM SURVEY QUESTIONNAIRE

The data presented in this appendix also resulted from the responses to the survey questionnaire used in the study. Of primary interest were the organizational characteristics of the EMSACs, such as the professional background of the council chairmen, the frequency of meetings, the authority appointing the council chairmen, and whether the EMSACs had paid working staff representatives.

Physicians as Council Chairmen

The data reflect that 66 physicians currently serve as EMSAC chairmen but the total physician representation on all of the advisory councils is unknown. Table 61 indicates the responses concerning the number of physicians as advisory council chairmen.

<table>
<thead>
<tr>
<th>Background</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician</td>
<td>66</td>
<td>55</td>
</tr>
<tr>
<td>Other Professions</td>
<td>53</td>
<td>45</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>

Note: % = Percentage of those responding to this question, or 119 of the 121 survey participants.
Of the 121 EMSACs participating in the study, 66 or 55 per cent were chaired by physicians. It is interesting to note the sizeable number of councils being directed by representatives from other than the physician profession. The problems confronting EMS systems involve several disciplines, including medical, paramedical, police, fire rescue, hospital administration and public administration. Leadership may evolve from any one of these disciplines, but in the past it has predominantly come from the physician profession because of their direct concern for patient care. This pattern will be difficult to continue because of the scarcity of physicians as well as the demands that are being placed on them concerning direct patient care in their own practice. Continual participation in EMS programs by members of the physician profession is essential. However, council leadership should appropriately be assigned to the most qualified and capable person available, regardless of the profession that he represents.

Authority Appointing Council Chairmen

Table 62 indicates the number of physicians currently serving as EMSAC chairmen as well as the authority appointing them to that position. However, the data were lacking concerning the total physician population represented on the advisory councils from which the physician chairmen were appointed. Also included in Table 62 is a breakdown of the non-physician chairmen and the authorities which appointed them.
<table>
<thead>
<tr>
<th>Profession</th>
<th>Legislation</th>
<th>Exec Order</th>
<th>Other-Govt</th>
<th>Prof. Assn.</th>
<th>Private Agency</th>
<th>Citizen Action</th>
<th>Other-Non-Govt</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician Chairman</td>
<td>32</td>
<td>27</td>
<td>4</td>
<td>3</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Non-Physician Chairman</td>
<td>23</td>
<td>19</td>
<td>9</td>
<td>8</td>
<td>12</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>55</td>
<td>46</td>
<td>13</td>
<td>11</td>
<td>19</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

Note: % pertains to those responding to this question or 119 of the 121 survey participants.
Mention should be made about the authority establishing the EMSAC and frequency of meetings as well as the appointment of chairmen. Review of the data revealed that the majority of EMSACs participating in the study were appointed by local, state or county legislation. Such procedures tend to influence the appointment of the chairmen and the frequency of the council meetings. Legislation usually specifies that the meetings will be held at least monthly, and that local health officers will be appointed to the EMSACs. Additionally, annual reports must be submitted to the County Board of Supervisors, or similar authority, indicating council activities and plans for future programs. Such authority is extremely important in establishing support on a continual basis, as well as becoming a review mechanism for county officials as they become involved in EMS programs. The state of California has passed legislation establishing county-wide emergency medical care committees. Abstracts of this legislation is included in Appendix XIII. Forty-five out of 58, or 78 per cent, of the counties in California participated in this study. In the state of Arizona, while legislation does not exist directing the establishment of a county-wide EMSAC, each county has established an active council.

The most noticeable difference in these two states is the number of EMSACs with full-time paid coordinators in the state of Arizona. Also, there is considerable participation and support from the Governor's representative for highway safety in the coordination
of a state-wide program. These factors have resulted in considerable involvement by EMSAC representatives in their respective EMS programs.

This same channel of communication and linkage of the EMSACs with DOT and State Highway Safety Programs apparently does not exist in the state of California. While the state-supported legislation directs the establishment of EMSACs and the submission of annual reports to the state health department, there are deficiencies in the present program. Some councils reported that they were active in name only. Some met on an annual basis to satisfy the legislative requirements, while others were extremely active as separate agencies or as subcommittees of the areawide health planning agencies. With over fifty councils in the state and the large population and geographic area to be covered, the problems of coordination are obvious. But the coordination of these councils and their activities with the State Highway Safety Program, as well as the state health department programs for EMS, is essential for maximum benefit and utilization of all federal funds allocated to the state, and for efficiency in the management of resources for EMS at local community levels.

