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ORGANIZING AMBULANCE SERVICES IN THE PUBLIC INTEREST

Final Report — USPHS Grant CH-35-5

Robert R. Cadmus, M. D.
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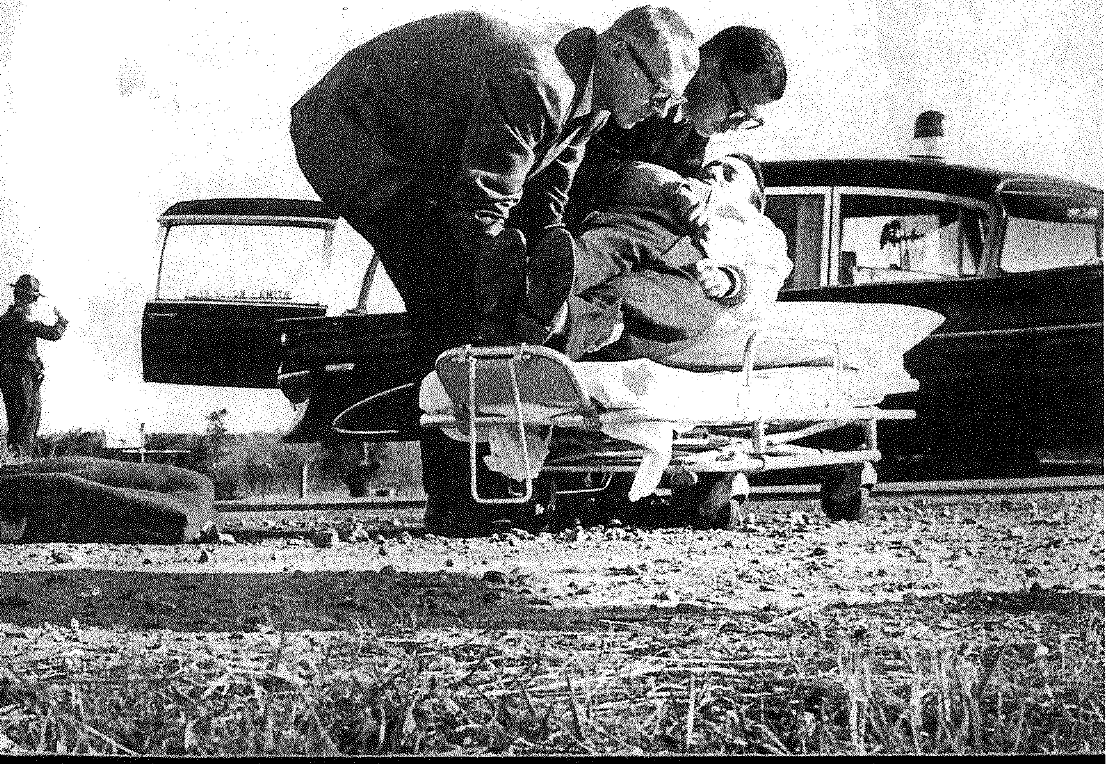

ORGANIZING
AMBULANCE SERVICES
IN THE
PUBLIC INTEREST

A research project conducted by the North Carolina Hospital Education and Research Foundation, Inc. in cooperation with the Institute of Government and the Department of Hospital Administration of the School of Medicine of the University of North Carolina, and financed by the Division of Community Health Services of the United States Public Health Service as project CH - 35 - 5

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Principal Investigator

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Project Director

Chapel Hill, N. C.
January, 1965

This report concerns a statewide study of the organizational and legal aspects of ambulance service. It was undertaken on the belief that complex social problems must inevitably come under the revealing microscope of research and that the resulting recommendations must invariably serve the public interest.

As this study comes to an end, I particularly wish to recognize and to express my sincerest appreciation:

To the public-spirited and knowledgeable individuals representing many segments of our society concerned with ambulance service, who gave of their time and their talents as members of our Advisory Committee,

To the hundreds of individuals who participated in the study by completing and returning the questionnaires,

To the long list of volunteers who conducted the interviews with the users of ambulance service,

To the countless citizens of our state and nation who, through their interest, encouragement and cooperation, contributed in many ways to the successful completion of this study,

To the Division of Community Health Services of the Public Health Service for their generous financial support,

And, finally, to Mr. John Ketner and Mrs. Gayle Campbell, the full-time project staff, for their superb assistance.

Although the study was confined to the state of North Carolina, the methodology which was developed and the findings which are reported should be of considerable benefit not only to all states faced with similar ambulance service problems, but also, ultimately, to those individuals who someday may need the efficient and lifesaving services of an ambulance.

ROBERT R. CADMUS, M.D.
Principal Investigator

Cover photograph by N. C. Department of Motor Vehicles

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I. INTRODUCTION

In our modern society where "mobility" is a part of our culture, the transportation of the sick and the injured has become a matter of great public concern. Certainly, the demand for ambulance service is increasing. Although it has been traditional for ambulances to transport the acutely ill and injured to and from hospitals, ambulances are now being used for the transportation of patients to and from referral centers for special care, for transferring the chronically ill and the aged between hospitals, doctors' offices, nursing homes, clinics and health centers, and for returning home those injured or taken ill in far away places. Whereas the vehicles used in such transportation have kept pace with modern progress, the organization and operation of ambulance service, particularly in rural areas, has not paralleled the advances made in hospitals and other medical sciences. Currently, an unorganized combination of private enterprise, particularly funeral homes, volunteer groups, and in a few instances, agencies of local government, provide the ambulance service rendered to the citizens of North Carolina.

For various reasons, the funeral homes in at least ten communities in North Carolina decided in the recent past to discontinue ambulance service. During the first fifteen months of this study, the governmental officials in two additional communities of North Carolina faced this problem for the first time. Conceivably, citizens living in all of these areas could face life in the mid-1960's without adequate ambulance service. Although local governments were usually not involved with the provision of ambulance services, the funeral homes generally advised them of their intent to discontinue service. The various communities, however, came up with no uniform approach in seeking a solution to their common problems. Inquiries to the Institute of Government of the University of North Carolina and to The Duke Endowment uncovered no universally applicable answers. A search of the literature offered little help since previous studies of ambulance service had been urban in scope, had not been conducted on a statewide basis, and were not directed to the problems facing North Carolina.

Accordingly, the North Carolina Hospital Association, through its Education and Research Foundation, made application and obtained support from the Division of Community Health Services of the United States Public Health Service for a statewide study of ambulance services entitled "Organizing Ambulance Services in the Public Interest." The study covered the period of two years beginning April 1, 1963.

The project goals were to conduct a study of the organizational and legal aspects of ambulance service in an effort to find solutions to some of the existing and potential problems of ambulance service in North Carolina and to establish a sound methodology which could be used by other states faced with a similar problem. This was not a clinical study duplicating the two projects currently underway in certain areas of California (one entitled "A Study of Emergency Ambulance Operations;" the other, "Emergency Medical Services Study").

This study uncovered many things which people familiar with the field have long surmised and the resulting recommendations include principles which perhaps could have been synthesized by knowledgeable individuals without such an investigation. However, any public action program, to be acceptable, must be based on locally accumulated facts and figures. The fact that ambulance service is not adequate and that the obvious principles have not been put into practice vindicates the need for this approach. The study revealed the good and bad of ambulance service, as well as the positive and negative attitudes of those concerned.

Undoubtedly the greatest single accomplishment of this study was to bring together a group of informed and interested persons to work together as an Advisory Committee on the problems of ambulance service. The give and take, along with the maturity of thinking that has developed during this study have established patterns which can provide the foundation for an active program aimed at organizing ambulance service in the public interest.

II. RECOMMENDATIONS

A. Basic Principles

The members of the Advisory Committee, after considering all of the data accumulated during the course of this study and having brought into the deliberations and discussions their own personal experiences and the interests of the organizations they represent, unanimously recommend the following basic principles for the organization and operation of ambulance services:

1. Every citizen of North Carolina should have ambulance service available to meet his needs whether they be for accidents, medical emergencies, or for transportation to convalescent facilities, to mental institutions, or to other health care facilities in or outside of his immediate locality. In order to meet these needs, all providers of ambulance service should:

a. Offer services on a twenty-four hour basis with additional vehicles and personnel on stand-by alert or, if such coverage is impossible, arrange coverage with another firm in the general area in order to render uninterrupted service.

b. Maintain each vehicle used as an ambulance in good mechanical condition at all times in order to provide safe and reliable transportation, particularly when operating under emergency conditions.

c. Equip each vehicle used as an ambulance with sufficient medical equipment and supplies to render first aid and to transport patients with the greatest possible safety and comfort.

d. Respond to each request for services with a responsible and trained ambulance driver and with an equally responsible attendant who has been trained to render first aid.

e. Maintain a system for two-way radio communication between ambulances and either their base of operations or a medical or law enforcement facility.

2. Persons or firms engaged in the business of operating or providing ambulance service should conduct their affairs in accordance with sound business principles and practices. This would require that adequate records be maintained; reasonable charges be made for the services rendered; and business-like collection practices be followed. Separate financial records should be maintained if the ambulance service is operated in connection with another business operation. "Legal tools" necessary to aid in receiving reimbursement for services rendered should be enacted.

3. Persons using ambulances and financially able to pay for such service should be required to do so; persons receiving necessary ambulance services and unable to pay should have the service paid for them by some agency of local government, such as the County Department of Public Welfare, from appropriations made for this purpose by the Board of County Commissioners.

4. Commercial insurance companies and Blue Cross organizations should be encouraged to provide coverage for ambulance service benefits.

5. Ambulance service personnel are a vital part of the health team in each community and there should be closer cooperation and coordination between the doctors, hospitals, and ambulance personnel in matters of medical transportation. Medical facilities receiving patients by ambulance should detain ambulance personnel and equipment only so long as is necessary for patient comfort and safety.

6. Agencies of the state government should be empowered by state statutes and be granted the funds necessary to establish minimum requirements in the following areas of ambulance operations:

a. Ambulance Drivers. An appropriate state agency should 1) determine from time to time the level of training and experience needed by ambulance drivers for the safe operations of vehicles under emergency conditions; 2) conduct at intervals deemed appropriate such tests of necessary skills; and 3) certify persons who meet these requirements.

b. Ambulance Attendants. An appropriate state agency should 1) determine from time to time the level of training and experience needed by ambulance attendants for the proper and safe handling of persons transported by ambulances; 2) determine by testing or by other means at intervals deemed appropriate that such skills are possessed by ambulance attendants; and 3) certify persons who meet these requirements.

c. Mechanical Condition of Vehicles. An appropriate state agency should 1) determine from time to time the minimum requirements for the mechanical condition of vehicles used as ambulances; 2) determine by inspection at intervals deemed necessary that the minimum requirements for the mechanical condition of the vehicles used as ambulances have been met; and 3) certify vehicles which satisfactorily meet the requirements at the time of such inspection.

d. Medical Equipment and Supplies. An appropriate state agency should 1) determine from time to time the list of medical equipment and supplies which should be available at all times in vehicles used as ambulances; 2) determine by inspection at intervals deemed appropriate that the medical equipment and supplies so designated as necessary are available and maintained in a sanitary condition in each vehicle used as an ambulance; and 3) certify that the medical equipment and supplies and sanitary conditions found were satisfactory at the time of inspection.

7. Statewide statutes should be created making it a misdemeanor to place "false calls" for ambulance services.

8. Statewide statutes should be created making it a misdemeanor for any individual financially able to pay for ambulance service to procure such service without intending to pay the necessary costs.

9. In general, ambulance service should be furnished as a private

business enterprise. Statewide legislation should, however, authorize local governmental units (county, city or town) in the public interest to take such action as is necessary to assure adequate ambulance service. Such legislation should include provision for the local government to grant franchises, regulate charges, determine the number of vehicles to be operated, set minimum limits for liability insurance, and establish other necessary controls for ambulance service in the same manner as is customarily done for such operations as taxicabs.

If the above proves to be inadequate to assure continued and adequate service, it may become necessary to authorize local government to spend public funds, including authorization to levy and collect tax funds for ambulance service. This may be done by local act, or if experience in the future indicates the necessity, by general act. Alternative possibilities for providing service may also be developed through local legislation; for example, a given community may desire now or in the future to obtain special legislation authorizing a hospital, a rescue squad or other public or private agency to provide ambulance service, directly or by contract.

B. Recommendations for Initial Implementation in North Carolina

The Advisory Committee has concluded that the implementation of the standards and principles outlined in the preceding section of this report cannot be left to chance. It is evident that legislative action is necessary. At the same time, it would not be wise to attempt to enact legislation embracing all of the standards and principles specified in this report at one time. Furthermore, providing legislation for the more important aspects of the program may, through experience, show that no further legislation is needed; or, on the other hand, show that the entire program is essential to the accomplishment of the objectives.

It should be pointed out that the following recommendations, although written in some detail, are not presented in the wording and form which may be necessary for legislation. However, it is recommended that the 1965 General Assembly be requested to enact legislation embodying the following provisions:

1. RESPONSIBILITY OF STATE BOARD OF HEALTH TO ISSUE PERMITS

The State Board of Health shall be required to adopt regulations which will provide:

a. That no persons, either as owner or agent, shall be engaged in or profess to be engaged in the business or service of the transportation of patients upon the streets or highways of North Carolina unless he holds a currently valid permit for an ambulance issued by the State Board of Health, or its duly authorized agent. Such permits are to be good for a period of one year unless sooner suspended or revoked for a violation of statutes or regulations pertaining to ambulance vehicles. (The term "ambulance" is defined to include any privately or publicly owned motor vehicle that is specially designed or constructed and equipped and is intended to be used for and is maintained or

operated for the transportation upon the streets, roads or highways in North Carolina of persons who are sick, injured, wounded or otherwise incapacitated or helpless. Excluded are vehicles designed for rescue or entrapment operations which do not ordinarily transport persons upon the streets, roads or highways of North Carolina and all airborne vehicles used as airborne ambulances.)

b. That the owner of any ambulance who desires to operate it upon the streets, roads or highways of North Carolina must, before applying to the State Board of Health for a permit, obtain from the State Department of Motor Vehicles, or its duly authorized agent thereof, a certificate stating that the ambulance for which a permit is requested does meet the requirements of the Department of Motor Vehicles regarding the mechanical condition of the vehicle.

c. That every vehicle used as an ambulance for which a permit has been issued and its medical equipment and supplies and all records relating to its maintenance and operation, shall be open to inspection by duly authorized representatives of the Department of Motor Vehicles and/or the State Board of Health during usual hours of business.

2. RESPONSIBILITY OF STATE BOARD OF HEALTH TO ADOPT STANDARDS FOR EQUIPMENT

The State Board of Health shall be required to adopt (with authority to amend from time to time) regulations which will specify:

a. The minimum medical equipment and supplies that must be possessed by any ambulance for which the owner is applving for a permit to operate upon the streets, roads or highways of North Carolina. Such minimum medical equipment and supplies shall be sufficient to reasonably protect the health and safety of persons who are sick or injured and who are in need of and request ambulance services.

b. That the interior of the ambulance and all equipment contained therein shall meet the required standards of performance and sanitation.

c. That the State Board of Health, through its duly authorized representatives, shall inspect the medical equipment and supplies on each ambulance for which a permit has been issued whenever the State Board of Health deems such inspection to be necessary. A record shall be kept of such inspection and if any inspection shows that the medical equipment and supplies on the vehicle do not comply with the regulations of the State Board of Health, or that notice has been received from the Department of Motor Vehicles that the regulations regarding the mechanical condition of the vehicle have not been met, then the State Board of Health shall suspend the permit to operate the vehicle until the requirements of the regulations of the State Board of Health and/or the Department of Motor Vehicles are complied with.

3. Responsibility of State Board of Health to Require trained Ambulance Attendant

The State Board of Health shall be required to adopt regulations which will specify:

a. That all ambulances operating upon the streets or highways of North Carolina be occupied by at least one attendant (who may or may not also meet the minimum requirements for drivers established by the Department of Motor Vehicles) who is trained or experienced in the transportation and care of patients.

b. The minimum requirements of training or experience (with authority to amend from time to time) that must be possessed by such attendants.

c. That any person desiring to work as an ambulance attendant must apply to the State Board of Health, or its duly authorized agent, for a certificate as a qualified attendant, and be issued the certificate upon demonstrating that he meets the requirements of the State Board of Health for such certificate. That the ambulance attendant's certificate be required to be renewed every two years. That the State Board of Health be authorized to cancel said certificate at any time upon determining that the holder is no longer mentally or physically capable of satisfactorily performing services as an ambulance attendant.

d. That nothing herein is to prohibit an individual from meeting the minimum requirements for drivers established by the Department of Motor Vehicles and also holding a certificate as an ambulance attendant.

e. That nothing herein is to prohibit one from occupying an ambulance, as a helper, or in some other capacity so long as the driver meets the minimum requirements for drivers established by the Departments of Motor Vehicles and the driver or one other person possesses a valid certificate as an attendant.

4. Responsibility of Department of Motor Vehicles to License Drivers

The State Department of Motor Vehicles shall be required:

a. To adopt (with authority to amend from time to time) rules and regulations which will specify the minimum requirements that must be met by persons who operate or drive an ambulance upon the streets or highways of North Carolina. (See definition of "ambulance" under B—1 a.)

b. To conduct any examinations necessary to assure that the minimum requirements are met.

5. Responsibility of Department of Motor Vehicles to Inspect Vehicles

Since the safety of any motor vehicle is in part dependent upon the safety of all motor vehicles, the value of a statewide inspection law for all vehicles is self-evident. However, in the absence of a statewide inspection law for all motor vehicles, the State Department of Motor Vehicles shall be required to adopt (with authority to amend from time to time) regulations requiring:

a. That all ambulances to be operated upon the streets or highways of North Carolina meet minimum mechanical requirements necessary to protect the safety of people and property when such vehicles are operating under emergency conditions.

b. That the Department of Motor Vehicles, though its duly authorized representatives, shall inspect each vehicle for which a certificate has been issued whenever the Department of Motor Vehicles deems such inspection to be necessary. A record shall be kept of such inspection and if any inspection shows that the vehicle does not meet the mechanical standards required by the regulations of the Department of Motor Vehicles, the representative shall immediately notify the State Board of Health in order that the permit to operate the vehicle may be suspended until the requirements of the regulations are complied with.

6. Temporary Permits and Certification Authorized

The State Board of Health, through its duly authorized representatives, shall be authorized to issue temporary permits for ambulances and temporary certificates for attendants, and the Department of Motor Vehicles shall be authorized to issue temporary ambulance certificates and to accept any valid operator's license, for a period not to exceed thirty days when the representative determines that the issuance of such temporary permits and certificates will be in the public interest.

7. Exceptions to Regulations

Legislation relating to 1) permits to operate an ambulance; 2) licenses to drive an ambulance; 3) mechanical condition of the vehicles; 4) attendants' certificates; and 5) condition of the equipment and supplies, shall not apply to an ambulance, the driver or the attendant of an ambulance which:

a. Is a privately owned vehicle not ordinarily engaged in the business of transporting patients;

b. Is rendering assistance to an ambulance holding a permit in the case of a major catastrophe or emergency with which the ambulances with permits in the locality of the catastrophe or emergency are insufficient or unable to cope; or

c. Is operated from a location or headquarters outside of the State of North Carolina in order to transport patients who are picked up beyond the limits of North Carolina to locations within this state, or to transport patients who are picked up within this state to locations beyond the limits of this state, but no such outside ambulance shall be used to pick up patients within this state for transportation to locations within this state unless the requirements of the North Carolina law and regulations are complied with; or

d. Is owned and operated by an agency of the United States Government.

8. MISDEMEANOR TO VIOLATE REGULATIONS

It shall be a misdemeanor for any person to:

a. Operate or drive an ambulance upon the streets, roads or highways of North Carolina without having met the minimum requirements for drivers established by the Department of Motor Vehicles; or

b. Be an owner of an ambulance and permit the same to be operated upon the streets, roads or highways of North Carolina:

(1) without having obtained a permit to so operate such ambulance from the State Board of Health; or

(2) without the ambulance possessing the medical equipment and supplies required by the regulations of the State Board of Health; or

(3) without the ambulance being occupied by a certified attendant; or

(4) without the operator having met the minimum requirements for drivers established by the Department of Motor Vehicles; or

(5) in violation of the regulations regarding the mechanical condition of the vehicle used as an ambulance by the Department of Motor Vehicles.

9. MISDEMEANOR TO DEFRAUD

It shall be a misdemeanor for any person to:

a. Obtain ambulance services without intending at the time of obtaining such services to pay, if financially able, the necessary charges. A determination that the recipient of such services had failed to pay for the services rendered for a period of ninety days after request for payment, and that the recipient is financially able to do so, shall raise a presumption that the recipient of the services did not intend to pay for the services at the time they were obtained; or

b. To knowingly and wilfully summons an ambulance or report that an ambulance is needed when such person knows that the services of an ambulance are not needed.

10. AUTHORITY INVESTED IN LOCAL GOVERNMENTS

Local governmental units (county, city or town) shall be authorized in the public interest to take such action as is necessary to assure adequate ambulance services. Such legislation shall include provision for the local governmental unit to grant franchises, to regulate charges, to determine the number of vehicles to be operated, to set minimum limits for liability insurance, and to establish other necessary controls for ambulance services in the same manner as is customarily done by these local governmental units for such operations as taxicabs and local bus service.

III. ORGANIZATION AND STAFF

The project was conducted by the North Carolina Hospital Education and Research Foundation, Inc., in cooperation with the Institute of Government and the Department of Hospital Administration of the School of Medicine, both of the University of North Carolina. Research offices were located on campus at the University of North Carolina in Chapel Hill.

The list of staff members is shown in Table 1.

TABLE 1

Staff Members

Name	*Position*
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Robert L. Gunn, LL.B. Assistant Director Institute of Government University of North Carolina	Legal Consultant
George Cochran (law student)	Assistant to Legal Consultants
Neal Jones (law student)	Assistant to Legal Consultants
Charles Mills (law student)	Assistant to Legal Consultants
Katherine Roberts	Assistant to Statistical Consultants
Gayle N. Campbell*	Secretary

* Full-time

IV. ADVISORY COMMITTEE

Because of the public nature of ambulance service, various organizations and agencies of the state government were invited to participate in this project. By personal contact with the officials of these organizations and agencies, persons were selected who were able to bring to the study not only the interests and concerns of the organization or agency represented, but a wealth of knowledge and counsel arising out of their individual experiences. The members of the Advisory Committee and the organizations they represented are shown in Table 2.

TABLE 2

Advisory Committee Members

Name	*Organization Represented*
Mr. Rod A. Brandes, President Ambulance Service of Charlotte, Inc.	Commercial ambulance operators of North Carolina (no formal organization)
Mr. Albert H. Clark, Jr. Secretary-Treasurer	North Carolina Funeral Directors and Morticians Association c/o North Carolina Funeral Directors and Embalming Board 1015 Capital Club Building Raleigh, North Carolina
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Mr. George P. Harris, Director, Field Service	The Duke Endowment 1500 N. C. National Bank Building Charlotte, North Carolina
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Mr. J. Minetree Pyne Past President	North Carolina Hospital Association Post Office Box 10937 Raleigh, North Carolina
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Dr. Christian F. Siewers, F.A.C.S. Surgeon	Committee on Trauma, North Carolina Chapter, American College of Surgeons Fayetteville, North Carolina
Mr. John C. Sossoman Chairman, Ambulance Committee	North Carolina Funeral Directors Association c/o North Carolina Funeral Directors and Embalming Board 1015 Capital Club Building Raleigh, North Carolina
Major Charles A. Speed Director, Safety Division	North Carolina Department of Motor Vehicles Raleigh, North Carolina
Mr. William J. Veeder, City Manager City of Charlotte, North Carolina	North Carolina League of Municipalities Post Office Box 3069 Raleigh, North Carolina
Ex Officio:	
Mr. Marion J. Foster Executive Secretary	North Carolina Hospital Association & North Carolina Hospital Education and Research Foundation Post Office Box 10937 Raleigh, North Carolina
Mr. George Stockbridge President	North Carolina Hospital Association Post Office Box 10937 Raleigh, North Carolina

These individuals constituted a formally organized Advisory Committee. All six meetings were held in the Carolina Inn, on the campus of the University of North Carolina. The Principal Investigator presided. An agenda, distributed in advance, was generally followed during the course of the meetings. These Advisory Committee members were obviously busy people, yet their attendance records indicate the un-

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usually high and gratifying interest each had in the study. Their individual and collective opinions, counsel and advice contributed materially to the success of the study. Advisory Committee members served without compensation, although they were reimbursed for travel.

Three subcommittees of the Advisory Committee held additional meetings during the course of the study. Each committee member was assigned to a subcommittee and it was within these small groups that the initial draft of the recommendations was formulated. Each subcommittee was responsible for a separate aspect of the study: 1) Organization and Finance; 2) Training and Equipment; and 3) Governmental Action.

A clipping service was secured to determine the public interest and reporting in the general area of ambulance service and particularly in the Ambulance Service Study. It was interesting to note the relatively high incidence of ambulances involved in accidents or traffic violations and the infrequent but amazing reports of attendants not being able to operate the oxygen equipment or otherwise to perform as anticipated by the public.

In a number of areas of the study, the advice and counsel of persons in addition to those serving regularly on the Advisory Committee were sought. These persons attended meetings of the Advisory Committee by invitation and were encouraged to participate in the discussions and deliberations. Table 3 contains the names of these people and the organizations they represented.

TABLE 3

Special Advisors

Name	*Organization Represented*
Mr. Leigh Wilson Assistant Executive Director	North Carolina League of Municipalities Post Office Box 3069 Raleigh, North Carolina
Mr. Neal Forney Assistant Director	Institute of Government University of North Carolina Chapel Hill, North Carolina
Mr. John Alexander McMahon General Counsel and Secretary-Treasurer	North Carolina Association of County Commissioners Lennox Building Chapel Hill, North Carolina
Mr. Clyde O. Robinson Executive Secretary	North Carolina Funeral Directors and Embalming Board 1015 Capital Club Building Raleigh, North Carolina
Mr. Ernest Ball General Counsel	North Carolina League of Municipalities Post Office Box 3069 Raleigh, North Carolina

Dr. George Johnson, Jr., F.A.C.S. Chairman, Subcommittee for North Carolina on Instruction of Ambulance Drivers	Committee on Trauma, North Carolina Chapter, American College of Surgeons Chapel Hill, North Carolina
Dr. John Morris, F.A.C.S. Chairman	Committee on Trauma, North Carolina Chapter, American College of Surgeons Morehead City, North Carolina
Dr. Robert Kennedy, F.A.C.S. Director, Field Program	Committee on Trauma, American College of Surgeons, Field Office 2 East 103rd Street New York, New York 10029
Dr. Joseph H. Gerber, Chief Emergency Medical Services	Division of Accident Prevention Department of Health, Education and Welfare Washington, D. C.
Mr. William O. Richards Vice Commander	North Carolina Rescue Squad Association c/o Post Office Box 469 Goldsboro, North Carolina

V. DATA COLLECTION

A. Development of the Questionnaires

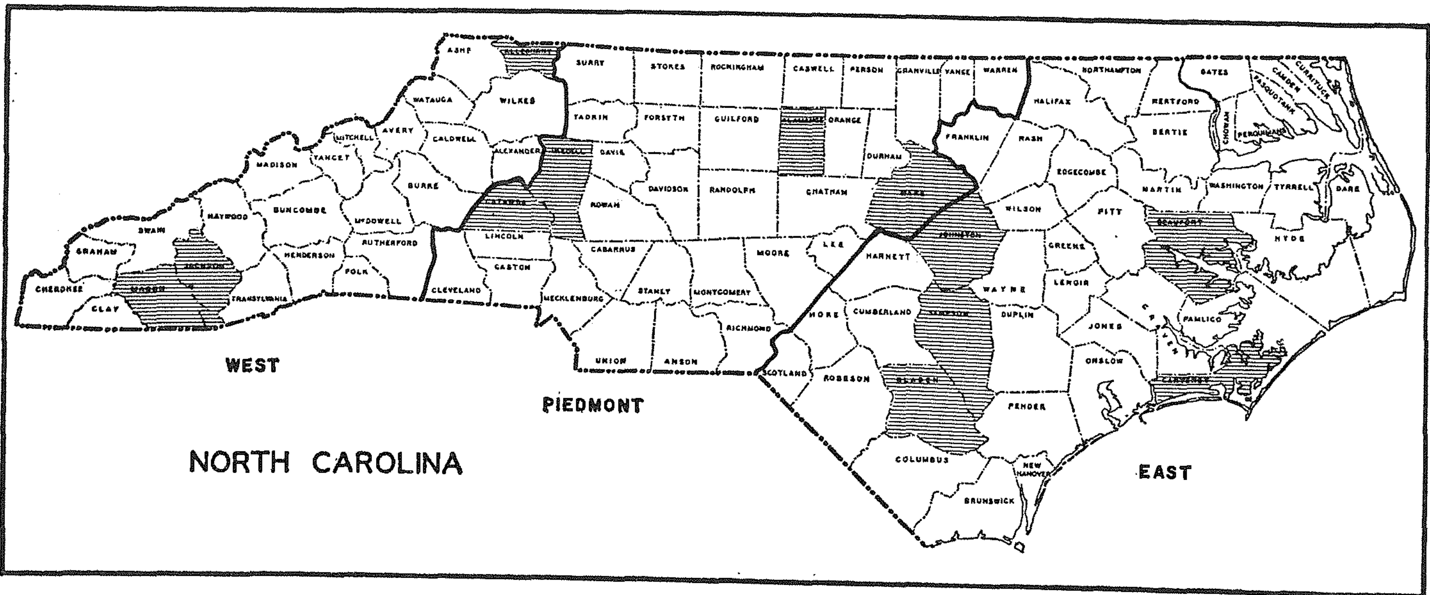
Data was collected primarily by the use of questionnaires. It was determined that questionnaires would be directed to four groups of respondents within North Carolina: 1) the firms and organizations which provide ambulance services; 2) the hospitals and nursing homes; 3) the officials of local governmental units; and 4) individuals who actually used ambulance service.

In addition, certain utilization data, including the names and addresses of individuals using ambulance service, were collected simultaneously from the firms and organizations providing ambulance service and from the hospitals and nursing homes receiving patients via ambulance. Since it was not practical to attempt to obtain this additional data on a statewide basis, the staff biostatistician selected at random twelve of the one hundred counties in North Carolina for this additional data. These supplemental questions were organized into a "Part 2" of the Providers and the Medical Care Facilities questionnaires. This "Part 2" of the questionnaires was administered for a period of one week, October 8 through October 14, 1963.

Because of the variation in terrain, industry, economy and culture between the eastern, central and western parts of North Carolina, coding was so arranged that certain data might be evaluated in respect to these regions of the state. The map designated Table 4 shows the state of North Carolina as it was divided into regions for this study. The counties selected in each region for the collection of additional data are shaded on the map.

TABLE 4.

Regions of North Carolina, Showing Counties Selected For Collection of Supplemental Data



The questionnaires were designed primarily in a multiple choice form with questions grouped by subject matter. The respondents were encouraged to write in answers and additional comments.

Numerous drafts of the questionnaires were prepared before copies were submitted to the members of the Advisory Committee for their review and approval. The Committee devoted considerable time and effort in this process and offered many pertinent and helpful suggestions.

B. Pretesting

Suggestions made by members of the Advisory Committee were incorporated in the draft of the questionnaires and mimeographed copies were prepared for pretesting. Initial plans were to pretest the questionnaires in the Richland-Lexington counties of South Carolina, an area familiar to the staff and sufficiently removed from North Carolina so as not to bias the later study. Upon arrival in Columbia (Richland County), it was learned that the funeral homes there had recently served notice of intent to discontinue ambulance service and that the city of Columbia had advertised for bids for a city regulated and franchised service. It was felt that under the circumstances it would be best to find another area for pretesting.

The communities of Greenville, Spartanburg, and Lancaster, South Carolina were selected as alternate sites. With the cooperation and assistance of the administrators of the Greenville General Hospital, the Spartanburg General Hospital, and the Marion Sims Memorial Hospital in Lancaster, desk space and a telephone were furnished at each location. The lists of firms and organizations providing ambulance services and the hospitals and nursing homes in these counties were obtained from the city directories and classified sections of the telephone directories. The hospital administrators, through personal acquaintance with the local governmental officials, furnished those names and addresses. From the lists thus obtained each person or firm was called by telephone. The purpose of the pretest was explained and the cooperation of the respondent was solicited. Not a single person out of all those contacted refused to cooperate; however, several did not return the questionnaires which were mailed from the previously mentioned hospitals.

Using the names and addresses obtained in the questionnaires which both providers and medical care facilities had returned, the Project Director of the study, assisted by Mr. Cleon Sanders of the Department of Hospital Administration, went to these South Carolina areas to pretest the Users questionnaire. Where possible the users were contacted and interviewed by telephone. Here again the response and cooperation from those contacted by phone was exceptional. The efforts toward personal interviews, however, were not generally successful. The interviewers were using an auto with a North Carolina license plate and were not familiar with the streets nor the people. Consequently, considerable hesitancy to reveal information was observed. This phase of the pretest pointed up the fact that if the interviews with the users were to be successful it would be necessary to have someone who was familiar with the area and its people to conduct the interviews.

The pretest questionnaires which were returned were tabulated, the results duplicated and mailed to those in South Carolina who participated in the pretest.

After this pretest, the final form of each questionnaire was established, printed and prepared for mailing. Copies of the questionnaires used throughout North Carolina are shown in Appendix A.

C. Distribution, Follow-up and Returns

1. *Distribution*—Questionnaires, along with a cover letter and a business reply envelope, were sent out on October 1, 1963 by third class mail to all groups of respondents except the users. The cover letter (Appendix B) briefly stated the nature of the study and solicited the cooperation of the respondents.

Distribution of the questionnaires was as follows:

a. Providers of Ambulance Service—Questionnaires were sent to 716 firms and organizations in North Carolina. Names and addresses were obtained through the courtesy and cooperation of the Executive Secretary of the North Carolina Funeral Directors Association and the Commander of the North Carolina Rescue Squad Association. Information concerning commercial ambulance firms was obtained through individual contacts.

b. Medical Care Facilities—The 183 hospitals licensed in 1963 by the North Carolina Medical Care Commission and the 52 nursing homes licensed in 1963 by the North Carolina State Board of Health comprise the sources of information for this questionnaire. The list of hospitals was furnished by the North Carolina Hospital Association; the list of licensed nursing homes by the Nursing Homes Section of the State Board of Health.

c. Governmental Groups—Questionnaires were sent to the Chairmen of the Boards of County Commissioners in each of the 100 counties in the state. Names and addresses were supplied by the North Carolina Association of County Commissioners. The North Carolina League of Municipalities furnished the names and addresses of the responsible officials for mailing to each of the 355 incorporated towns and cities in North Carolina.

d. Users of Ambulance Service—By obtaining from both providers and medical care facilities the names of those persons who had used an ambulance in the sample counties during the specified one week period, it was possible to cross-check many of the names listed. After removing from the list the names of all those over 80 or under 18 years of age, all known to be deceased, and all those living outside the sample counties, a list of 214 users of ambulance service was prepared.

The information sought in these questionnaires was to be obtained by means of personal interviews. Through the efforts of Miss Nettie Day, a member of the Advisory Committee, arrangements were made for the Public Health Nurses to contact the respondents in ten of the twelve counties. In Wake County, the Women's Auxiliary of Wake Memorial Hospital interviewed the users, while in Catawba County the

interviews were conducted by the Catawba County Council, Parent-Teacher Association.

A staff member conducted an orientation session with each group of interviewers, acquainting them with the purposes of the study. All interviews were handled entirely by these volunteer workers, who unselfishly devoted many hours to the project.

Table 5 contains a list of the organizations and persons who conducted the interviews with the users.

TABLE 5

Persons Who Assisted in Interviewing Users of Ambulance Service

County	*Agency*	*Name*
Alamance	County Health Department	Dr. W. L. Norville, Director
		Mr. Lemuel B. McMahan
Beaufort	County Health Department	Dr. W. A. Browne, Director
		Miss Eva Cratt
Bladen	County Health Department	Dr. Carolina Callison, Director
		Mrs. A. Rivenbark
Carteret	County Health Department	Dr. Luther Fulcher, Director
Catawba	Parent-Teacher Association	Mrs. J. V. McKinney, President
	Catawba County Council,	Mr. & Mrs. Joe Vaught
		Mr. & Mrs. J. F. Bridges, Jr.
		Mrs. Edgar Robinson
		Mrs. Larry R. McDaniel
		Mr. Rupert Edwards
		Mr. George Futrelle
		Mrs. Keith Starnes
		Mr. Don Barringer
		Mr. P. E. Hull
Iredell	County Health Department	Dr. Ernest Ward, Director
		Mrs. Mildred Johnson
		Mrs. Jessie T. Parker
		Mrs. Lexine A. White
		Mrs. Doris P. Johnson
		Mrs. Ina B. Pope
Jackson	County Health Department	Dr. James T. Googe, Director
		Mrs. R. Sauter

County	Organization	Members
Johnston	County Health Department	Dr. Robert D. Phillips, Director Miss Frances Moore Mrs. Martha Stevens Mrs. Sarah Welch Mrs. Ema Williford
Sampson	County Health Department	Dr. Carolina Callison, Director Mrs. Eva H. Matthews Mrs. Ruby H. Butler Mrs. Zula N. Woody Mrs. Ila P. Usher Mrs. Louise P. Coble
Wake	Women's Auxiliary, Memorial Hospital of Wake County	Mrs. E. M. Britt Mrs. James Reid, Past-Pres. Mrs. W. C. McClellan Mrs. R. B. Roberts Mrs. James C. Raines Mrs. Ray Madry Mr. Phil Buchen

2. *Followup*—The mailed questionnaires were followed up at three-week intervals on three occasions. All followup was by first class mail. The initial followup did not include additional copies of the questionnaires. Except for the "Governmental Groups" the second and third followups did include the mailing of additional copies of the questionnaires.

In order that they might stimulate further returns, the members of the Advisory Committees were apprised of the progress of questionnaire returns through letters sent them at the time the second and third followups were mailed.

3. *Returns*—Seventy-four percent of the questionnaires distributed were returned. Since it was not possible to determine in advance which of the funeral homes and rescue squads did not offer ambulance service, the mailing included questionnaires to all known funeral homes and rescue squads. Those not providing ambulance service were deleted from the study.

Table 6 indicates the distribution and returns of the questionnaires.

TABLE 6

Summary of Questionnaire Distribution and Returns

Type of Questionnaire	Total Number in the State	Not Applicable	Total Number in the Study	Questionnaires Returned: Number	Questionnaires Returned: As Per Cent of Number in the Study
Providers of Ambulance Service					
Part 1					
Funeral Homes	559	67	492	345	70%
Rescue Squads	146	44	102	67	66%
Other	11	—	11	5	45%
Part 2*					
Funeral Homes	86	1	85	50	59%
Rescue Squads	24	6	18	10	56%
Other	—	—	—	—	—
Medical Facilities					
Part 1					
Hospitals	183	14	169	161	95%
Nursing Homes	52	—	52	40	77%
Part 2*					
Hospitals	31	1	30	25	83%
Nursing Homes	5	—	5	2	40%
Governmental Groups					
Cities and Towns	355	—	355	255	72%
County Commissioners	100	—	100	65	65%
Users of Ambulance Services	214	95**	119	112	94%
TOTALS	1,766	228	1,538	1,137	74%

* Part 2 of the questionnaires distributed only to the 12 sample counties in order to gather data on ambulance utilization.

**35 died
17 out of area
27 unable to locate
16 other
—
95

Table 7 indicates the number of completed questionnaires, broken down by type and region.