Frequency of Council Meetings

Table 63 indicates the results of the survey question pertaining to the authority establishing the council and the frequency of meetings. Of the 72 replies, the majority held monthly meetings. Further analysis of the responses to this question indicated a remark from many of the EMSAC representatives that they held meetings as
### TABLE 63

**AUTHORITY ESTABLISHING THE EMSAC**  
**BY FREQUENCY OF MEETINGS**

<table>
<thead>
<tr>
<th>Frequency of EMSAC Meetings</th>
<th>Government</th>
<th></th>
<th>Non-Government</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
<td>Number</td>
<td>%</td>
<td>Number</td>
<td>%</td>
</tr>
<tr>
<td>Weekly</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Monthly</td>
<td>37</td>
<td>52</td>
<td>16</td>
<td>22</td>
<td>53</td>
<td>74</td>
</tr>
<tr>
<td>Quarterly</td>
<td>16</td>
<td>22</td>
<td>3</td>
<td>4</td>
<td>19</td>
<td>26</td>
</tr>
<tr>
<td>TOTAL</td>
<td>53</td>
<td>74</td>
<td>19</td>
<td>26</td>
<td>72</td>
<td>100</td>
</tr>
</tbody>
</table>
often as required instead of a firm month-to-month schedule. There were also remarks to the effect that at least one annual meeting was held in addition to those meetings on an "as needed" basis.

**Paid Working Staff Representatives**

Investigation revealed that 33 of the survey participants had paid working staff, nine of which were from the state of Arizona. Having full-time working representatives contributes to the day-to-day activities of the EMSAC, as these individuals keep abreast of the community problems in EMS and the direction and support that may be available from federal and state sources. Since most representatives on the EMSACs serve on a voluntary basis, the time that they may devote to the community EMS programs is very limited because of commitments to their full-time positions. It is evident that the existence of a permanent representative to coordinate activities on a county-wide basis has potential value. Programs and publications are maintained, relationships with areawide health planning agencies are enhanced, and, most importantly, the mechanism exists to keep channels of communication to and from the state and federal agencies as up-to-date as possible.

The excellent organization that exists in the state of Arizona under the office of the Governor's Highway Safety Coordinator may serve as a prototype for other states to follow. Every county has an established EMSAC, nine of which have paid full-time coordinators. In summary, the entire population and geographic area is covered by
an active EMSAC, the ultimate goal that is far from equalled in other states.

EMSAC Composition

In the majority of instances, the EMSAC responses indicated physician or health planner representation on the council but omitted the total number of these professionals serving as council members. Tables 64 and 65 indicate the survey results listing total number of health planners and physicians serving on EMSACs. In those instances where the response indicated that physicians served on the council but the total number was omitted, a "one" was assumed. The same reasoning applies to the table pertaining to the number of health planners serving on EMSACs.

Ranking of EMSAC Activity

In addition to the wide ranges of responses for the ranking of the five current and the five projected priority projects, there were also many incomplete responses for both of these categories. Tables 66 and 67 reflect a summation of the EMSAC responses by categories of EMS activities in facility operation, communications, ambulances and equipment, and training and education. Because of the wide range of responses, these totals identify only priorities 1 and 2 for both the present and next calendar years.
### TABLE 64

**TOTAL NUMBER OF PHYSICIANS REPRESENTED ON EMSACS**

<table>
<thead>
<tr>
<th>Number of Physicians on EMSAC</th>
<th>Frequency</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>* 1</td>
<td>38</td>
<td>32</td>
</tr>
<tr>
<td>2</td>
<td>22</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>10</td>
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<tr>
<td>4</td>
<td>13</td>
<td>11</td>
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<td>5</td>
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<td>4</td>
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<td>6</td>
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<td>7</td>
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<td>8</td>
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<td>1</td>
</tr>
<tr>
<td>9</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

100

*Responses include those replies where there was indication that physicians were on the EMSAC but the total number was not indicated. In those instances, one physician member was assumed.*
TABLE 65

TOTAL NUMBER OF HEALTH PLANNERS
REPRESENTED ON EMSAC.