TABLE 7

Summary of Completed Questionnaires by Type and Region

	Region			
	East (43 counties)	Central (33 counties)	West (24 counties)	State Total
Providers of Ambulance Service				
Part 1				
Funeral Homes	148	150	47	345
Rescue Squads	32	26	9	67
Other	1	3	1	5
Part 2*				
Funeral Homes	20	29	1	50
Rescue Squads	4	6	0	10
Other	0	0	0	0
Medical Facilities				
Part 1				
Hospitals	48	74	39	161
Nursing Homes	10	26	4	40
Part 2*				
Hospitals	6	16	3	25
Nursing Homes	0	0	2	2
Governmental Groups				
County Commissioners	24	25	16	65
Cities and Towns	121	99	35	255
Users of Ambulance Services	35	75	2	112
TOTALS	449	529	159	1,137

* Part 2 of the questionnaires distributed only to the 12 sample counties in order to gather data on ambulance utilization.

Data regarding the percentage of return of questionnaires by counties was prepared, but was of insufficient significance to include in this report.

All data collected was transferred to punch cards and tabulated by data processing equipment.

VI. APPRAISAL OF DATA GATHERING

A. Mailing

The original questionnaires were mailed by third class mail. It is apparent that many pieces of mail did not receive prompt and careful attention; indeed, some of the questionnaires in the original mailing undoubtedly never reached their destination. First class mail, with the envelopes clearly marked, although more expensive, probably would have eliminated the necessity for some of the followup procedure.

B. Campus Setting

The campus setting and atmosphere contributed greatly to the study. The opportunity of working with several departments of the University, the availability of adequate libraries and the wealth of source materials provided the staff with tools and talent which, even if available at another location, would have entailed considerable inconvenience and additional expense.

VII. DATA OBTAINED FROM QUESTIONNAIRES

A. Definitions

The percentage figures used in this section of the report were obtained by converting the tabulated answers given in the questionnaires to percentages.

"Rescue squads" when referred to in this report has reference to the activities of these organizations in the routine transportation of the sick and injured and does not refer to their functions in the area of rescue from entrapment, etc.

"Providers" represents the usuable returns from 417 firms and organizations which provide ambulance service in North Carolina.

"Medical care facilities" represents the usuable returns from 161 hospitals and 40 nursing homes throughout the state.

"Governmental groups" refers to the usable returns from 65 Chairmen of Boards of County Commissioners and 255 mayors or other officials of the towns and cities in North Carolina.

"Users" represents the usuable returns from 112 individuals who used ambulance services in the twelve sample counties during the week October 8-14, 1963.

"Sample" counties, as previously stated, include those counties selected at random from the three regions of North Carolina as designated in Table 4.

B. The Public Need for Ambulance Services

The users were asked the circumstances which made the use of an ambulance necessary. Approximately three-fourths of the respondents indicated that accidents, injuries, sudden illness, or the onset of labor or childbirth were the primary reasons for using the ambulance. The remaining one-fourth indicated that the need for an ambulance arose from an illness of some duration. The summary of replies is shown in Table 8.

TABLE 8

Users' Report of Circumstances Which Made Use of an Ambulance Necessary

36%	Accidents and injuries
36%	Sudden illness
2%	Childbirth or onset of labor
26%	Illness for some time (non-emergency)

Data furnished by a large commercial firm which provides ambulance service in a large city in North Carolina confirms the above findings with regard to the ratio of emergency to non-emergency transportation. This firm reported that during a period of three years, it handled 19,900 calls, of which 4,540 or 23% were for patients not currently presenting any acute or emergency conditions.

Hospitals and nursing homes were involved in all the ambulance calls reported by the users during the week under study. Nearly all respondents (86%) reported that they were taken to a hospital. Of the remainder, only 7% reported being removed from a hospital or nursing home, and 4% did not answer this question. Of those taken to the hospitals, 78% answered that they were admitted, while 22% said they were treated but not admitted.

The medical care facilities in the sample counties reported that 7% of admissions, 3% of discharges, and 2% of outpatients were either brought to or removed from the facilities by ambulances. From the point of view of total hospital admissions, admissions by ambulance comprise a small percentage.

In answering whether they were completely satisfied with the service rendered by the ambulance service, nearly all of the users (96%) indicated satisfaction. The only criticisms given were that 1) another attendant was needed and, in one instance, 2) it was reported that the driver did not know the way to the hospital.

No attempt was made to determine if there were geographical differences in the need for ambulance services throughout the state. The study, however, confirms the obvious need for ambulance service. With three-fourths of the ambulance needs arising from accidents, injuries, sudden illnesses and other emergency circumstances, it is apparent that ambulances must be available on a stand-by basis and that the ambulance personnel involved should be qualified to provide the necessary care promptly and with full consideration of the medical needs of the patient. First aid training and equipment appear to be most essential if proper care is to be provided under such emergency conditions.

C. How the Public Need for Ambulance Service Is Met in North Carolina

1. *Ambulance Firms and Organizations*—The data shown in Table 9 indicates that the funeral homes comprise by far the largest number (83%) of organizations offering ambulance service. Resque squads follow next at 16%, and commercial and other sources amount to only 1% of the total. Sixteen percent of the rescue squads indicated that they were government related, with the remaining 84% falling into the nonprofit, non-governmental category. Table 9 also shows the breakdown of types of providers by region, the differences between the regions being very slight.

TABLE 9

Ambulance Firms and Organizations Providing Service in North Carolina by Regions

	N. C. Total *(417)	East *(181)	Central *(179)	West *(57)
Funeral Homes	83%	82%	84%	83%
Rescue Squads	16%	17%	14%	16%
Other (commercial, hospital, military)	1%	1%	2%	1%

* Number of respondents.

The population per provider as shown on the last line of Table 10 appears less per firm in the eastern region than elsewhere in the state, indicating the most available service. The central region of the state, with the highest average population per county, also has the highest population per ambulance firm or organization.

TABLE 10

Population in North Carolina Per Provider, by Region

	N. C. Total	East	Central	West
Number of counties (Table 4)	100	43	33	24
Number of firms & organizations providing ambulance services (Table 9)	417	181	179	57
Population totals (1960 census)	4,556,155	1,599,225	2,316,669	640,261
Mean population per county	45,562	37,191	70,203	26,678
Mean population per ambulance firm or organization	10,926	8,835	12,942	11,233

Most of the providers (78%) completing the questionnaire indicated that ambulance operations originated from only one station or headquarters. Firms operating from two stations totalled 14%. The remainder (8%) indicated that they operated from more than two stations.

Only 15% of the providers reported that they supplied the only ambulance service in their immediate area. The duplication of ambulance service is evident from the data in Table 11 showing the summary of their answers given to the question "Ambulance service is furnished in your area by . . . ."

TABLE 11

Number of Firms Offering Ambulance Service in Immediate Area as Reported by Providers

15%	One firm
24%	Two firms
14%	Three firms
13%	Four firms
34%	More than four firms

The high ratio reported by the providers of funeral homes operating ambulances was confirmed by the answers given both by medical care facilities and the governmental groups. Only one general hospital in the state reported that it owned and operated an ambulance in a community. Several hospitals operated by agencies of the state or federal government indicated that they have ambulances, but these are used almost exclusively for the transportation of their own patients.

Only 1% of the providers reported that their activities were limited to their city or town. More (54%) indicated that the primary area served was the city or town plus surrounding rural areas. The remainder (45%) were equally divided in their reports, either stating that their firm served the entire county or more than one county.

The staff was unable to find from reports of previous studies any data on how many ambulance calls can be expected from a given population. The providers in the sample counties were asked to furnish certain statistical data, including the number of calls handled per firm during the designated one-week period. For various reasons only 57 of the 110 firms and organizations in the sample counties returned usuable answers to this portion of the questionnaire. These 57 firms reported 209 calls during the week of October 8-14, 1963. By using the 209 calls as 52% of the total in the area (57 divided by 110), it was concluded that if all firms had responded and their figures had followed the same pattern as those reported, then the area would have generated 400 calls per week. The total population of the twelve counties in the sample was 637,706 (1960 census). When 637,706 is divided by the 400 theoretical calls, it reveals that only one call per week is generated by an average population of 1,600.

A commercial ambulance firm operating in a city in North Carolina with a population of over 200,000 reported an average of approximately 130 calls per week. The average population per call per week in this city was approximately 1,550, which compares very favorably with the figure shown above for the twelve county area.

By applying the same ratio to the entire state, with a population of 4,556,155 (1960 census), the total number of ambulance calls per week can be estimated as approximately 2,850, or 407 calls per day.

Nearly one-half of the questionnaires (25 out of 57) returned by the providers in the sample counties indicated that during the one week test period under review they did not receive a single emergency call. An analysis of the characteristics of these firms compared with the firms which did receive emergency calls and with the other providers throughout the state revealed no significant variables.

More than one-half of these sample area firms also reported that they did not receive a single non-emergency call during the week under review. Again a comparison of certain characteristics of these firms which received no non-emergency calls with the other firms in the sample area and with the other firms throughout the state indicates that the only significant characteristic of the firms with no non-emergency calls during that week was, as expected, that they were rescue squads

not ordinarily involved in non-emergency transportation.

2. *The Kind of Services Offered*—In 96% of the completed questionnaires, the providers answered "Yes" to the question "Do you routinely transport emergency cases?" Most of the "Yes" answers (83%) indicated that they routinely transport any race. Those firms limiting emergency services were evenly divided between white and Negro.

When asked if they routinely transported non-emergency cases, 88% answered "Yes." Only 46% of those replying affirmatively, however, indicated that they would transport any race, with firms limiting their services divided two to one for rendering service to white only.

Most of the firms and organizations (84%) indicated that they accepted patients for long distance transportation.

The providers reported that the majority of calls (61%) are received during the twelve hour period from noon to midnight. The number of calls in the afternoon and evening was reported to be about equal. Fewer calls were reported during the period from midnight to 6:00 A.M. than at any other time during the twenty-four hour period.

Slightly over one-half of the providers answering the questionnaires indicated that calls for ambulance service vary from season to season. Winter was reported as the season when most calls are received and summer the season when least calls are received.

Answers to the question asking the average time required to "get on the road" revealed that 72% of the firms respond to calls in less than five minutes. Another 20% indicated that they responded in less than nine minutes, with only a small percentage (7%) reporting that it takes as much as ten or more minutes for them to "get on the road" after receiving a call.

The users were asked about the period of time between the call for service and the arrival of the ambulance. No attempt was made to determine the distances involved. Fourteen percent reported that the ambulance arrived in less than five minutes after the call was made. Another 27% stated that the ambulance arrived within five to nine minutes, with 34% reporting that the ambulance took from ten to nineteen minutes to arrive. Only 17% of the users reported that as much as 20 minutes or more had elapsed before arrival of the ambulance.

The hospitals and nursing homes were asked specific questions about the ambulance service in their areas. The answers are generally favorable, as indicated in Table 12. It should be noted, however, that

TABLE 12

Evaluation of Ambulance Service by Medical Care Facilities

	Yes
Prompt in answering calls	97%
Staffed with two adequately trained personnel	74%
Aware of admitting and discharge procedures	76%
Provide essential data for medical facilities' use	66%
Cooperate with personnel	96%

at least in the eyes of the medical personnel, the most criticism con-

cerned the failure to provide basic medical data for the use of the doctors and hospital personnel. The relative dissatisfaction with the quality of ambulance personnel led to three of the sub-studies to be mentioned in Chapter VIII.

Answers to questions regarding "depth of coverage" revealed that very few calls were received during the time when the initial equipment was away answering another call. Most providers (70%) reported that second requests for ambulance service were handled by using second stand-by equipment. Those firms without second stand-by equipment reported that if the requests for service were received when their equipment was away, the calls were transferred to another firm. In a few instances it was reported that the second call was delayed until the first call was completed. No information was given indicating whether other service was available in these instances.

In areas where more than one firm or organization provides ambulance service, a small number (19%) reported that they use a system for rotating calls. Where a rotation system is used, the answers indicated that the location of the call was the predominant factor, with race of the patient or police supervision named as the two other factors most frequently used.

"Prankster" calls were reported as problems by 47% of the firms. The same percentage also reported problems with other ambulances showing up at the same scene. This latter problem appears to be rather serious since half of those firms acknowledging this situation indicated that it occurs in connection with more than 10% of their calls.

There was wide variation in the answers given by the providers regarding records kept of the calls and persons transported. The date of call and the name and address of the patient were recorded by more than 90% of the firms. About 50% reported keeping records of such information as the time when call was received, sex and race of the patient, and disposition of the case. Only about 25% of the respondents indicated that they record items such as the time call was completed, the age of the patient, cause of injury or illness, or first aid rendered. Relatively few firms reported keeping records showing the time the ambulance arrived at the scene, the occupation of the patient, diagnosis or witnesses. A review of other studies done in the United States and Canada indicates that there appears to be no uniformity in the records maintained by firms and organizations providing ambulance service.

One of the most revealing findings in this study was that 29% of the providers of ambulance service did not render first aid in emergency cases. Various reasons were given by these providers for not rendering such care. One-half of these firms indicated that police or bystanders insisted that the patient be removed at once, giving no opportunity for first aid. Other reasons given were the fear of liability suits for improper handling, the fact that attendants were not trained for first aid, and various rationalizations which the study group thought physicians and the public would not find acceptable.

Certain questions asked of the providers were further tabulated to

determine the characteristics of those firms which do and those which do not routinely render first aid. A review of the summary of this analysis as shown in Table 13 reveals that the firms which do not routinely render first aid are predominantly funeral homes. A further breakdown of this characteristic indicates that these firms are likely to be individually owned, operating vehicles other than straight ambulances, operating from only one station, and offering services to Negroes only.

TABLE 13

Selected Characteristics of Providers Which Furnish First Aid Compared with Those Which Do Not Furnish First Aid

	In emergency cases, do your drivers and attendants routinely render first aid?	
	Yes *(270) %	No *(121) %
Type of business		
Funeral home	75	98
Police or fire department	4	1
Resque squad	19	1
Business operated as		
Individually owned	27	50
Partnership	18	21
Corporation	33	25
Non-governmental, non-profit	18	2
Governmental	4	—
Number of vehicles operated (Straight ambulances)		
None	17	23
One or more	35	24
No answer	48	53
Number of ambulance stations operated		
One	75	83
Two	16	9
Three or more	8	6
Do you transport emergency cases?		
Yes	97	97
Any race	86	65
White only	7	9
Negro only	3	20

* Number of respondents.

3. *Ambulance Equipment*—

a. Vehicles—The firms and organizations which provide transportation for the sick and injured were requested to indicate the number and type of vehicles used. Table 14 shows the summary of vehicles reported.

TABLE 14

Type and Total Number of Ambulance Vehicles Reported by Providers

	Number	%
Straight ambulance	166	18
Combination hearse and ambulance	489	54
Converted station wagon	159	18
Converted panel truck	68	8
Other type	23	2
TOTALS	905	100%

A further breakdown of this data with particular reference to the type and number of vehicles per firm is shown in Table. 15.

TABLE 15

Type and Number of Ambulance Vehicles Owned and Operated by Each Firm or Organization Providing Ambulance Services

Type:	None	One Vehicle	Two Vehicles	3 or more Vehicles	No Answer
Straight ambulance	19%	24%	5%	2%	50%
Combination hearse and ambulance	6%	42%	26%	8%	18%
Converted station wagon	16%	25%	4%	1%	54%
Converted panel truck	16%	10%	2%	—	72%
Other type	9%	2%	—	1%	88%

The combination hearse ambulance type vehicles comprise the largest number reported. The number of vehicles constructed initially as ambulances follows in second place, with converted station wagons running a close third. The other type vehicles were reported primarily by the rescue squads and are apparently used for both rescue work and transportation.

b. Interior Equipment—Other than the regulations regarding seat belts which apply to all new passenger vehicles (nine passenger or less) put into use in North Carolina on and after January 1, 1964, the study failed to find any statewide rules or regulations concerning first aid or safety equipment required for ambulances. Conversations held with sales representatives of ambulance manufacturers indicated that there are no lists of standard or recommended first aid or safety equipment used in connection with the sale of such vehicles. First aid cabinets and compartments for storage of equipment and supplies in ambulances vary in size and location among manufacturers.

Rather than ask the respondents to name items carried in the vehicles for first aid and safety, the questionnaires sent to providers included a question asking whether certain specified equipment and supplies were carried which would enable the driver and/or attendant to perform certain first aid and safety procedures. It was realized that in some instances a firm might have more than one vehicle in use and that

all vehicles might not be similarly equipped, therefore the question was designed to give consideration to this factor. The summary of answers is shown in Table 16.

TABLE 16

Number of Ambulance Vehicles Per Provider Equipped As Specified for First Aid and Safety

	None	One Veh.	Two Veh.	3 or more Vehicles	No Answer
Number of vehicles equipped:	%	%	%	%	%
To splint fractures	28	21	17	7	17
To control hemorrhage	19	38	24	10	19
To dress open wounds	19	32	23	10	16
To administer oxygen, maintain airway	18	35	27	9	11
With portable resuscitator	43	21	8	3	25
With safety belts for patient & attendant	48	13	6	3	30
With two-way radios	43	13	15	7	22
With flares	36	20	14	5	25
With fire extinguisher	32	25	15	7	21
With portable battery light	24	26	21	9	20

The overall total of the "None" and "No answer" categories averages approximately 52%, which would indicate that only about 48% of the vehicles are equipped to do all the procedures listed. Oxygen is apparently carried by more ambulances in North Carolina than any other item of equipment. Safety or restraining belts for the use of the patient or attendant appear to be the item least frequently mentioned.

While 93% of the providers indicated that they change linens after each use, only 51% reported that the medical equipment carried on the ambulances was cleaned after each use. There are no statewide regulations regarding the sanitation of ambulances. Most firms (82%) reported the use of special cleaning procedures after transporting persons with known infectious diseases.

4. *Personnel*—The North Carolina Committee on Trauma of the American College of Surgeons has conducted several one-day training sessions for ambulance drivers and attendants during the past few years. Initially the Institute of Government of the University of North Carolina participated in the promotion of these training programs. More recently the surgeons have been assisted by the North Carolina Traffic Safety Council.

Those firms and organizations which provide the ambulance service in North Carolina have indicated that for several reasons there is a high rate of turnover among the personnel who staff the ambulances. The inadequate fees charged, the low rate of fee collections, the duplication of service offered in an area, the low volume of ambulance business in certain areas—all have been factors which contributed to the high turnover in personnel. In some instances, part-time personnel have been utilized. There are no statewide regulations establishing minimum standards for ambulance drivers or attendants.

Included in the questionnaires sent to the providers were several questions intended to assess the requirements for ambulance drivers and attendants established by these firms and organizations. Except for a very few areas in the state where city ordinances set standards, the only requirements for employment have been set by the employers. Replies to the questionnaires indicated that items such as age, driving skills, and education are seldom used as minimum requirements. Requirements set by employers, the answers revealed, gave greater emphasis to such factors as no excessive use of alcoholic beverages, no conviction for traffic violations or other misdemeanors. First aid training, even the most basic Red Cross course, was listed as a requirement by only one-half of the firms reporting.

The providers were asked to list the number of personnel trained in certain first aid procedures. The summary of their replies is shown in Table 17.

TABLE 17

Number of Ambulance Personnel Per Provider
Trained in Specified First Aid Procedures

Procedure:	None	One to Three	Four or More	No Answer
	%	%	%	%
Splint fractures	12	49	31	8
Control hemorrhage	11	47	30	12
Dress open wounds	9	50	32	9
Administer oxygen with airway	11	44	35	10
Handle emergency births	31	38	17	14
Handle heart emergencies	19	42	28	11
Care for burns	17	40	30	13

* Number of respondents:

The answers given by the providers to several other questions were tabulated to produce a breakdown between those firms with no personnel trained to administer oxygen and those with trained personnel. Table 18 shows the answers to four questions included in this special analysis. The data indicates that police and fire departments as well as rescue squads are most likely to have a large number of trained personnel; on the other hand, the funeral homes which provide non-emergency transportation exclusively for Negroes are least likely to have such personnel. Furthermore, when reviewing the answers given to the questions on cleaning vehicles and carrying malpractice insurance, the data suggest that firms not having personnel trained in administering oxygen also tend not to clean their vehicles after use and tend not to carry malpractice insurance.

The users reported that in 17% of the calls the driver was the only person in the ambulance when it arrived. Some of these same respondents, when asked to comment on any unsatisfactory condition connected with the ambulance service, indicated that the presence of a second person in the ambulance would have been desirable.

Who, other than the ambulance driver and/or attendant and the

TABLE 18

A Comparison of Several Characteristics of Providers with Personnel Trained to Administer Oxygen and Those Without Personnel Trained to Administer Oxygen

	Number of Trained Personnel			
	None *(46) %	1-2 *(119) %	3-5 *(124) %	6+ *(88) %
Type of business				
Commercial	0	1	0	3
Funeral homes	96	97	98	32
Military	0	0	0	0
Police and fire department	2	0	2	10
Rescue squad	2	1	1	53
Do you transport non-emergency cases?				
Any race	28	45	40	37
White only	9	30	54	19
Negro only	57	21	2	0
How often do you clean inside vehicles?				
After use	41	30	21	24
Daily	11	8	10	18
Weekly	33	30	40	32
Other	9	15	15	14
As needed	2	7	6	9
Do you carry malpractice insurance?				
No	78	69	59	76
Yes	17	24	36	16

* Number of respondents.

patient ordinarily rides in the ambulance? How frequently do doctors or nurses accompany the patient being transported by ambulance? Users were asked who accompanied them in the ambulance. Table 19 shows a summary of their answers.

TABLE 19

Users' Report of Persons Other Than Ambulance Personnel Riding in the Ambulance

Person riding with patient:	Yes	No	Don't know
Nurse	3%	94%	3%
Doctor	2%	78%	20%

The providers reported persons accompanying patients and the frequency of this occurrence as shown in Table 20.

TABLE 20

Providers' Report of Frequency with Which Persons Other Than Ambulance Personnel Ride in Ambulance

Person riding with patient:	Most of the Time	Some of the Time	Never	No Answer
Physician	1%	41%	40%	18%
Nurse	1%	6%	18%	15%
Relative	65%	29%	1%	5%
Fried or bystander	15%	70%	7%	8%
Police or patrolman	1%	28%	53%	18%

As reported earlier, only 74% of the medical care facilities indicated that the ambulances were staffed with two adequately trained personnel. Ninety-six percent stated that ambulance personnel cooperated with the hospital and nursing home staff.

Although the medical care facilities reported that the ambulance personnel were cooperative, remained on hand to help as needed, and were well trained, it was the users who brought out the fact that only 32% of the ambulance personnel gave information to the medical staff concerning the condition of the patient. The answers given by the users did not indicate any reasons for this apparent lack of communications between the doctors and the ambulance personnel.

5. *Transportation of the Patient*—Do firms and organizations which provide ambulance service encounter problems at the hospitals and nursing homes when they arrive with patients? What are some of the problems encountered under these circumstances? These questions were directed to the providers, and the answers are shown on Table 21. Each respondent was asked to indicate the frequency with which the stated problems were encountered.

TABLE 21

Frequency with Which Problems Encountered by Providers at Medical Care Facilities

Problem:	Most of the Time %	Some of the Time %	Never %	No Answer %
Emergency room not staffed	20	39	31	10
Doctor not readily available	35	50	10	5
Emergency facilities crowded	6	66	18	10
Records required by hospital	38	25	23	14
Transfer to another hospital or home	4	65	15	16
Delay in disposition of the patient	21	54	14	11
Poor access to emergency area	11	23	52	13
Poor design of emergency facilities	10	27	48	15
Transfer to x-ray, lab, etc.	17	50	17	16
Other	2	1	2	95

Conversations held during the course of the study with persons involved in the transportation of the sick and injured generally incurred some mention of delay in the disposition of the patient when taken to

the hospital. Particularly, the providers were critical of delays encountered at the hospitals associated with schools of medicine and at hospitals operated by an agency of the state or federal government. They felt that all hospitals and medical care facilities should give some consideration to expediting release of ambulance vehicles, equipment and personnel.

Additional problems frequently cited by the providers included finding the emergency room not staffed and the doctors not readily available when patients were taken to the hospitals. The providers also indicated that data is not always readily available to complete the records required by the hospitals, such as identification of the patient and the time of the accident.

The providers and medical care facilities did not agree in their answers to a question regarding prior notification of ambulance trips. The answers given by the providers, as shown in Table 22, indicate that the hospitals are seldom notified of an ambulance call before dispatch from the ambulance station.

TABLE 22

Providers' Notification to Hospital or Other Agencies under Stated Circumstances

Circumstance:	Hospital	Police	Other station of firm	No one
Before dispatch for non-emergency run	12%	10%	12%	66%
Before dispatch for emergency run	11%	37%	10%	42%
From scene of emergency	27%	27%	9%	47%

The hospitals and nursing homes, however, differed in their answers to a similar question, as shown in Table 23. The medical care facilities indicated they were notified more frequently than reported by the providers, both in emergency and non-emergency cases.

TABLE 23

Frequency with Which Medical Care Facilities Are Notified by Providers under Stated Circumstances

Circumstance:	Not Applicable	Most of Time	Some of Time	Never	No Answer
Emergency cases	8%	32%	49%	8%	3%
Non-emergency cases	1%	38%	33%	19%	9%

On the other hand, persons from the medical care facilities, particularly the hospitals in areas where there is more than one hospital, expressed concern with the providers' methods of choosing a hospital. The determining factors in the choice of a hospital by the providers for auto accident victims and the frequency with which these factors occurred are shown in Table 24. In addition to the requests of the patient or family, other factors, listed in the frequency reported, included distance, availability of medical care, time, and the condition of the patient.

TABLE 24

Factors Determining Choice by Providers of Hospital for Auto Accident Victims

20%	Requests of patient or family
17%	Distance and/or route to be taken
16%	Availability of medical care
14%	Condition of patient
12%	Time involved
8%	No answer
7%	Orders of state patrol or other police
6%	Combination of above

Only 6% of the hospitals and nursing homes indicated that the ambulance service in their communities presents problems to the medical care facilities. Although the criticism of the providers came from a small percentage, it is interesting to note the nature of the problems stated by these medical care facilities. "Dumping" patients and failing to wait until admission or other disposition was made of the patient led the list of complaints. Charges for services, unsatisfactory equipment, and unnecessary noises were also mentioned.

6. *Finances*—The problem of finances was mentioned in the newspaper articles from every community where the funeral homes discontinued ambulance service. As previously shown, the large portion of ambulance service in North Carolina is provided by firms operating under the free enterprise system. The success or failure of any business under such a system is dependent on the financial aspects of its operations. Because of the importance of the financial problems involved, there were more questions about finances than any other single subject included in the questionnaires directed to the providers. The questions covered a wide variety of topics such as the amount of capital invested in the ambulance business, the amount of charges made for services rendered, the collection of charges, arrangements with agencies of government for payments for those unable to pay, and still other items such as trends in the financial aspects of the ambulance business. Care was exercised in the wording of questions to avoid any indiscretion which might have resulted in incomplete or inaccurate data.

a. Capital invested in the ambulance business—The firms and organizations involved in providing ambulance services were asked the value of their investment (excluding buildings) in ambulance vehicles and equipment such as radios. Replies by the providers are shown in Table 25. The answers indicate that most firms have an investment of less than $20,000.

TABLE 25

Providers' Estimate of Value per Firm of Vehicles and Equipment Used for Ambulance Service

30%	Under $10,000
37%	$10,000-$19,999
21%	$20,000-$24,999
6%	$30,000-$49,999
4%	$50,000-over
2%	No answer

In an effort to determine some index of quality of the firms with various values of capital investment, the data in Table 25 was tabulated according to the number of persons in these firms who were trained to administer oxygen to patients. Results of this comparison are shown in Table 26.

TABLE 26

Personnel Trained to Administer Oxygen Compared to Providers' Investment in Ambulance Equipment

	No. trained to administer oxygen				
	None *(46)	1-2 *(119)	3-5 *(124)	6+ *(88)	N.A. *(40)
Value of equipment:	%	%	%	%	%
Under $10,000	54	32	5	38	55
$10,000-$19,999	31	46	46	23	25
$20,000-$29,999	13	14	39	11	13
$30,000-$49,999	2	4	6	15	0
$50,000 +	0	1	3	13	0

* Number of respondents.

It is interesting to note that most of the firms with less than $10,000 investment in the ambulance business are those which did not answer the question about personnel trained to administer oxygen or are those who reported no staff members trained to administer oxygen.

b. Charges for ambulance service—As reported previously, 84% of the providers indicated that they were businesses operating for profit.

Accordingly, 81% of the providers indicated that their firms routinely made charges for ambulance services. Eighty-six percent of the users indicated that a charge had been made for their use of the ambulance.

Only 16% of the providers indicated that the schedule of rates was posted in their vehicles.

Table 27 shows the amounts of charges made as reported by the providers for round trips involving local community and specified distances.

TABLE 27

Changes Made by Providers for Round Trip Ambulance Service in Local Community and Distances as Listed

Distance:	Under $5.00	$5.00 to $9.99	$10.00 to $14.99	$15.00 to $19.99	$20.00 to $24.99	$25.00 to $49.99	$50.00 and over	No Answer
Local community	34%	34%	6%	—	—	—	—	26%
10-24 miles	6%	35%	28%	4%	—	—	—	27%
25-49 miles	—	8%	28%	24%	10%	2%	—	28%
50-199 miles	—	—	3%	12%	17%	31%	9%	28%
200 miles & over	—	—	—	—	2%	16%	54%	28%

Replies to another question asked of the providers indicate that 77% of patient charges are computed on a flat rate basis only. The remaining 23% reported that patients were charged on the basis of mileage, special handling, special equipment, and waiting time.

The users were asked the amount of charges for ambulance service rendered to them. Table 28 shows a summary of their responses, indicating that more than half were charged less than $10.00. No effort was made to determine the round trip distances involved.

TABLE 28

Charges Made to Users of Ambulance Service

15%	Under $5.00
42%	$5.00-$9.99
13%	$10.00-$14.99
4%	$15.00-$24.99
0%	Over $25.00
26%	Don't know or no answer

It is concluded therefore that the extremely low charges made by the providers are primarily for local calls. When the factor of low volume of business is considered, it appears that income is not being generated in sufficient amounts to support the ambulance business as presently constituted.

Collection of the charges made by the providers was extremely low, as shown by the answers given in Table 29.

TABLE 29

Percent of Charges Collected by Providers for Ambulance Services During Past Fiscal Year

14%	Under twenty-five percent
23%	Twenty-five to forty-nine percent
27%	Fifty to seventy-four percent
13%	Seventy-five to eighty-nine percent
2%	Ninety to one hundred percent
21%	No answer

The unsatisfactory collection experience reported by the providers was confirmed by the answers of the users. In answer to the questions, "Has the bill been paid?" only 62% of the users answered in the affirmative.

The providers were asked "What is your most difficult income problem?" The answers, as shown in Table 30, suggest that more than one problem is involved.

TABLE 30

Providers' Most Difficult Income Problem

42%	Inadequate pay from those able but unwilling to pay
18%	Inadequate pay from those unable to pay
17%	Inadequate fees charged
2%	Poor collection methods, no legal way to collect
21%	No answer

Each provider was requested to indicate the percentage of persons his firm handled which he would consider unable to pay for such services. Replies are shown in Table 31 which indicate that most firms consider that a rather small percentage of their customers were unable to pay for services rendered.

TABLE 31

Percent of Patients Considered by Providers As Unable to Pay for Ambulance Services

44%	Under ten percent
19%	Ten to nineteen percent
8%	Twenty to twenty-four percent
7%	Twenty-five to twenty-nine percent
19%	Thirty percent and over
3%	No answer

c. Liability and malpractice insurance coverage—With ambulance vehicles operated on the streets and highways under emergency conditions by drivers who are not required to meet any minimum standards, the insurance rates necessary to support liability coverage apparently present additional problems for the providers. Actually, 92% of the providers indicated that they carry liability insurance for bodily injury and property damages *specifically* for their operations as an ambulance service. Table 32 indicates the minimum limits of the coverage reported by those firms with such insurance. It is noted that almost half of the providers reported maximum limits of $10,000 or less.

TABLE 32

Liability Insurance Coverage Carried by the Providers

15%	$5,000
30%	$10,000
31%	Over $10 000, but not more than $50,000
19%	Over $100,000
5%	No answer

Sixty-eight percent of the providers indicated that they carry malpractice insurance specifically for their ambulance operations.

When asked who determines the amount of insurance they carry, 17% of the providers replied that governmental regulations were involved, while the remainder reported that they themselves determined the amount of insurance coverage.

Claims for damages arising out of ambulance operations were reported by 16% of the providers. These providers indicated that 83% of the claims had been paid either by the firm or by its insurance agent.

d. Governmental financial assistance for ambulance service—The governmental groups were questioned about any financial assistance given to the ambulance service in their areas. Answers given by these governmental officials indicated that 13% of the respondents

provided some financial assistance during the current fiscal year. Ad valorem and general taxes constituted the largest source of funds. Generally, the method of payment was by lump sum, or funds for ambulance operators were included in the budget of the municipality or county.

Providers were asked to indicate their arrangements with welfare agencies for payment for ambulance service rendered to charity cases. While the majority of the firms reported no arrangements, as shown in Table 33, it appears that the greater number of those who do receive some reimbursement are paid their regular fees for services rendered to charity cases.

TABLE 33

Providers' Arrangements with Welfare for Payment for Charity Cases

21%	Regular fees
8%	Regular fees less discount
11%	Negotiated fees
57%	No arrangements
3%	No answer

e. Financial losses from ambulance operations—Not one of the providers indicated that the ambulance business showed a profit. A few stated that their ambulance operations about broke even financially during the last fiscal year. The majority (67%) stated that a loss was incurred from ambulance operations. It is apparent that many of the providers do not render ambulance service for the purpose of making a profit.

Those firms with losses from ambulance operations were asked how the losses were underwritten. The answers given are shown in Table 34. Primarily these losses were underwritten through operations of other business (funeral homes).

TABLE 34

Providers' Source of Underwriting Losses for Ambulance Operations

64%	Other business activities of the firm
1%	Governmental payment or grant from some agency
35%	No recovery

One question directed to the providers was intended to determine the profit and loss trend for a period of three years. Table 35 shows the answers given to the question "By taking the last three years as a whole, which of the following statements will most correctly reflect the trend as far as your ambulance service is concerned?" No effort was made to separate the non-profit organizations (rescue squads, etc.) in the answers given to the question. The total "no answers" category is greater than the number of non-profit organizations sending in questionnaires (16%). Generally, the questions that were not applicable

were left unanswered. It appears that this is what happened in this instance. The answers given indicate a trend toward less profitable operation.

TABLE 35

Providers' Profit or Loss Trend for Last Three Years

5%	It has become more profitable
39%	There has been no change in the financial trend
37%	It has become less profitable
19%	No answer

7. *Utilization*—Are the requests for ambulance service increasing in number? This question was directed to the providers. Answers given, as shown in Table 36, indicate that there was some increase in the number of calls.

TABLE 36

Trends in Ambulance Calls Handled by Providers in Past Fiscal Year

36%	Increased
56%	Remained about the same
6%	Decreased
2%	No answer

In an effort to determine if ambulances are either over-utilized or under-utilized in transportation to and from hospitals and nursing homes, certain questions were included in the questionnaires to the medical care facilities. Thirty-eight percent reported that ambulances had not been used in instances when their use would have resulted in better patient care. When asked the reasons for this non-use, the respondents more frequently mentioned "case felt too urgent to wait for ambulance," "remote area with poor communications system," "need for ambulance not recognized," or "patient refuses to use ambulance."

On the other hand, a total of 57% of these same hospitals and nursing homes reported that ambulances were used when other transportation would have sufficed. The reasons most frequently given for over-utilization of ambulances were "patient insists on use," "ambulance called before need is determined," "no other means of transportation readily available," or "ambulance used in order to get special consideration for admission to medical facility."

The answers given to these questions about utilization were studied in respect to geographical regions of the state. Although there were modest differences, they did not reveal any significant geographical variations.

The providers were asked to indicate their most difficult cost problem. The answers to this question, shown in Table 37, indicate that the initial cost of equipment and maintenance of equipment were listed as the most difficult cost problems by more than one-half of the respondents. Personnel costs were listed as the most difficult problem by less than one-third of the providers.

TABLE 37

Providers' Most Difficult Cost Problem

%	Problem
46%	Cost of equipment
13%	Cost of maintaining equipment
30%	Cost of personnel
5%	Combinations of above and other
6%	Did not answer the question

One of the problems encountered outside North Carolina during the period of pretesting the questionnaires involved demands purportedly made by the ambulance personnel for payment of fees either before or at the end of the ambulance trip. The users in North Carolina were asked the question, "At the time of your ambulance ride, did the attendants bring up the matter of payment for their services?" None of the users indicated they were asked for payment of the ambulance fee. Seventy-three percent reported that the fee was not mentioned and 7% said they were told they would be billed for the services. The remaining 20% did not answer this question.

8. *Auto Accidents Outside City Limits*—The members of the Advisory Committee were concerned with the transportation of victims of auto accidents which occurred outside city limits. The recent development of the Interstate Highway system with limited access roads has resulted in problems of communications when accidents occur. During recent years the maximum legal speed limits have been increased for "open" highways. Are there problems involving ambulance service with the poor accessability of certain areas and increased speed? Special questions were included in both the providers and medical care facilities questionnaires about such auto accidents. The providers reported an average of ten auto accident calls per month, for a state average of 4,170 per month. Of this total, it was reported that 60% originated outside the city limits, with the remaining 40% of the auto accident calls coming from inside city limits. The hospitals and nursing homes were asked to estimate the percentage of their total facilities which were being used to care for victims of auto accidents. The answers, as shown in Table 38 indicate that most of the medical care facilities estimated that less than 5% of their facilities are used in the care of auto accident victims.

TABLE 38

Percentage of Medical Care Facilities Used
in the Care of Auto Accident Victims

%	Facilities used
30%	Less than one percent of facilities
42%	One to four percent of facilities
20%	Five to nine percent of facilities
8%	Over five percent of facilities

The hospitals and nursing homes reported an average of 20 auto accident victims brought to each facility per month. The computed monthly total for the state is 4,020, which compares favorably with the 4,170 reported by the providers.

The providers reported that twice as many auto accident calls outside the city limits originate at night than during the day. One-half reported the number of auto accident calls from outside the city limits to be the same on holidays and weekends as any other time. Most of the firms which indicated that holidays and weekends did affect the number of this type of call reported twice as many calls on these occasions as on other days. Sharpening of these statistics did not seem necessary for this type of organization study.

People living near the scenes of accidents outside city limits were the greatest source of calls for ambulance service, reported the providers. Other sources of calls included the highway patrol, members of sheriffs' departments, and passers-by.

The providers were asked to estimate the total average time elapsing between accidents which occurred outside city limits and delivery of the victims to the hospitals. Most respondents, as shown in Table 39, estimated that such accident victims were delivered in less than 30 minutes following the accident.

TABLE 39

Providers' Estimate of Time Elapsed from Outside City Limits Auto Accident to Delivery of Victim to Hospital

8%	Less than fifteen minutes
55%	Fifteen to twenty-nine minutes
28%	Thirty to forty-four minutes
9%	Forty-five minutes or more

In the opinion of approximately three-fourths of the providers, less than 1% of the victims of auto accidents occurring outside the city limits die on the way to the hospital.

9. *Other Trends and Problems*—An amazing one-third of the providers answered "Yes" to the question inquiring if, during the past year, they had considered discontinuing ambulance service. The firms answering "yes" were further asked to indicate their reasons for this consideration. No suggested answers were included in the questionnaire. Almost all of the providers who replied in the affirmative took the time and effort to write in their reasons. At least three-fourths of the replies mentioned financial matters as the chief reason for this consideration on their part. Other answers included such reasons as personnel problems; abuse of equipment; unsatisfactory cooperation from police and law enforcement officials; competition from other providers of ambulance service, including rescue squads; and statements that ambulance service was not the responsibility of funeral homes.