<table>
<thead>
<tr>
<th>Number of Health Planners on EMSAC</th>
<th>Frequency</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>74</td>
<td>62</td>
</tr>
<tr>
<td>* 1</td>
<td>34</td>
<td>29</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

100

*Responses include those replies where there was indication that health planners were on the EMSAC but the total number was not indicated. In those instances, one health planner member was assumed.
TABLE 66

RANKING OF PRIORITY ACTIVITIES
PRESENT CALENDAR YEAR
BY EMSACS

<table>
<thead>
<tr>
<th>Categories of Activity</th>
<th>Total Number of Activities</th>
<th>Priority 1</th>
<th>Priority 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
<td>Number</td>
</tr>
<tr>
<td>Facilities Operation</td>
<td>22</td>
<td>18</td>
<td>17</td>
</tr>
<tr>
<td>Communications</td>
<td>24</td>
<td>20</td>
<td>29</td>
</tr>
<tr>
<td>Ambulances &amp; Equipment</td>
<td>17</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Training &amp; Education</td>
<td>26</td>
<td>21</td>
<td>34</td>
</tr>
</tbody>
</table>
## TABLE 67

RANKING OF PRIORITY ACTIVITIES
NEXT CALENDAR YEAR
BY EMSACS

<table>
<thead>
<tr>
<th>Categories of Activity</th>
<th>Total Number of Activities</th>
<th>Priority 1</th>
<th>Priority 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
<td>Number</td>
</tr>
<tr>
<td>Facilities Operation</td>
<td>27</td>
<td>22</td>
<td>9</td>
</tr>
<tr>
<td>Communications</td>
<td>22</td>
<td>18</td>
<td>34</td>
</tr>
<tr>
<td>Ambulances &amp; Equipment</td>
<td>11</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Training &amp; Education</td>
<td>31</td>
<td>27</td>
<td>30</td>
</tr>
</tbody>
</table>
APPENDIX XIII

ABSTRACT OF LEGISLATION - CALIFORNIA
APPENDIX XIII

CALIFORNIA

HEALTH AND SAFETY CODE

Chapter 9. Emergency Medical Care Services
(Chapter 9 added by Stats. 1967, Ch. 1385; amended by Stats. 1969, Ch. 1084)

Article 1. Formation
(Article 1 added by Stats. 1967, Ch. 1385)

1750. An emergency medical care committee shall be established in each county in this state. Nothing in this chapter shall be construed to prevent two or more adjacent counties from establishing a single committee for review of emergency medical care in these counties.

(Added by Stats. 1967, Ch. 1385.)

1751. The first committee in each county shall be established by July 1, 1968.

(Added by Stats. 1967, Ch. 1385.)

1752. The county board of supervisors shall prescribe the membership, and appoint the members, of the emergency medical care committee. If two or more adjacent counties establish a single committee, the county boards of supervisors shall jointly prescribe the membership, and appoint the members, of the committee.

(Added by Stats. 1968, Ch. 139.)

Article 2. Duties
(Article 2 added by Stats. 1967, Ch. 1385)

1755. The emergency medical care committee shall, at least annually, review the operations of each of the following:
(a) Ambulance services operating within the county.
(b) Emergency medical care offered within the county.
(c) First aid practices in the county.

(Added by Stats. 1967, Ch. 1385.)

1756. Every emergency medical care committee shall, at least annually, report to the Health Planning Council, the state department, and the areawide comprehensive health planning agency for its area its observations and recommendations relative to its review of the ambulance services, emergency medical care, and first aid practices in that county. The emergency medical care committee shall submit its
HEALTH AND SAFETY CODE (cont'd)

observations and recommendations to the county board or boards of supervisors which it serves for comment only.

(Added by Stats. 1968, Ch. 138; amended by Stats. 1969, Ch. 306.)

Article 3. State Program
(Article 3 added by Stats. 1969, Ch. 1084)

1760. The State Department of Public Health shall maintain, in cooperation with local agencies, an Emergency Medical Services Program including, but not limited to, the following:
(a) Collection of data on the use of emergency medical services which will be of value in their development.
(b) Evaluation of emergency medical services.
(c) Establishment of recommended standards for emergency medical services.
(d) Provision of plans whereby community medical emergency services can be augmented by assistance from nearby communities and from other resources throughout the state at large.
(e) Providing consultation services with the emergency medical care committee of each county established under Section 1750 of this code.

(Added by Stats. 1969, Ch. 1084.)

1761. The department shall report to the legislature by January 1, 1973, on the Emergency Medical Services Program and shall report every odd-numbered year thereafter.