Problems involving ambulance service were reported by 15% of the governmental groups. Table 40 shows what these 15% of the officials of local government in North Carolina gave as the nature and frequency of occurrence of these problems.

TABLE 40

Problems with Ambulance Service
Encountered by Governmental Groups

20%	Received notice of discontinuance of ambulance service.
26%	Received notice of *intent* to discontinue service.
33%	Received requests for financial assistance.
9%	Received demands for more service from citizens.
7%	Received requests for more regulation of ambulance service.
5%	Received complaints or noticed that ambulance service was not stable and/or was showing loss.

D. Governmental Regulations

The findings of the legal aspects of the study included elsewhere in this report indicate that there are no statewide regulations for operating ambulance services in North Carolina. The legal study does show, however, that actions have been taken by the General Assembly in the form of "local acts" which have affected ambulance operations in certain counties or cities within the state. These regulations were all in the local governmental category and do not encompass statewide powers.

The providers were asked to indicate what personnel requirements were imposed by governmental regulations. The answers to this question, indicating very few regulations in effect, are shown in Table 41. It should be kept in mind that these are the total governmental requirements involving personnel reported by the providers.

TABLE 41

Requirements Imposed by Government Upon Providers
Regarding Their Personnel as Reported by the Providers

3%	Minimum age 21 years or more
7%	Chauffeur's license
2%	Health Card
1%	No handicapping physical condition
1%	High school education
2%	No convictions for traffic accident
2%	No convictions for misdemeanor or felony
1%	No excessive use of beverage alcohol
1%	Completion of Red Cross Standard first aid course
1%	Completion of Red Cross Advanced first aid course
0%	Completion of Committee on Trauma training course
1%	On the job training

The governmental groups were asked a similar question. Their answers, illustrating the general lack of regulations, are shown in Table 42.

TABLE 42

Regulations Imposed by Governmental Groups Concerning Ambulance Service as Reported by Officials of Government

1%	Specifications for vehicles
2%	Franchise for operators
8%	Traffic regulations for ambulances
2%	Competence of drivers and attendants
2%	Liability insurance
2%	Record keeping
2%	Assistance in collecting bills
4%	Regulation of rates
2%	Rules of operating
1%	Communications systems
7%	Purchase of liability insurance for provider
3%	Support for ambulance equipment
5%	Support for ambulance operations
1%	Sanitation
72%	No ordinances or regulations
12%	No answer to entire question

Included in the governmental groups questionnaire was a question asking whether both county and city or town held joint meetings to discuss and plan for ambulance service. Eight percent of the answers indicated that joint meetings had been held. Space was provided on the questionnaires for the respondents to indicate the conclusions reached at the joint meetings. A review of the conclusions reported on the questionnaires (Table 43) reveals that the matter was handled in a different manner in each of the situations reported, except that in a very few reports it was stated that no conclusions were reached.

TABLE 43

Conclusions Reached Concerning Ambulance Service at Joint Meetings of Governmental Groups

A franchising procedure is desirable.
Let a commercial firm handle the ambulance business.
Rescue squad should handle the ambulance business.
Provide financial assistance to the rescue squad.
City and county to operate ambulance business.
Eliminate competition in order to insure continued operations.
Deputize operator and guarantee financial support.
The service should be handled through the hospital.
Let funeral homes handle ambulance service as in the past.
Let county employ operators.
Use city fire and police department equipment, let the county support commercial firm.
Service for city and county discussed.
Needs during disaster discussed.

Answers given by governmental groups to certain of the questions were further tabulated by the three regions of the state. The purpose of the additional analysis was to determine how the officials of local governmental groups differed in their circumstances and opinions in

the east, central and western regions of the state. It is apparent from the answers shown on Table 44 that the problems of ambulance service and the number of governmental agencies involved with providing financial assistance for ambulance operators have been greater in the East and West than in the central part of the state. Also it is interesting to note that more joint meetings between city or town and county officials have been held in the central part of the state rather than in the other regions of the state.

TABLE 44

How the Governmental Groups in the Three Regions of North Carolina View Ambulance Services

	East *(145) %	Central *(124) %	West *(51) %
During the past three years, has your county been presented with problems of ambulance service?			
Yes	90	76	94
Does your governmental agency provide ambulance services with financial assistance?			
Yes	16	10	12
In your opinion, how adequate are the following in your community?			
a. Method of covering cost of operating service:			
Adequate	64	56	57
Slight changes needed	14	15	10
Major changes needed	3	10	4
b. Amount and type of ambulance equipment:			
Adequate	72	78	71
Slight changes needed	10	9	4
Major changes needed	2	2	0
Who do you think should sponsor a training program for ambulance drivers?			
Not needed	10	10	24
Red Cross	26	30	25
Local physicians	14	10	8
Local hospitals	12	23	16
Local police or fire department	17	6	10
Agency of government	8	3	8
Did you have joint meetings to discuss ambulance service?			
Yes	3	14	4
Do you consider ambulance services similar to public utilities?			
Yes	25	31	20

* Number of respondents.

E. Evaluation of Present Ambulance Services and Their Problems

In developing the questionnaires, the staff, consultants and Advisory Committee felt that it would be helpful if identical opinion questions were directed to all four groups of respondents. The questions in this

category were designed to obtain the opinions of the respondents, whereas the other questions included in the questionnaire were designed to gather factual or statistical data.

1. *Adequacy of Ambulance Service*—The opinions given by the respondents (Table 45) concerned the adequacy of such factors as availability of service, method of covering cost of operations, equipment, training, communications, and sanitation in the community in which the respondent lived. As a group, the providers were most critical in their opinions regarding questions of adequacy. While there were slight differences in the answers given by each of the other three groups of respondents, all three were in agreement in the areas mentioned, the services in their communities were quite adequate.

TABLE 45

Opinions Concerning Adequacy of Ambulance Service

In your opinion, how adequate are the following in your community?	Providers *(417)	Medical *(201)	Governmental *(320)	Users *(112)
	%	%	%	%
Availability of service				
Adequate	80	90	89	94
Slight changes needed	11	5	7	3
Major changes needed	5	—	2	—
No answer	4	5	2	3
Method of covering cost of operations				
Adequate	15	56	60	67
Slight changes needed	26	16	14	18
Major changes needed	52	13	6	3
No answer	7	15	20	12
Amount and type of ambulance equipment				
Adequate	65	83	74	84
Slight changes needed	21	8	8	5
Major changes needed	7	4	2	2
No answer	7	5	16	9
Training and efficiency of ambulance personnel				
Adequate	50	65	65	76
Slight changes needed	25	20	11	7
Major changes needed	13	8	4	—
No answer	12	7	20	17
Communications system between ambulance service, law enforcement agencies & users of ambulances				
Adequate	47	68	63	77
Slight changes needed	28	14	14	5
Major changes needed	17	10	7	—
No answer	8	8	16	18
Sanitation and maintenance of ambulances & equipment				
Adequate	75	88	80	90
Slight changes needed	14	5	3	3
Major changes needed	3	1	1	—
No answer	8	6	16	7

* Number of respondents.

2. *Responsibility for Ambulance Service*—Table 46 contains two schedules. The first lists the answers given to an opinion question regarding who should be given full responsibility for the organization and day to day operation of the ambulance service. The providers (mostly funeral homes) indicated that such responsibilities should be given to commercial firms, local hospitals, rescue squads, or to other volunteer type organizations. The medical care groups answered that the funeral homes and commercial ambulance firms should assume this responsibility. The governmental officials replied that such service should be the primary responsibility of the funeral homes and the rescue squads. Users of ambulance services were of the opinion that the funeral homes and hospitals should be given this responsibility.

When asked who should handle the ambulance business if the local government (city, town, or county) were to assume responsibility for ambulance operations, the four groups of respondents replied as illustrated on the second schedule of Table 46. Most of the responses from all four groups agreed that ambulance operations should either be a separate service or combined with the police or fire departments. On the other hand, very few expressed the opinion that hospitals, funeral homes and rescue squads should be involved if ambulance service were to be the responsibility of local governmental agencies.

TABLE 46

Opinions Concerning Responsibility for Ambulance Service

In your opinion, who should be given the full responsibility for the organization and day to day operation of the ambulance service?	Providers *(417) %	Medical *(201) %	Governmental *(320) %	Users *(112) %
Commercial ambulance firms	27	30	8	5
Funeral homes	17	41	58	64
Police department	5	3	1	3
Fire department	5	5	4	3
Rescue squad other than fire or police	16	6	10	4
Other governmental agency	4	1	1	2
Local Hospital	19	2	8	12
No answer	7	12	10	7
If ambulance service is to be a city, town, or county responsibility, do you think it should be:				
Separate service	48	47	35	55
Combined with police department	20	21	21	22
Combined with fire department	19	9	20	2
Hospital	5	1	3	10
Funeral homes	—	1	1	2
Rescue squad	2	2	5	2
Not governmental responsibility	1	2	3	1
Other or no answer	5	17	12	6

* Number of respondents.

3. *Finances for Ambulance Services*—The majority of respondents in all four groups were of the opinion that the money to cover the cost of operating the ambulance service should be provided by the persons

that use the ambulances, or those using the ambulances plus a governmental agency paying for those unable to pay. The answers are shown in Table 47. Only a few of the respondents felt that government should pay the entire cost of ambulance service.

Approximately two-thirds of the governmental officials expressed the opinion that government should not assist with the financing if ambulance service is provided by a non-governmental firm or organization. The other respondents generally agreed that government should assist with the financing if ambulance service is to be provided by a non-governmental agency. There was also general agreement that financial assistance given under these circumstances should be payment for charity cases on a per call basis.

TABLE 47

Opinions Concerning Financing of Ambulance Service

In your opinion, who should provide the money to cover the cost (equipment and day to day expenses) of operating the ambulance service?	Providers *(417) %	Medical *(201) %	Governmental *(320) %	Users *(112) %
Persons that use the ambulances	36	48	66	44
Persons using ambulances plus government	54	45	24	38
Government pay entire cost	7	2	5	13
Other or no answer	3	5	5	5
If ambulance service is to be provided by a non-governmental agency or agencies, do you think the government should assist in its financing?				
No	32	43	66	38
Yes	64	50	31	57
No answer	4	7	3	5
If yes, how should assistance be given?				
Negotiated lump sum in advance	16	5	23	14
Pay losses at end of year	24	12	14	37
Payment for charity cases on per call basis	57	79	60	44
Other or no answer	3	4	3	5

* Number of respondents.

4. *First Aid Training for Ambulance Attendants*—Surprisingly, 12% of the officials of government expressed the opinion that there was no need for a training program for ambulance drivers and attendants. Table 48 gives the summary of the opinions of respondents in all four groups on the question of sponsorship of such a training program. There was no general agreement on who should sponsor such a program. All four groups mentioned the Red Cross more frequently than any other agency, yet these replies comprised less than one-third of the opinions tallied.

TABLE 48

Opinions Concerning First Aid Training for Ambulance Attendants

Who do you think should sponsor a training program for ambulance drivers & attendants?	Providers *(417) %	Medical *(201) %	Governmental *(320) %	Users *(112) %
None needed	4	6	12	6
Red Cross	40	34	28	27
Local physicians	16	22	12	12
Local hospital	10	7	17	18
Local police or fire department	5	5	12	5
Agency of government	17	4	6	11
Rescue squad	1	—	1	—
Operators of ambulance service	1	6	5	4
Combination of two or more above	3	7	5	8
Other	1	4	—	—
No answer	2	5	2	9

* Number of respondents.

5. *Need for Governmental Action for Ambulance Service*—All respondents were asked for opinions regarding the need for governmental action in a number of areas of ambulance service. Their responses are shown in the first schedule on Table 49.

There was general agreement among all four groups of respondents in several of the areas of study. Most agreed that there was need for statewide legislation of liability insurance limits for ambulance operators. There was general agreement, also, regarding the need for statewide legislation for traffic regulations. The providers expressed this need more than any of the other groups. It was agreed that the amount and type of ambulance equipment are such that no governmental action is needed.

The providers, more than any other group, indicated the need for statewide legislation in the area of covering the cost of ambulance operations. The other groups believed that no governmental action is needed.

Answers given to the question about need for governmental action for records kept by the ambulance services show the medical group leaning toward statewide legislation and the others expressing the opinions that no governmental action is necessary.

Nearly half of the governmental officials were of the opinion that no governmental action is necessary concerning the rates charged for ambulance service. Most of the providers, however, indicated their belief that some action by government was needed, either at the local or state level.

The need for governmental action in the area of communications systems was expressed by the respondents in the medical care facilities. Other groups were generally in agreement that no governmental action is necessary.

Both providers and medical care facilities felt that either local or statewide governmental action is necessary regarding personnel standards. The officials of government and the users did not feel that any governmental action is necessary.

All groups except the users expressed the opinion that statewide legislation is desirable for the sanitation of vehicles and equipment in ambulances.

The last section of Table 49 deals with the opinions given by the providers and governmental officials in answer to the question of whether a governmental agency should grant franchises and issue regulations for ambulance services in a manner similar to that for public utilities. Nearly one-half of the providers and about one-fourth of the officials of government answered "yes" to this question. Those answering "yes" to the basic question were asked to indicate whose primary responsibility such franchising should be. Both groups agreed that the county and city or town should assume this responsibility jointly.

TABLE 49

Opinions Concerning Need for Governmental Action for Ambulance Service

Do you think there is need for governmental action in the following areas of ambulance service?	Providers *(417) %	Medical *(201) %	Governmental *(320) %	Users *(112) %
Method of covering cost				
None needed	22	38	49	34
Local ordinance	22	24	16	30
Statewide legislation	46	24	22	25
No answer	10	14	13	11
Amount and type of equipment				
None needed	38	36	46	38
Local ordinance	22	19	18	32
Statewide legislation	26	26	18	17
No answer	14	19	18	13
Traffic regulations				
None needed	17	19	23	27
Local ordinance	28	29	31	30
Statewide legislation	44	37	30	31
No answer	11	15	16	12
Records kept by ambulance services				
None needed	33	28	36	31
Local ordinance	27	23	23	28
Statewide legislation	25	33	23	25
No answer	15	16	18	16
Rates charged				
None needed	31	36	43	35
Local ordinance	27	31	21	30
Statewide legislation	29	17	17	22
No answer	13	16	19	13

Communications systems				
None needed	32	32	36	43
Local ordinance	32	32	26	35
Statewide legislation	22	24	19	9
No answer	14	16	19	13
Personnel standards				
None needed	30	26	34	45
Local ordinance	27	19	23	21
Statewide legislation	31	39	24	18
No answer	12	16	19	16
Liability insurance rates				
None needed	17	20	24	25
Local ordinance	11	10	9	12
Statewide legislation	60	53	49	44
No answer	12	17	18	19
Sanitation of vehicles and equipment				
None needed	25	25	31	41
Local ordinance	21	21	16	21
Statewide legislation	41	38	35	24
No answer	13	16	18	14
Do you think that a governmental agency should grant franchises and issue regulations for ambulance services as it does for public utilities?				
No answer	4	**	3	**
No	52		71	
Yes	44		26	
If yes, indicate if you think ambulance service should be primarily the responsibility of:				
City or town	9	**	10	**
County	19		26	
Both	70		58	

* Number of respondents.

** This question asked only of providers and governmental groups.

F. Comments Made by Respondents

Space was provided at the end of each questionnaire and the respondents were asked to list any other comments or opinions regarding ambulance service. The responses varied from a simple statement of a few words to a comprehensive statement covering several pages. The comments were carefully listed and tabulated.

1. *Providers of Ambulance Service*—Comments were made by 39% of the respondents in this group. Most frequently mentioned was the belief that someone else should provide the service. Others indicated that ambulance service is being provided for reasons of public service or goodwill. Some remarked that they did not like doing ambulance

service, but could not discontinue it. Many of the comments indicated that some types of regulations were needed. Financial complaints were voiced by a large number of respondents. Along with complaints there were some suggestions given for improvement of the service, while others suggested that things should be left as they are. Still other suggestions covered such topics as training of drivers and attendants, the collection of fees, and the duplication of service.

2. *Medical Care Facilities*—The hospitals and nursing homes were most complimentary in their comments regarding ambulance services. Thirty-nine percent of all the medical respondents included comments of one sort or another. Some of these outlined certain needs such as additional training and equipment. The comments were not in agreement as to who should provide ambulance service—some indicated that the funeral homes should be responsible while others felt that hospitals should do this. There were also those who felt that hospitals should not be involved. A number of respondents stated that ambulance service should be provided by private enterprise with a minimum of regulations. Others indicated a similar position by commenting that government should be left out of the ambulance business. The need for prepayment plans was also an item mentioned by several respondents.

3. *Governmental Groups*—Nearly one-half of the comments given by the officials of county and municipal government were to the effect that the present services did not present problems, that the service was satisfactory, or that there were no complaints. Some governmental officials indicated their belief that ambulance service is a governmental responsibility. Half as many commented that government should be left out of it. Other officials stated that encouragement and financial aid should be given to the present operators. Some commented that hospitals should perform this task; others wanted the funeral homes to do it. Certain comments cited specific problems and others indicated that things should be left as they are.

4. *Users*—Comments were made by 36% of the users—nearly all of these concerning the satisfactory service they had received and stating that there were no complaints. Other than complimentary remarks, the few other comments involved such items as a statement that the fee should have been higher. Others mentioned the lack of a doctor at the hospital. One respondent felt that the service was inadequate for Negroes in the rural areas. A belief that the fee should have been paid by a governmental agency was also expressed.

VIII. SUBSTUDIES

A. Introduction

Many questions concerning ambulance service in other than its organizational aspects arose during the course of the project. Although many of these were somewhat tangential to the original purpose of this study, the Advisory Committee determined that studies of the following highly relevant areas should nevertheless be conducted.

B. Who Should Furnish First Aid Training?

All four questionnaires asked, under the opinion sections, "Who should provide the first aid training?" In addition to the opinions expressed in the returned questionnaires, the Advisory Committee suggested further study of this matter. In response to an inquiry to the state office of the North Carolina Industrial Education Division, it was learned that training programs for ambulance personnel are within the scope of the Division's operations. This department, it was learned, can within the present budget and authorization set up a teaching curriculum, designate texts, furnish instructors, and conduct the course when and if requests for such a program are presented to them.

C. First Aid Training Texts for Ambulance Attendants

Questions arose concerning specifics of training ambulance attendants. Accordingly, various first aid texts were obtained. The libraries of the University of North Carolina, including the School of Medicine, were searched for books and articles dealing with this subject. Copies of the books obtained, along with lists of available library materials, were submitted to Dr. George Johnson, a surgeon on the faculty of the School of Medicine, for evaluation and suggestions. Appendix C contains the lists of materials reviewed and the results of this phase of the substudy on first aid.

D. First Aid Equipment for Ambulances

The list of equipment and supplies which might be carried on an ambulance obviously should be related to the training of the persons operating the vehicle. This truism led the Advisory Committee to develop a minimum equipment list and recommend that its use be correlated with training requirements. Appendix C referred to above also includes reference to equipment lists and the suggestions of the medical consultants.

E. Problems Relating to Collection of Ambulance Fees from Insurance Companies

The Advisory Committee heard complaints from operators of ambulance services regarding the delays and inability to collect fees from insurance companies. This problem was discussed with a member of the staff of the North Carolina Commissioner of Insurance. It was learned that ambulance service, as such, does not qualify under existing lien laws in North Carolina. It was pointed out, however, that if the fees for ambulance service were presented as a part of the medical and hospital bills, then such fees would qualify under existing lien laws. It was suggested that providers of ambulance services might arrange with the local hospitals to include the fees for ambulance services with the hospital bill and thereby qualify for handling under existing lien laws.

IX. LEGAL ASPECTS OF AMBULANCE SERVICE

A. Survey of Statutes Passed by Various States Relating to Ambulances

Introduction

The portion of the Ambulance Service Study dealing with legal matters has been divided into two parts. Part I deals with the statutory

law in this area, while Part II is concerned with an attempt to answer certain basic legal questions relating to ambulance operations by reviewing the case law in this area.

The statutes of all fifty states were examined in an effort to obtain references to all legislative enactments relating to ambulances. As would be expected, a few states have rather extensive legislation in this area while others appear to have none. Most states do have statutes dealing with, as a minimum, the motor vehicles aspects of ambulance operations.

The statutes referred to in this summary were found by going through the indexes to the published statutes of each state. From the index, references to specific sections were found and examined. Our search of the indexes was rather thorough as we used the words "ambulance," "emergency vehicles," "hearse," "hospitals," and related words in an effort to locate all statutes. Still, it is possible that we failed to think of the appropriate index word in some instances. Therefore, all that we can say with certainty is that the laws listed here were found. We cannot be absolutely certain that we have not failed to include a few states in the listings that should be there, but we feel that if such fact does exist there is a minimum of omission.

This presentation of the statutes found includes: (1) a narrative summary of typical provisions; (2) a table listing the states that have statutes relating to various aspects of ambulance operation, together with the statutory references; and (3) a statement of North Carolina general and local laws relating to ambulances.

1. *Warning Devices.* At least twenty-seven states have statutes concerning warning devices on ambulances and other emergency vehicles. A few typical provisions include:

(a) Every emergency vehicle shall be equipped with a bell, siren or exhaust whistle of a type approved by ——————————.

(b) Flashing lights are prohibited on motor vehicles except as turn signals, but this section shall not be applicable to authorized emergency vehicles.

(c) It shall be unlawful for any vehicle, other than authorized police or emergency vehicles, to be equipped with a siren; or, for any person to use upon a vehicle, other than police or emergency vehicles, any siren; or, for any person at any time to use a horn otherwise than as a reasonable warning, or to make any unnecessary loud or harsh sounds by means of a horn or other warning device.

2. *Exemptions from Traffic Regulations.*

(a) At least nineteen states have statutes exempting ambulances from certain traffic regulations when the ambulance is acting in an emergency. These usually include such things as:

(1) exemption from speed limitations;

(2) exemption from parking limitations;

(3) exemption from requirements of stopping at red lights, stop signs, and railroad crossings; and

(4) exemption from regulations governing direction of movement of traffic or directions concerning turns.

These exemptions are usually accompanied by certain limitations. They often contain language along these lines: These exemptions shall not, however, protect the driver of any ambulance or his principal from the consequences of a reckless disregard for the safety of others.

(b) Some states, instead of making exemptions in the state law, authorize municipalities to regulate by ordinance the speed of ambulances being operated within the limits of the municipality.

3. *Yield Right of Way to Emergency Vehicles.* At least twenty-five states have statutes requiring that motor vehicles yield the right of way to emergency vehicles. The following is probably the most uniform of all ambulance regulations:

The driver of a vehicle upon a highway shall yield the right of way to . . . or any other authorized emergency vehicles when the latter are equipped with at least one lighted lamp exhibiting red light visible under normal atmospheric conditions from a distance of 500 feet to the front of such vehicle and when the driver is giving signal by siren, exhaust whistle or bell. This provision shall not operate to relieve the driver of an emergency vehicle from the duty to drive with the regard for the safety of all persons using the highway nor shall it protect the driver of any such vehicle from the consequences of an arbitrary exercise of such right of way. Any person violating any of the provisions of this section shall be guilty of a misdemeanor.

4. *Ambulance Access to Buildings.* At least one state, New Jersey, has a statute specifically requiring boards of adjustment, when passing on building permits, to impose conditions that will assure adequate access for fire fighting equipment, ambulances and other emergency vehicles. . . .

5. *License and Registration Fees.* At least ten states require ambulance operators to pay extra license or registration fees. Typical provisions include:

(a) In addition to registration fees required, there shall be a fee on motor vehicles used or maintained for the transportation of passengers for compensation . . . including ambulances and other vehicles used by a mortician in the conduct of his business. . . .

(b) For each hearse and ambulance operated on the highways of this state the following license tax shall be charged: cities of 100,000 or more $50; cities between 40,000 and 100,000 $30; cities between 10,000 and 40,000 $20; and, all others $10.

(c) Hearses and ambulances shall pay the annual fee of $5 for the first 2,500 pounds and $1.10 for each additional 500 pounds.

(d) Payment of $100 annually by all operators of ambulances, except that cities shall be excluded from this section.

(e) For registration of ambulances a fee of $25 per annum must be paid.

(f) A license fee of $25 per annum must be paid on all ambulances.

6. *License Fee Exemptions.* At least five states have statutes exempting certain ambulances from customary license fees. Typical provisions include:

(a) Vehicles owned and operated by the federal government . . . and police ambulances need not be registered (this pertains to registration and specific ownership tax).

(b) All ambulances owned and used by any agency in this state for charitable purposes or for the benefit of any hospital in this state and all motor vehicles owned by any veterans' organization and used by such for charitable purposes, shall be registered but shall be exempt from the payment of registration fees.

(c) Rescue vehicles of voluntary fire departments, including their ambulances, are exempt from annual registration fee and license plate fee.

7. *Ambulances Exempt from Motor Carriers Act.* At least seven states specifically exempt ambulances from the state's Motor Carrier Act. A typical statute provides that contract carriers by motor vehicle shall not include any person or corporation who or which furnishes transportation for any injured, ill or dead person.

8. *Ambulances Exempt from Tolls.* At least two states, Connecticut and New Jersey, provide that no toll is to be charged for the use of any highway or bridge by an ambulance responding to an emergency call.

9. *Refund for Fuel Taxes.* At least three states have statutes specifically providing for refunds for fuel taxes for certain ambulance operators. A typical provision states that the payment of taxes provided for by . . . shall be subject to refund in accordance with . . . in respect to . . ., ambulances owned by municipalities or hospitals and ambulances owned by any non-profit civic organization approved by the Tax Commissioner.

10. *Lien for Ambulance Service.* At least two states, Connecticut and Virginia, have statutes providing for a lien for ambulance service on the proceeds of accident and liability insurance policies (in the case of Connecticut) or the proceeds of a recovery against the tortfeasor causing the accident which necessitated the ambulance service (in the case of Virginia). The Virginia statute limits the lien to $50. A summary of the Connecticut statute follows:

Any hospital . . ., ambulance owner, operator, association, partnership, or corporation, . . . shall have a . . . lien on the proceeds of any accident or liability insurance policy issued by any company authorized to do business in this state, which proceeds may be due such patient, either directly or indirectly, to the extent of the actual cost of such service and materials, provided by such hospital or ambulance owner, operator, association, ... [Provisions are made for service of notice on the insurance company.] Whenever the liability of such company or companies has been fixed, such insurance company shall pay directly to the hospital or ambulance owner, operator . . . the amount due it, provided such amount shall be agreed upon by all of the parties in-

terested; and a receipt by such hospital or ambulance owner . . . shall be evidence of payment of such amount by such company or companies on account of their liability to the insured. If the interested parties do not agree concerning the amount due such hospital or ambulance owner . . ., either party may bring an action of interpleader in the county in which the hospital or ambulance owner . . . involved is located.

11. *Exempt from Carrying Mandatory Liability Insurance.* Kansas exempts ambulances from the Motor Carriers Act and in another section exempts from the mandatory liability insurance requirement all vehicles exempt from the Motor Carriers Act.

12. *Ambulance Service Contracts.* While some states (Georgia, for example) include ambulance service within their authorized accident and sickness insurance policies, Florida has a separate chapter in its statutes regulating ambulance service associations, and states that "It shall be deemed contrary to public policy if any person receives, holds, controls, or manages funds or proceeds received from the sale of or from a contract to sell pre-need ambulance service, whether the payments for same are made outright or on an installment basis, prior to the need of the service by persons so purchasing it, or for whom it is purchased, unless such person holds, controls, or manages such funds, subject to the limitations and regulations prescribed by the following sections." The chapter then proceeds to spell out the conditions under which such funds may be received, managed, and operated.

13. *Ambulance False Alarms—Misdemeanor.* At least one state, Virginia, has a statute making it a misdemeanor to call or summons an ambulance or fire-fighting apparatus without just cause for making such call.

14. *Release of Telephone for Ambulance Calls.* At least two states, New York and Iowa, make it a crime for any person to intentionally refuse to relinquish a telephone party line or public pay telephone when informed that such line or telephone is needed for an emergency actually existing . . . requiring the calling of an ambulance. . . .

15. *Minimum Requirements for Drivers, Attendants and Vehicles.* At least eight states have statutes specifically stating minimum qualifications for ambulance drivers and attendants and minimum equipment requirements for ambulances. [Many municipalities throughout the country have adopted ordinances setting out minimum qualifications for drivers and attendants and specifying minimum equipment requirements for ambulances.] Typical provisions include:

(a) No owner of a public or privately owned ambulance shall permit the operation of such ambulance in emergency service unless either the operator therein or an attendant on duty therein possesses an advanced American Red Cross First Aid Certificate or an advanced First Aid Certificate issued by the U. S. Bureau of Mines.

(b) Ambulance drivers must be over twenty-one years of age and free of convictions for drunken or reckless driving, must be able to read and write, and must be free from mental deficiencies.

(c) The Board of Supervisors of every county shall have the power to require ambulances that respond to emergency calls to be staffed with, in addition to regular personnel, a graduate nurse, doctor of medicine, or an attendant holding a valid first aid certificate.

(d) No person shall operate an ambulance that does not carry traction splints and a standard twenty-four unit first aid kit approved by the American Red Cross.

16. *Ambulance Service for Indigents.* At least five states have statutes specifically providing for the furnishing of ambulance service to indigent persons. This is undoubtedly authorized in many other states (as is the case in North Carolina) under a general grant of authority to provide hospital and medical care for indigents (necessary ambulance services being impliedly included in hospital and medical care). Typical provisions, where the statutes are specific, include:

(a) The board may provide for transporting the needy sick to and from hospitals to which they may be sent by authority of the board, and may provide for transporting indigents to other counties or states when such indigents will thereby cease to become public charges or when friends or relatives of such indigents agree to assume the costs and expense of care and maintenance of such indigents or when such indigents are legally public charges in the places to which they are so transported.

(b) The State Board of Education has authority to provide one or more ambulances for the transportation of indigent persons committed to the University hospital and to pay the costs thereof.

(c) . . . bills for persons financially unable to pay for [ambulance] transportation, if there is no relative or other person who is liable for the care of such person who can pay . . ., when approved by the board of supervisors . . ., shall be paid from the general fund of the county. The county may maintain an action in assumpsit against such persons liable for the care of the injured party.

17. *Ambulance Required by Operators of Mines.* At least two states, Pennsylvania and Wyoming, require operators of mines to provide an ambulance. Pennsylvania requires the operator of every mine in which 50 or more (10 or more in Wyoming) persons are employed to provide an ambulance. Pennsylvania makes an exception for mines where the residence of the workers is within one mile of the mine. Wyoming has no similar exception.

18. *Governmental Authority to Make Donations to Operators.* At least four states have statutes specifically authorizing local governmental units to make contributions to non-profit emergency vehicles. A typical provision authorizes any county or municipality to make a voluntary contribution of not more than $——— to any . . . volunteer ambulance or rescue squad in the county or city.

19. *Statutes Authorizing City-County Operation.* At least eleven states have statutes authorizing local governmental units to operate ambulances or to provide for the availability of ambulance service. Typical provisions include:

(a) Any municipality shall have power to acquire and to operate and maintain a motor ambulance for the purpose of conveying sick and injured residents of such municipality and the vicinity to and from hospitals, and for such purposes to appropriate and expend moneys of the municipality.

(b) The county, . . . for the purpose of providing such ambulance service, may enter into contracts with fire companies, incorporated or unincorporated towns and cities in the county, or such other organizations as it deems proper.

(c) Municipalities may set a schedule of fees to be charged for its [ambulance] use.

20. *Arranging for Ambulance Service in Case of Emergency.* At least two states provide for law enforcement officers to supply or arrange for ambulance services in cases of emergency. One of these (California) provides, in summary:

The sheriff may supply ambulance service within the county to any person if all the following conditions exist:

(1) the person has been rendered so desperately ill, whether by sudden sickness or accident, that immediate hospitalization is necessary in order to save life or limb;

(2) his condition is such that he is not able himself to arrange for ambulance transportation;

(3) no relatives or friends provide such service;

(4) immediate transportation to a hospital cannot be obtained without extending the credit of the county; and

(5) ambulance service is not available or cannot be obtained within the time necessary in order to save life or limb from any other department, bureau, or agency of the county which is authorized by law to furnish the service.

The California statute also allows the county governing board to pay expenses for ambulance service incurred by the coroner for official business.

21. *Use of Police Radio Frequency.* At least Florida has a statute which provides that no person, firm or corporation is to install in any motor vehicle or have . . ., except for emergency vehicles [ambulances are specifically included within the definition of emergency vehicle in this statute], any frequency modulation radio receiving equipment so adjusted or tuned as to receive messages or signals on frequencies assigned by the federal communications commission to police officers of any city or county.

1. *Warning Devices*

Ala. Code tit. 36, §36
Ariz. Rev. Stat. Ann. §§28-947, 28-954
Ark. Stat. §75-725
Conn. Gen. Stat. §14-283
Del. Code Ann. tit. 21, §4307
Fla. Stat. §317.90
Ga. Code Ann. §68-1716
Ind. Ann. Stat. §47-2224
La. Rev. Stat. §32:285
Md. Ann. Code art. 66½, §§287, 293
Mo. Rev. Stat. §304-022
Mont. Rev. Code Ann. §32-21-132
N.M. Stat. Ann. §20-125
N.Y. Vehicle §81 (18)
N.C. Gen. Stat. §20-125
N.D. Rev. Code §39-11-25
Okla. Stat. Ann. tit. 11, §106
Ore. Rev. Stat. §483
Pa. Stat. Ann. tit. 75, §401
R.I. Gen. Laws Ann. §§31-12-6 et seq.
S.C. Code §46-292
S.D. Code §44-0347
Tenn. Code Ann. §59-905
Tex. Rev. Civ. Stat. art. 4590
Utah Code Ann. §41-6-14
Wis. Stat. §347.25
Wyo. Stat. §§31-195, 31-204

2. *Exemptions from Traffic Regulations*

Ala. Code tit. 36, §8
Ariz. Rev. Stat. Ann. §28-624
Ark. Stat. §§75-423, 75-606
Del. Code Ann. tit. 21, §4139
Fla. Stat. §317.04
Idaho Code Ann. §49-526
Iowa Code Ann. §§321.231, 321.296
La. Rev. Stat. §39:36
Md. Ann. Code art. 66½, §§183, 214
Mo. Rev. Stat. §304-022
Neb. Rev. Stat. §39.745
N.M. Stat. Ann. §20-145
N.Y. Vehicle §84
N.C. Gen. Stat. §20-145
N.D. Rev. Code §39-10-03
Ore. Rev. Stat. §483-120
R.I. Gen. Laws Ann. §31-12-7
Utah Code Ann. §54-6-12
Wyo. Stat. §31-83

3. *Yield Right of Way to Emergency Vehicles*

Ala. Code tit. 36, §§19.20
Ariz. Rev. Stat. Ann. §28-775
Ark. Stat. §75-625
Conn. Gen. Stat. §14-283
Del. Code Ann. tit. 21, §4141
Fla. Stat. §317.901
Ind. Ann. Stat. §47-2030
Iowa Code Ann. §321.324
Ky. Gen. Stat. Ann. §189.320
La. Rev. Stat. §32:238
Me. Rev. Stat. Ann. ch. 22. §92
Md. Ann. Code art. 66½, §235
N.H. Rev. Stat. §110:104
N.M. Stat. Ann. §20-156
N.Y. Vehicle §82
N.C. Gen. Stat. §20-156
N.D. Rev. Code §39-10-26
Ore. Rev. Stat. §483.208
S.C. Code §46-293
S.D. Code §44.0319
Tenn. Code Ann. §59-808
Utah Code Ann. §41-6-14
Va. Code Ann. §46.1-225
Wash. Rev. Code §46.60.210
Wyo. Stat. §31-122

4. *Ambulance Access to Buildings*

N.J. Rev. Stat. §40:55-1

5. *License and Registration Fees*

Ala. Code tit. 51, §696
Ariz. Rev. Stat. Ann. §28-206
Ark. Stat. §75-201
Fla. Stat. §320.08
Ga. Code Ann. §92-20402
Idaho Code Ann. §49-127
Kan. Gen. Stat. Ann. §8-143
Neb. Rev. Stat. §60.337
Tenn. Code Ann. §67-4203
Va. Code Ann. §46.1-46

6. *License Fee Exemptions*

Colo. Rev. Stat. Ann. §13-5-2
Del. Code Ann. tit. 21, §2158
Md. Ann. Code art. 66½, §29
Minn. Stat. Ann. §168.012
W.Va. Code Ann, §1721

7. *Ambulances Exempt from Motor Carriers Act*

Colo. Rev. Stat. Ann. §115-10-21
Kan. Gen. Stat. Ann. §66-1109
La. Rev. Stat. §47:172
Pa. Stat. Ann. tit. 66, §1102
Tenn. Code Ann. §65-1503
W. Va. Code Ann. §2577(3)
Wyo. Stat. §37-134

8. *Ambulances Exempt from Tolls*

Conn. Gen. Stat. §13-101
N.J. Rev. Stat. §27:12B-18.1

9. *Refund for Fuel Taxes*

Conn. Gen. Stat. §12-460
Del. Code Ann. tit. 30, §5143
N.J. Rev. Stat. §54:39-66

10. *Lien for Ambulance Service*

Conn. Gen. Stat. §49-73
Va. Code Ann. §43-63.1

11. *Exempt from Carrying Mandatory Liability Insurance*

Kan. Gen. Stat. Ann. §66-1314

12. *Ambulance Service Contracts*

Fla. Stat. §§638.011 et seq.
Ga. Code Ann. §53-3001

13. *Ambulance False Alarm—Misdemeanor*

a. Code Ann. §18.1-412

14. *Release of Telephone for Ambulance Calls*

Iowa Code Ann. §714.34
N.Y. Penal §1424(a)

15. *Minimum Requirements for Drivers, Attendants and Vehicles*

Cal. Vehicle §21714
Ill. Rev. Stat. ch. 31, §10.6
La. Rev. Stat. §40:1232
Mass. Gen. Laws Ann. ch. 90, §7
Nev. Rev. Stat. §202.590
Ore. Rev. Stat. §§483.658, 483 662
Tex. Rev. Civ. Stat. art. 4590b
Va. Code Ann. §15-8

16. *Ambulance Service for Indigents*

Cal. Health and Safety §1443
Mich. Comp. Laws §16.308
Minn. Stat. Ann. §357.11(4)
N.Y. Gen. Mun. §122-b
Ore. Rev. Stat. §§445.010 et seq.

17. *Ambulance Required by Operators of Mines*

Pa. Stat. Ann. tit. 52, §1353
Wyo. Stat. §30-190

18. *Governmental Authority to Make Donations to Operators*

Del. Code Ann. tit. 9, §2001
N.C. Gen. Stat. §160-191.11
N.J. Rev. Stat. §40:5-2
Pa. Stat. Ann. tit. 53, §46263

19. *Statutes Authorizing City-County Operation*

Cal. Health and Safety, §§32121, 14455.7
Del. Code Ann. tit. 9, §349
Ind. Ann. Stat. §48-7402
Kan. Gen. Stat. Ann. §19-3623(b)
Mass. Gen. Laws Ann. ch. 48, §69
Mich. Comp. Laws §5.160
Minn. Stat. Ann. §375.191
Nev. Rev. Stat. §474.180
N.J. Rev. Stat. §40:47-14
N.Y. Gen. Mun. §122-b
Pa. Stat. Ann. tit. 53, §3811

20. *Arranging for Ambulance Service in Case of Emergency*

Cal. Vehicle §20016, Govt. §§27470, 26612
Hawaii Rev. Laws ch. 138, §30

21. *Use of Police Radio Frequency*

Fla. Stat. §843.16

B. North Carolina Laws Relating to Ambulances and Emergency Vehicles

1. *General Laws.* G.S. 20-145 provides:

"The speed limitations set forth in this article shall not apply to vehicles when operated with due regard for safety under the direction of the police in the chase or apprehension of violators of the law or of persons charged with or suspected of any such violation, nor to fire department or fire patrol vehicles when traveling in response to a fire alarm, nor to public or private ambulances when traveling in emergencies, nor to vehicles operated by the duly authorized officers, agents and employees of the North Carolina Utilities Commission when traveling in performance of their duties in regulating and checking the traffic and speed of busses, trucks, motor vehicles and motor vehicle carriers subject to the regulations and jurisdiction of the North Carolina Utilities Commission. This exemption shall not, however, protect the driver of any such vehicle from the consequence of a reckless disregard of the safety of others."