(Added by Stats. 1969, Ch. 1084.)
APPENDIX XIV

ABBREVIATIONS AND DEFINITIONS
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMA</td>
<td>American Medical Association</td>
</tr>
<tr>
<td>CHP</td>
<td>Comprehensive Health Planning</td>
</tr>
<tr>
<td>DEHS</td>
<td>Division of Emergency Health Services</td>
</tr>
<tr>
<td>DHEW</td>
<td>Department of Health, Education, and Welfare</td>
</tr>
<tr>
<td>DOD</td>
<td>Department of Defense</td>
</tr>
<tr>
<td>DOT</td>
<td>Department of Transportation</td>
</tr>
<tr>
<td>EMF</td>
<td>Emergency Medical Facility</td>
</tr>
<tr>
<td>EMS</td>
<td>Emergency Medical Services</td>
</tr>
<tr>
<td>EMSAC</td>
<td>Emergency Medical Services Advisory Council</td>
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<tr>
<td>MAST</td>
<td>Military Assistance to Safety and Traffic</td>
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<tr>
<td>NAS</td>
<td>National Academy of Sciences</td>
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<tr>
<td>NHTSA</td>
<td>National Highway Traffic Safety Administration</td>
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<tr>
<td>RMP</td>
<td>Regional Medical Program</td>
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<tr>
<td>RMPS</td>
<td>Regional Medical Programs Service</td>
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<tr>
<td>USPHS</td>
<td>U.S. Public Health Service</td>
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DEFINITIONS

Areawide Health Planning Agency:
The health planning agency designated under Public Law 89–749 (Comprehensive Health Planning) to conduct comprehensive health planning programs within certain geographic boundaries.

Chairman, Emergency Medical Services Advisory Council:
The person who is assigned primary administrative responsibility for the activities of the Council.

Council Working Staff:
Persons serving on the Emergency Medical Services Advisory Council as full or part-time staff personnel.

Emergency Medical Services:
Services rendered by physicians, or other specially trained personnel, to patients for treatment of complaints considered to be in need of urgent medical care.

Emergency Medical Services Advisory Council:
Any council, committee, or group of individuals organized for the purpose of improving the provision of emergency medical care in the area.

Health Planner:
A person engaged primarily in the planning of health services, on the staff of a health planning agency.

Hospital and Health Services Administrator:
A person engaged in health care administration in hospitals, nursing homes, clinics or similar type of medical treatment facilities.

Paramedical Professional:
Any person serving in one of the allied medical professions such as dentistry, nursing, veterinary, etc., not specifically assigned to emergency health service.
Public Health Administrator:

A person engaged in any aspect of the administration of public health departments or official health programs at federal, state, or local levels.

EMSAC Type I:

EMSACs covering areas with a population of at least 500,000; at least two comprehensive EMFs capable of caring for any urgent medical problem; and 24-hour staffing by medical and hospital support personnel with specialists available on call.

EMSAC Type II:

This classification of EMSACs includes those counties and cities with established councils and a population between 100,000 and 499,999. Within this geographic area there is at least one comprehensive EMF.

EMSAC Type III:

EMSACs in this classification represent populations between 25,000 and 99,999 with two or more major EMFs providing outpatient emergency medical services and 24-hour physician coverage (all specialists not immediately available).

EMSAC Type IV:

In order to distinguish between those EMSACs that are primarily rural, a fourth grouping was established to include populations of less than 25,000. Some of the geographic areas have at least one major EMF but for the most part service is limited to outpatient treatment with physicians on call.

Emergency Facility Operation:

This category included activities of the advisory councils that were related to the classification of service, the operation of the emergency departments and the identification of equipment used in this service. Also included is the development of EMS plans for regionalization of services.

Communications:

Activities included the identification of available EMS communications equipment, linkup of hospitals, a common emergency telephone number for the general public, telemetry systems, and central control of the network.
Ambulances and Equipment:
This category included activities pertaining to the survey of ambulances and equipment, present capability, potential locations for new ambulance stations, purchasing ambulances and equipment, and the potential use of air ambulances.

Training and Education:
In this category, activities included surveying EMS training requirements, training emergency room and ambulance technicians, disaster training programs, and educational programs for selected community populations.
BIBLIOGRAPHY
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Webb, M. L. "The Emergency Medical Care System in a Metropolitan Area." Thesis submitted to the School of Hygiene and Public Health of the Johns Hopkins University, Baltimore, Maryland, December, 1969.


OTHER REFERENCES

Multivariate Analysis of Variance Program distributed by Clyde Distributing Service, Box 166, Coconut Grove Station, Miami, Florida 33133, and adapted for Ohio State University by Social Psychology Laboratory, Columbus, Ohio 43210.

BMD 01V—Health Science Computer Facility, UCLA; Analysis of Variance for One-Way Design;

BMD 02V—Health Science Computer Facility, UCLA; Analysis of Variance for Factorial Design.