G.S. 20-125(b) provides, in part:

"Every vehicle owned and operated by a police department or by the State Highway Patrol or by the Wildlife Resources Commission and used exclusively for law enforcement purposes, or by a fire department, either municipal or rural, or by a fire patrol, whether such fire department or patrol be a paid organization or a voluntary association, and every ambulance used for answering emergency calls, shall be equipped with special lights, bells, sirens, horn or exhaust whistles of a type approved by the Commissioner of Motor Vehicles.

The operators of all such vehicles so equipped are hereby authorized to use such equipment at all times while engaged in the performance of their duties and services, both within their respective corporate limits and beyond."

G.S. 20-130.1 provides:

"It shall be unlawful for any person to drive upon the highways of this State any vehicle displaying red lights visible from the front of said vehicle. The provisions of this section shall not apply to police cars, highway patrol cars, vehicles owned by the Wildlife Resources Commission and operated exclusively for law enforcement purposes, ambulances, wreckers, fire fighting vehicles, school buses, a vehicle operated in the performance of his duties or services by any member of a municipal or rural fire department, paid or voluntary, or vehicles of a voluntary life-saving organization that have been officially approved by the local police authorities and manned or operated by members of such organization while on official call or to such lights as may be prescribed by the Interstate Commerce Commission, or to maintenance or construction vehicles or equipment of the State Highway Commission engaged in performing maintenance or construction work on the roads. The provisions of this section shall not apply to motor vehicles used in law enforcement by the sheriff or any salaried deputy sheriff or

salaried rural policeman of any county, regardless of whether or not the vehicle is owned by the county."

G.S. 20-156 provides:

"(a) The driver of a vehicle entering a public highway from a private road or drive shall yield the right-of-way to all vehicles approaching on such public highway.

(b) The driver of a vehicle upon a highway shall yield the right-of-way to police and fire department vehicles and public and private ambulances when the latter are operated upon official business and the drivers thereof sound audible signal by bell, siren or exhaust whistle. This provision shall not operate to relieve the driver of a police or fire department vehicle or public or private ambulance from the duty to drive with due regard for the safety of all persons using the highway, nor shall it protect the driver of any such vehicle from the consequence of any arbitrary exercise of such right-of-way."

G.S. 160-191.11 provides:

"The governing body of any county or incorporated city or town is hereby authorized to expend, in its discretion, either singularly or jointly, such funds as may be reasonably necessary to purchase and maintain rescue equipment and to finance the operation of a rescue squad or team in order to furnish assistance, either within or outside the boundaries of such county or such city or town respectively, in case of accident or other casualty or when circumstances reasonably require the services of a rescue squad or team.

2. *Local Laws.* Session Laws 1961, Chapter 368 provides:

"Section 1. The City of Charlotte may require the drivers and operators of ambulances upon and over public streets of the city to make application and receive from the City of Charlotte, a driver's or operator's permit before operating or driving any ambulances in the city. Such permit may be refused to any person who has been convicted of violating any law, including traffic laws and ordinances. The governing body may revoke any such driver's or operator's permit if such person is convicted of the violation of any law.

Sec. 2. The City of Charlotte is also authorized to establish rates which may be charged by ambulance operators and to grant franchises to ambulances on such terms as such city deems advisable, including the charging of a reasonable monetary consideration or fee for the franchise.

Sec. 3. This Act shall apply only to the City of Charlotte."

Session Laws 1963, Chapter 543 provides:

"Section 1. The boards of county commissioners of the counties named in Section 3 of this Act are authorized, in their discretion, to defray a portion of the cost of ambulance services in the county in consideration of the persons, firms or corporations providing service to citizens of the county, said costs to be paid under rules and regulations prescribed by the boards of county commissioners, and such costs in

each instance shall in no case be more than four hundred dollars ($400.00) per month. Services so paid shall be in addition to services paid for ambulance service rendered to indigent persons certified for service by the Welfare Department.

Sec. 2. Upon request of the board all persons, firms or corporations furnishing ambulance services shall submit to the board a financial statement and audit report reflecting his, their or its financial condition.

Sec. 3. This Act shall apply to Cabarrus and Stanley [sic] Counties only."

Session Laws 1963, Chapter 848 provides:

"Section 1. The City of Albemarle may require the drivers and operators of ambulances upon and over public streets of the city to make application and receive from the City of Albemarle a driver or operator's permit before operating or driving any ambulances in the city. Such permit may be refused to any person who has been convicted of violating any law, including traffic laws and ordinances. The governing body may revoke any such driver or operator's permit if such person is convicted of the violation of any law.

Sec. 2. The City of Albemarle is also authorized to establish rates which may be charged by ambulance operators and to grant franchises to ambulances on such terms as such city deems advisable, including the charging of a reasonable monetary consideration or fee for the franchise.

Sec. 3. This Act shall apply only to such ambulances and operators thereof that are resident within the city limits of the City of Albemarle.

Sec. 4. This Act shall apply only to the City of Albemarle."

Session Laws 1963, Chapter 509 provides:

"The Board of Commissioners of Henderson County is authorized and empowered to levy a special tax for the purpose of financing the operation of the county ambulance service, said tax not to exceed five cents (5¢) on each one hundred dollars ($100.00) valuation of property in the county, and such levy is hereby declared necessary and for a special and necessary public purpose, and shall be in addition to any other tax levy, general or special, which the board of commissioners is authorized to make."

Session Laws 1963, Chapter 593 provides:

"Section 1. The Board of County Commissioners of Union County is hereby authorized and empowered to take such action as it may determine necessary to insure adequate ambulance service for protection and safety of people in Union County. To this end, said board is authorized and empowered to enter into contracts with private firms or individuals or governmental or quasi-governmental agencies or municipalities to establish and/or maintain adequate ambulance service in Union County.

Sec. 2. The Board of County Commissioners of Union County is authorized and empowered to appropriate and expend from the general

fund, or from any other source available, such funds as it may determine necessary for the purposes herein set out.

Sec. 3. The Board of County Commissioners of Union County is authorized in its discretion to levy a special tax at a rate not to exceed five cents (5¢) per one hundred dollars ($100.00) valuation of real property for the purposes herein set out.

Sec. 4. The Board of County Commissioners of Union County is hereby authorized and empowered to determine and approve a schedule of minimum and maximum fees that shall be charged for ambulance service in Union County, and compliance with such fee schedule may be required by said board as a prerequisite to receiving any funds from the county for ambulance service.

Session Laws 1963, Chapter 825 provides:

"Section 1. The operators of any public or private ambulances, shall not, when operating any such vehicle as described herein, in New Hanover County, sound any siren, bell, special horn or exhaust whistle, whether such vehicle is being operating [sic] on official business, in emergencies, or otherwise.

Sec. 2. The operator of any emergency type vehicle, as described in Section 1 hereof, when operating such vehicle in New Hanover County, shall comply with all statutory speed limits, right-of-way regulations, and all other highway safety laws, including municipal ordinances of all cities and towns in New Hanover County whether such vehicles are being operated on official business, in emergencies, or otherwise.

Sec. 3. Nothing herein shall be construed to prohibit the use of red lights, authorized by law, on any such vehicle as described in Section 1 hereof.

Sec. 4. This Act shall apply only to New Hanover County."

C. Survey of Case Law Relating to Ambulances in Several States

1. *Ambulances Involved in Accidents*—The case law available on the subject of the liability of an ambulance involved in an accident involves, primarily, a matter of statutory interpretation. The fact that an ambulance is involved in an accident may or may not affect the rules governing liabilities, depending on whether or not the ambulance was acting within a privilege granted to emergency vehicles at the time of the accident.

The source of privileges granted to the operation of emergency vehicles generally is a statute or an ordinance. In order for an ambulance to qualify for the protection of a privilege at the time of a collision, it is necessary to show that the ambulance in question comes within the terms of the particular privilege being invoked. Is the vehicle an emergency vehicle? Is the ambulance on an emergency mission? Even if the ambulance is granted a privilege, is it proper to invoke it under the circumstances? Has the ambulance gone beyond

the privilege permitted it in the statute? These are the questions that generally confront the courts in determining the liability of an ambulance involved in an accident.

It should be emphasized that the privileges given ambulances vary from jurisdiction to jurisdiction, and that the majority of the courts have held that where the ambulance is not exempted from a particular regulation, the operator of the vehicle must obey the regulation. The usual privileges granted to emergency vehicles operating under emergency conditions include exemption from "stop" or "yield right of way" requirements, and from speed limitations. Some states grant still others.

Most statutes and ordinances granting the operators of ambulances the privilege of non-compliance with certain traffic laws stipulate that the operator must exercise some degree of care in the use of the privilege. Therefore, it is necessary in many cases for the court to make findings as to whether or not the driver was using due care, even though it was determined that the operator did have a privilege.

The cases included in this summary must be interpreted in light of the statutes of the state in which the case arose. They should be helpful, however, in arriving at an interpretation of similar statutes in other states.

Ambulances generally enjoy emergency privileges only if they are operating under emergency conditions as contemplated by the statute or ordinance granting the privilege. This generally presents the court with the problem of determining whether the ambulance was on an emergency trip.

The court in *Gallup v Sparks-Mundo Engineering Co.,* 43 Cal.2d 1, 271 P.2d 34 (1954) said: "Whether a vehicle is driven in response to an emergency call depends on the nature of the call received and the situation presented to the mind of the driver, and not upon whether there is an emergency in fact." The court in this case said that there was sufficient evidence to go to the jury on the question of the emergency nature of the trip. The evidence showed that the call was received from a mental institution 50 miles away and that the driver was instructed to treat all calls from this institution as emergency unless told otherwise. On the way to the institution the ambulance, with its siren on and blinker flashing, ran a red light and collided with a truck. It later developed that there was, in fact, no emergency. The court held that the fact of the emergency must be determined by looking through the eyes of the driver, and sent the case back to the lower court to determine if there was an emergency as viewed from the mind of the operator of the ambulance.

In *Head v. Wilson,* 36 Cal. App. 2d 244, 97 P.2d 509 (1939) the same court reversed a case when the instructions given to the jury indicated that an ambulance operator has the emergency privilege only if there is in fact an emergency. The court said that the controlling factor is the nature of the call as communicated to the driver, and held that it was error to permit evidence to show that the person for whom the ambulance was sent was not an emergency case. The court also held it

error not to permit evidence of the nature of the phone call as communicated to the driver.

See also *Virginia Transit Co. v. Hodges*, 201 Va. 232, 110 S.E.2d 231, (1959) and *Simkins v. Barcus*, 168 Pa. Super. 195, 77 A.2d 717 (1951) for similar decisions.

The basis for determining eligibility for emergency privileges is, however, somewhat different once the ambulance has picked up the patient. Most courts have held that once the ambulance operator has picked up the patient, he must have reasonable grounds to believe an emergency exists in order to use the emergency privileges. The test becomes less subjective once the patient is in the ambulance.

Oakley v. Allegheny County, 128 Pa. Super. 8, 193 A. 316 (1937) was a case arising out of a collision between an ambulance and another vehicle while the ambulance was passing through an intersection against a red light. The court found the ambulance operator guilty of contributory negligence since he did not produce sufficient evidence of an emergency to gain the privilege of entering the intersection against the red light. The only evidence that was introduced indicating an emergency was the fact that the patient was going to the hospital. The court noted that there was an intern in the ambulance at the time of the accident, and that he could have testified as to the emergency if one existed, but that he was not called as a witness. The court in the opinion described the duty of an ambulance operator to know the existence of an emergency once the patient is in the ambulance as follows:

> . . . The driver of an ambulance has a responsibility not only to the other users of the highway, but also to the patient that he might be transporting. It is the duty of the driver of an ambulance who anticipates taking an unusual course through traffic to know something about the necessity for haste. If he intends to operate his conveyance contrary to the usual rules of the road, he must at least have a valid reason to believe that an emergency exists, and even then he must not operate his vehicle with a reckless disregard for the safety of others. The first duty of the plaintiff was to know that an emergency existed—"a combination of circumstances which called for immediate action, an exigency." He should have known that there was a necessity for such haste as justified his going through the red light and thereby imperiling the safety not only of other users of the street, but also of the patient.

Delohery v. Quinlan, 210 Ill. App. 321 (1918) and *West v. Jaloff*, 113 Ore. 184, 232 Pac. 642 (1925) are two cases wherein the absence of any evidence of an emergency deprived the ambulance operator of the benefit of using the emergency privilege. Both cases involve operators taking sick people to the hospital.

In an interesting and rather current Texas case, *Watkins v. Goolsby*, 337 S.W.2d 363 (1960) an ambulance driver had taken the ambulance to a motor parts establishment to pick up some repair parts. While on the way back to the ambulance station, the operator received a call to return to the employer's place of business to receive instructions on a call. The employer did not radio out the instructions for fear that another ambulance agency might intercept it and answer the call. On the way back to the employer's place, with lights blinking and siren blaring, the ambulance hit a truck in an intersection. The court found

that the ambulance could not invoke the emergency privileges granted to ambulances under Texas law, since the evidence showed that the ambulance's destination was not the scene of any emergency. The operator was only returning to the employer's place of business to receive instructions concerning a call for an ambulance. The court said that the purpose of the trip back to the employer's place was mercenary, since as a matter of fact the ambulance was closer to the scene of the accident when it received the call than it was when it arrived at the employer's place of business.

In another Texas case, *Caswell v. Satterwhite,* 277 S.W.2d 237 (1955), the trial court's determination that an ambulance was operated in response to an emergency call was upheld where the evidence showed that the ambulance was being used to transport a very sick 79-year-old patient who seemed to be getting worse at the time, and who was suffering greatly.

Some cases have presented to the courts the problem of determining whether the vehicle was of a type that the statute contemplated as being within the scope of the privilege granted.

In *Levy Court of New Castle v. Yellow Taxi,* 45 Del. 470, 75 A.2d 421 (1950) the court refused to grant an ambulance the emergency privilege of entering an intersection against the red light. The ambulance in question was operated by a county but the ordinance granting the privilege gave the privilege only to emergency vehicles owned by municipal corporations or by public service corporations designated by the state department of public safety. The court held that a county ambulance was not an emergency vehicle, since a county could not be regarded as a municipal corporation. The fact that police officers testified that it was customarily understood that county ambulances were entitled to emergency status was held by the court to be immaterial.

The contention that a private ambulance used to answer an emergency call should be regarded as an emergency vehicle exempt from speed and traffic regulations under a statute exempting vehicles, "owned and operated by the fire, police, or hospital departments of any municipality" was rejected in *O'Neil & Hearne v. Bray's Administratrix,* 262 Ky. 377, 90 S.W.2d 353 (1936), the court pointing out that the ambulance at the time of the accident was not being used for or within any municipality.

In *Tiedebohl v. Springer,* 55 N.M. 295, 232 P.2d 694 (1951), a city employee driving a city fire truck in response to an emergency call for an inhalator collided with plaintiff's auto at an intersection. The facts as found by the jury revealed that the plaintiff, not having heard any warning, entered the intersection slowly in response to a green light and was struck by the fire truck, which, prior to applying its brakes 50 feet away, was being driven 50 miles per hour through a red light. The court here affirmed a large recovery against the defendant city and defendant employee.

The court said that a fire truck responding to a request for an

inhalator was not "traveling in response to a fire alarm," nor was it an ambulance within the purview of that state exempting fire trucks and ambulances from speed limits when responding to fire alarms and emergencies respectively. Neither was the fire truck being operated upon "official business" within the meaning of the statute requiring all vehicles to yield the right of way to police and fire department vehicles when "being operated on official business and sounding audible signal." The court said that it would distort the plain meaning of the statute to grant the ambulance privilege in this situation, since an ambulance is defined as a vehicle for the conveyance of the sick and the wounded. Therefore, the court held that a fire truck responding to an emergency call for an inhalator was not entitled to the special privileges granted by the statutes. See 30 North Carolina Law Review 89 (1951).

Karger v. Rio Grande Valley Citrus Exchange, 179 S.W.2d 816 (1944) was a case holding that the ambulance operator in question did not have the benefit of the statutory privilege since the ambulance had not been designated as an emergency vehicle. The court added that even if the ambulance had received the designation authorized under the statute, such designation would have been invalid since that statute attempted to confer absolute authority upon the chief of police to arbitrarily designate vehicles as emergency vehicles.

But see *Williams v. Sossoman's Funeral Home, Inc.,* 248 N.C. 524, 103 S.E.2d 714 (1958) where the North Carolina court seemed to tolerate similar authority in a police chief.

In *Vaughan Funeral Home v. Oates,* 128 W.Va. 554, 37 S.E.2d 479 (1946) a privately owned ambulance on an emergency call collided with a private vehicle as the ambulance passed through an intersection without stopping for a stop sign. In the city in which the accident occurred there was an oral agreement between the mayor, police chief and the funeral directors that in cases of emergency, while the city was without an ambulance, the funeral directors' ambulances would be used. The court held that the mayor and police chief had no authority to make an arrangement that would bring the funeral directors' ambulances within an ordinance giving police vehicles the right of way.

The fact that the driver of an ambulance, which had been issued a permit as an emergency ambulance, did not have a chauffeur's license, was held in *Flanigan v. Carswell,* 159 Tex. 598, 324 S.W.2d 835 (1959) not to prevent the ambulance from being an emergency ambulance within the provisions of a city ordinance permitting such vehicles to drive 40 miles per hour, adding that, as a matter of law, the failure to secure a chauffeur's license, as required by statute, did not proximately cause an intersectional collision between the ambulance and another vehicle.

Most courts hold that an ambulance operator is not exempt from obeying a traffic regulation where there is no provision by statute or ordinance specifically exempting the operator from compliance with the particular regulation involved.

The North Carolina Court in *Upchurch v. Funeral Home,* 263 N. C.

560 (1965) held that ambulances, though on emergency missions, must observe traffic control lights in obedience to a municipal ordinance although a statewide statute requires drivers of other vehicles to yield the right of way to police and fire department vehicles, and to public ambulances when operated on official business and giving an audible signal. The statute specifically provides that it shall not relieve the driver of an emergency vehicle from the duty to drive with due regard for the safety of all persons using the highway and that it affords no protection to the driver of an emergency vehicle who arbitrarily exercises the right of way.

In *Buck v. Ice Delivery Co.*, 146 Ore. 132, 29 P.2d 523 (1934) the defendant ambulance operator was being sued for the liability flowing from a collision caused by an ambulance going through a stop sign. The court held that even though the statutes of the jurisdiction granted speed and right of way privileges, there was no statutory exemption from the requirement to stop at stop signs.

The ambulance driver was found liable in *Manhattan For Hire Car Corp. v. O'Connell,* 194 Va. 398, 73 S.E.2d 410 (1952) for a collision that occurred as a result of the driver entering an intersection against the red light. The court found that no statute in that jurisdiction relieved the ambulance driver from the provisions of the statute.

There are many old cases strictly construing the laws of their jurisdiction and holding the ambulance operator liable if the ambulance driver did not have the specific privilege claimed in a collision action. See for example, *Green v. Eden,* 24 Ind. App. 583, 56 N.E. 240 (1900); *Tyrer v. Moore,* 250 S.W. 920 (1923); and *Henry W. Putnam Memorial Hospital v. Allen,* 34 F.2d 927 (1929).

A few courts have tended to be more liberal in the construction of their statutes and have found a privilege for the ambulance operators although there was no express authority by statute or ordinance for such exemption.

Alexander v. Kansas City Public Service Co., 268 S.W.2d 451 (1954) was an action for injuries brought by an ambulance driver as a result of a collision in an intersection. The ambulance, with light blinking and siren sounding, had entered the intersection against the light. The court in an off-hand one sentence statement said that an ambulance has the right of way both by ordinance and by common law.

For similar discussions see *Lucas v. Los Angeles,* 10 Cal.2d 476, 75 P.2d 599 (1938) and *Boggs v. Jewell Tea Co.,* 263 Pa. 413, 106 A. 781 (1919). However all statements concerning the construction of statutes giving ambulances exemptions from traffic regulations in the above cases are dicta and not necessary to the holdings of the cases. It is therefore believed that most courts will hold that the exemption must be specifically authorized by statute or ordinance before it can be relied upon.

In most jurisdictions, the statutes granting an exemption to ambulances on emergency calls from various traffic regulations limit the privilege granted to the extent that the operators are required to exercise some degree of care while enjoying the privilege conferred. Some

other jurisdictions have reached the same conclusion even though the ordinance or statute granting the privilege is silent about the due care requirement. Many cases involving the liability of an ambulance in an accident turn on this question, with the court asking the jury: Was this ambulance driver using due care in the use of the emergency privilege granted by statute? The courts agree that the case required of the ambulance driver is not precisely the same as that required of other drivers who have no privilege at all.

An instruction as to the conditions under which an ambulance is entitled to an emergency exemption from a traffic regulation was approved in *Duff v. Schaefer Ambulance Service*, 132 Cal. App. 2d 655, 282 P.2d 91 (1955), where the instruction stated that the statutory term "arbitrary exercise of the privileges" was not one to be freely interpreted, but had a restricted meaning, and that such an arbitrary exercise could be found only when the driver did something which would constitute negligence if he did not enjoy the exemption or when the vehicle was not on an emergency trip; or the driver, after seeing that some other person had not heard or heeded the warning given, or that there was no other way in which the other person could reasonably be expected to prevent a collision, nevertheless, although he had the means and reasonable opportunity to avoid the result, proximately caused an accident. The court said that it was firmly established that the "due regard" requirement was essentially satisfied when the driver had given a suitable warning, or having discovered the peril in which another had unknowingly or negligently become involved despite the operation of the warning devices, reasonably exercised any last clear chance to avoid the accident.

In *O'Neil & Hearne v. Bray's Administratrix*, 262 Ky. 377, 90 S.W.2d 353 (1936) the ambulance came upon a highly congested area and sped on into the scene trying to get to the actual site of the accident. The court noted that the ambulance did have the emergency privilege, but pointed out that there could be no justification for negligent driving or for any act imperiling the life and limb of others.

The court rejected the position that an ambulance on an emergency trip was granted complete immunity from the requirement to comply with traffic regulations, and declared that the exemption statute required such vehicles to be operated with due regard for the safety of others and specified that the driver thereof should be liable for the consequences of a reckless disregard of the safety of others in *Henderson v. Watson*, 262 S.W.2d 811 (1953). The court said that there could be no legal justification for negligent driving by the operator of any vehicle at any time or for a careless act by any person anywhere which imperils users of a public highway.

A Wisconsin statute provided that regulations concerning movement, parking and standing of vehicles did not apply to authorized emergency vehicles, but that the exemption did not protect the operator from the consequence of a reckless disregard of the safety of others; and another statute provided that the speed limit did not apply to authorized emergency vehicles when sounding an audible whistle and when equipped

with at least one lighted lamp, but that the operator was not relieved from the duty to operate with due regard for the safety of all persons using the highway. The court in *Montalto v. Fond du Lac County,* 272 Wis. 552, 76 N.W.2d 279 (1956) held that the operator of an emergency vehicle could be liable for ordinary negligence in speeding and that the giving of visible and audible signals might or might not afford a reasonable opportunity to others to yield the right of way, depending on the circumstances present. The court said that the speed statute required that a driver operate with due regard for the safety of others, and prohibited the exercise of this privilege with a reckless disregard for their safety. However, the statute referring to movement, parking and standing did not use the words "due regard" and the legislature obviously did not apply the same standard to each statute. The court said that under the statute relating to movement, parking and standing, the driver of an emergency vehicle had to be found guilty of reckless disregard of the safety of others for liability to exist; but to be guilty of actionable negligence as to speed he must be found guilty of either a lack of due care for the safety of others, which is ordinary negligence, or of reckless disregard of the safety of others.

Some courts have applied the standard of due care even though the statute itself does not mention the requiremnt. See *Hoffman v Burkhead,* 353 Mich. 47, 90 N.W.2d 498 (1958); *Vaughan Funeral Home v. Oates,* 128 W.Va. 554, 37 S.E.2d 479 (1946); and *Gaines v. Taylor,* 96 Ind. App. 378, 185 N.E. 297 (1933).

In summary, the cases involving ambulances point up the fundamental rule that if the ambulance is granted the privilege and is proceeding on a bona fide emergency call with blinkers and siren on and working, the ambulance operator is entitled to the legal benefit of the emergency privilege unless he is abusing the statutory privilege and is operating the vehicle negligently or in a reckless manner in disregard of the safety of the public.

For cases dealing in detail with this broad, but simple area see Annot. 84 A.L.R.2d 121 (1962).

2. *Miscellaneous Ambulance Cases*—In attempting to research the case law relating to ambulance operations, very few cases were found other than those relating to rules of the road matters which are discussed in the preceding section. There was found, and is included herein, three cases relating to the question of whether or not a city may grant a franchise, under its general grant of authority to regulate the highways, for ambulance services. Also, a few other cases of a miscellaneous nature relating to ambulance operations are mentioned herein. While there is a shortage of cases relating to ambulances, there are several concerning taxicabs from which an analogy may be drawn. Thus, two or three of the taxicab cases are included herein.

The two most significant points made by the cases summarized in this section are: (1) a governmental agency may not grant an exclusive franchise to an ambulance operator in the absence of specific statutory authority to grant exclusive franchises, and (2) governing bodies may prescribe reasonable rules and regulations (including inspections, spe-

cial licensure, etc.) for any vehicles that intend to use the streets and highways of the governmental unit for the purpose of carrying persons for hire.

The most recent of the exclusive franchise cases is *Macon Ambulance Service, Inc. v. Snow Properties, Inc.,* 218 Ga. 262, 127 S.E.2d 598 (1962). In this case the Council of the City of Macon, Georgia, granted to Macon Ambulance Service, Inc. and successors and assigns the exclusive right, power and privilege for a period of five years "to own, operate and maintain within the limits of the City of Macon an ambulance service for hire utilizing the streets of the City of Macon for the transportation of such persons who are ill, wounded or otherwise require the use of ambulance for transportation." The trial court held that the City was without charter power to grant an exclusive franchise to the Macon Ambulance Service, Inc. The defendants contended that the City did have such power, citing provisions of the City charter authorizing it by ordinance to make and establish "rules and regulations respecting public streets . . . motor vehicles . . . respecting all other matters and things affecting the good government of said City that they shall deem requisite and proper for the security, welfare, health and convenience of said City and for the preservation of the peace and good order of the same," and further the charter power "to regulate and control . . . motorbuses and other common carriers for hire [and] motor vehicles."

The Supreme Court of Georgia upheld the trial court stating that: "The prevailing rule is that unless the power is expressly conferred by the legislature a municipal corporation cannot grant to any person, firm or corporation an exclusive privilege or monopoly." The court cited 10 McQuillin on Municipal Corporations, § 29.93.

This case thus held (and none were found to the contrary) that specific legislative authority is necessary to sustain a grant of an exclusive franchise, and that general grants of authority are not sufficient.

A case reaching the same conclusion, but involving taxi service, is *North Little Rock Transportation Co. v. City of North Little Rock,* 184 S.W.2d 52 (Ark. 1944). This case held that a statute giving an established taxi service the right to extend service up to the needs of the municipality before another service could be given a franchise was invalid as violating the constitutional prohibition against monopolies.

Still another case from another area, reaching the same conclusion, is *Application of Young v. Morgan Driveaway et al.,* 107 N.W.2d 752 (Neb. 1961) in which the court held that the willingness of a holder of a franchise to operate a house trailer hauling business to provide further needed service did not make the issuance of a franchise to others unreasonable and arbitrary.

Again, these cases tend to indicate that there is no authority in local governmental units to grant exclusive franchises in the absence of specific legislative authority. The cases imply that there would be no constitutional objections to the legislative body giving the local governing bodies such authority if they saw fit to do so.

With respect to the authority to regulate, some excerpts from a 1943

North Carolina case, *Suddreth v. Charlotte*, 223 N.C. 630, relating to taxicabs but with language general enough to be applicable also to ambulances, would appear to be helpful. The court in this case stated "The business of carrying passengers for hire is a privilege, the licensing, regulation, and control of which is peculiarly and exclusively a legislative prerogative. So is the power to regulate the use of public roads and streets. The General Assembly in the exercise of this police power may provide for the licensing of taxicabs and regulate their use on public streets, or it may, in its discretion, delegate this authority to the several municipalities."

"No person has an absolute right to use the streets of a municipality in the operation of power-driven vehicles for hire. Such operation is a privilege which the municipality, under proper legislative authority, may grant or withhold."

"Generally, under the powers conferred upon them by their charters, or by general statute, municipal corporations may impose reasonable conditions upon the use of the streets by jitneys, taxicabs, motorbuses, and other motor vehicles operating as common carriers in the transportation of passengers or freight."

"This power exists not only under the licensing authority of the municipality but also under its recognized power to regulate the use of its streets in the interest of public safety and convenience, and it is generally held that a municipality in the exercise of this power may prohibit the use of the streets for private business or other purpose detrimental to the common good."

Many cases to this same effect are cited in this case. Thus, it would appear clear that a local governing body could, if given authority by legislation either specifically or impliedly, make reasonable regulations concerning the operation of ambulances.

A non-North Carolina case reaching the same conclusion is *Town of Battleboro v. Nowicki*, 117 A.2d 258 (Vt. 1955), which also pointed out that the grant of power to a municipality to regulate taxicabs implies the right to require inspection as an incident to the powers specifically granted.

A few miscellaneous ambulance cases that might be of interest include *Leete v. Griswoldt Post No. 79, American Legion et al.*, 158 A. 919 (Conn. 1932) which held that an ambulance service supported by voluntary contributions and not by payments for its service was nevertheless a common carrier (so as to exempt it from the guest statute protection— the "guest statute" made one liable to a guest only if he were "reckless," whereas he would be liable to any other passenger not technically a "guest" for any negligence).

In *Hollander v. Smith and Smith, et al.*, 10 N.J. Super. 82, 76 A.2d 697 (1950), the court held that a private ambulance service that reserves the right to refuse specific calls is not a common carrier owing a higher than ordinary degree of care to its passengers.

Another case holding that a private ambulance service that makes its contracts on an individual basis is not a common carrier is *Cedziwoda*

v. Crane-Longley Funeral Chapel, 273 S.W.2d 455 (1954). This case also holds that a person accompanying a sick person on an ambulance trip at the patient's request, but with permission of the ambulance operator, is a mere guest since his presence is of no benefit to ambulance service, and therefore no duty of reasonable care (but only a duty not to be reckless), is owed to the guest.

The North Carolina case of *Pemberton v. Lewis,* 235 N.C. 188 (1952) held that a person transporting passengers for hire in an ambulance is a contract carrier and owes his passengers the duty (1) to exercise ordinary care to provide a vehicle reasonably safe for the carriage of passengers, (2) to subject his vehicle to reasonable inspection, (3) to warn his passengers of non-apparent dangers involved in the use of his vehicle, including latent defects of which he has constructive notice, and (4) to operate the vehicle in a careful and prudent manner in compliance with statutory rules of the road.

In *Hazen et al. v. Chambers,* 108 F.2d 741 (C.C.D.C. 1939), the court held that operation of ambulances for hire comes within the meaning of the statute exacting a license tax on "operators of passenger vehicles for hire," and the fact that the charges made for the service were not compensatory was immaterial insofar as the necessity of paying the license tax was concerned.

In summary, it would appear that the most significant decisions, outside the area of motor vehicle law, are the holdings to the effect that specific legislative authority is necessary for a local governmental unit to grant an exclusive franchise, and the holdings that ample authority exists in local governmental bodies, either through specific state legislation or general state legislation relating to the regulation of the use of highways, for local governmental bodies to regulate ambulances operating within the limits of such government body.

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APPENDIX A

North Carolina Ambulance Service Study

Miller Hall

Chapel Hill, N. C.

A research project conducted by the North Carolina Hospital Education and Research Foundation in cooperation with the Institute of Government and the Department of Hospital Administration of the School of Medicine of the University of North Carolina.

PROVIDERS OF AMBULANCE SERVICE

(If your organization or firm does not provide ambulance service, check here ☐ and return the questionnaire in the business reply mail envelope enclosed.)

INSTRUCTIONS

1. This questionnaire takes 25 minutes or so to complete. Most questions require just a check in the appropriate box. Please read the instructions to each question before answering it.
2. Answer all the questions as well as you can. If you want to explain or modify your response, check the answer that is nearest to your opinion and jot a note in the margin or on the blank page at the end of the questionnaire.
3. Information you provide will be machine tabulated and used in statistical summaries only. Your identity will not be revealed in any way. The questionnaires are anonymous and we have numbered them only to keep track of them as they are returned.
4. A separate questionnaire is to be filled out for each geographical area in which your firm or organization has a separate ambulance station. Please let us know if you need additional copies.
5. Pay no attention to the small numbers next to the response boxes. They are for coding purposes.

PROVIDERS OF AMBULANCE SERVICE

A. ORGANIZATION

1. Type of your business or organization (CHECK ONLY ONE ANSWER)
   - 1 ☐ Commercial ambulance firm
   - 2 ☐ Funeral Home
   - 3 ☐ Military
   - 4 ☐ Police or fire department
   - 5 ☐ Rescue squad other than police or fire department
   - 6 ☐ Local hospital
   - 7 ☐ Other (what?) ____________________

2. Operated as . . . (CHECK ONLY ONE ANSWER)

   Business for profit
   - 1 ☐ Individually owned
   - 2 ☐ Partnership
   - 3 ☐ Corporation

   Non-profit organization
   - 4 ☐ Non-governmental
   - 5 ☐ Governmental

3. For the purpose of . . . (CHECK ONLY ONE ANSWER)
   - 1 ☐ Ambulance services exclusively
   - 2 ☐ Funeral home plus ambulance services
   - 3 ☐ Police or fire department plus ambulance services
   - 4 ☐ General rescue service to community, including ambulance services
   - 5 ☐ Other (what?) ____________________

4. Of the total business time of your firm or organization, what percent is spent in the ambulance service (CHECK ONLY ONE ANSWER)
   - 1 ☐ 100%
   - 2 ☐ 75-99%
   - 3 ☐ 50-74%
   - 4 ☐ 25-49%
   - 5 ☐ Under 25%

5. Number of ambulance stations (locations) operated by your firm or organization (CHECK ONLY ONE ANSWER)
   - 1 ☐ One
   - 2 ☐ Two
   - 3 ☐ Three
   - 4 ☐ Four or more

B. AREA SERVED

6. What is the area **primarily** served by your firm or organization? (CHECK ONLY ONE ANSWER)
   - 1 ☐ City or town only
   - 2 ☐ City or town plus surrounding rural area
   - 3 ☐ Entire county
   - 4 ☐ More than one county

7. Ambulance services are furnished in your area by . . . (CHECK ONLY ONE ANSWER)
   - 1 ☐ Only your firm or organization
   - 2 ☐ One other firm or organization
   - 3 ☐ Two other firms or organizations
   - 4 ☐ Three other firms or organizations
   - 5 ☐ Four or more firms or organizations

8. Who else provides ambulance service in your area (CHECK ALL THAT APPLY)

1 ☐ No one
2 ☐ Commercial ambulance firm
3 ☐ Funeral home
4 ☐ Military
5 ☐ Police or fire department
6 ☐ Rescue squad other than police or fire department
7 ☐ Local hospital
8 ☐ Other (what?) ____________________

9. Do you accept long distance transfer of patients?

1 ☐ Yes
2 ☐ No

10. List the estimated per cent of your calls that involve the following round trip distances: (TOTAL SHOULD EQUAL 100%)

1 ______ % Local community
2 ______ % 10-24 miles
3 ______ % 25-49 miles
4 ______ % 50-199 miles
5 ______ % 200 miles or over
100% Total

C. AVAILABILITY OF SERVICE

11. Do you routinely transport (CHECK ALL THAT APPLY)

Emergency cases (defined as those of an urgent nature demanding immediate medical attention)

1 ☐ No
2 ☐ Yes . . . If yes, do you transport emergency cases of:
4 ☐ Any race
5 ☐ White only
6 ☐ Negro only

Non-emergency cases

1 ☐ No
2 ☐ Yes . . . If yes, do you transport non-emergency cases of:
4 ☐ Any race
5 ☐ White only
6 ☐ Negro only

12. At what period of the day are most of your calls received? (CHECK ONLY ONE ANSWER)

1 ☐ Forenoon (6:00 a.m.-12:00 noon)
2 ☐ Afternoon (12:00 noon-6:00 p.m.)
3 ☐ Evening (6:00 p.m.-12:00 midnight)
4 ☐ Night (12:00 midnight-6:00 a.m.)

13. Does the number of calls for ambulance service vary from season to season?

1 ☐ No
2 ☐ Yes . . . If yes, please check the season during which you receive the most calls and the fewest calls. (ANSWER EACH LINE IN ONE SPACE ONLY)

	Spring	**Summer**	**Fall**	**Winter**
Most calls	1 ☐	2 ☐	3 ☐	4 ☐
Fewest calls	☐	☐	☐	☐

14. Assuming that an ambulance is available when an emergency call is received, what is the average time it takes to get the vehicle "on the road"? (CHECK ONLY ONE ANSWER)

1 ☐ Less than 5 minutes
2 ☐ 5-9 minutes
3 ☐ 10-14 minutes
4 ☐ 15-24 minutes
5 ☐ 25 minutes or over

15. What per cent of your emergency calls are received during the period of time when some equipment and personnel are away answering a previous call? (CHECK ONLY ONE ANSWER)

1 ☐ Less than 25%
2 ☐ 25-49%
3 ☐ 50-74%
4 ☐ 75-100%

16. How do you routinely handle more than one request for emergency service at a time? (CHECK ONLY ONE ANSWER)

1 ☐ Use second stand-by equipment
2 ☐ Delay second call until first completed
3 ☐ Transfer request to some other ambulance service
4 ☐ Advise caller to request service from some other ambulance service named by you
5 ☐ Deny service by stating unavailability
6 ☐ Other (what?) ______________________

17. In your area, is there a problem caused by ambulances from other firms or organizations showing up at the scene of an emergency to which you have been called?

1 ☐ No
2 ☐ Yes . . . If yes, does this occur in:

4 ☐ Less than 10% of your calls
5 ☐ Over 10% of your calls

18. In your area, is there a system for allocating requests for ambulance service?

1 ☐ No
2 ☐ Yes . . . If yes, what system is used? (CHECK ONLY ONE ANSWER)

4 ☐ By race
5 ☐ By location or zone
5 ☐ By rotation
7 ☐ By financial status of patient
8 ☐ Other (what?) ______________________

19. During the past fiscal year, has the number of requests for your ambulance services . . . (CHECK ONLY ONE ANSWER)

1 ☐ Increased
2 ☐ Remained about the same
3 ☐ Decreased

E.

D. EQUIPMENT

20. Please indicate the number and type of vehicles owned and operated at your station by your firm or sponsoring organization to transport the sick and injured. (ANSWER EACH LINE IN ONE SPACE ONLY)

	None	One	Two	Three or more
Straight ambulance	1 ☐	2 ☐	3 ☐	4 ☐
Combination hearse & ambulance	☐	☐	☐	☐
Converted station wagon	☐	☐	☐	☐
Converted panel truck	☐	☐	☐	☐
Other (what?) ______________	☐	☐	☐	☐

21. How many of your vehicles are equipped (ANSWER EACH LINE IN ONE SPACE ONLY)

	None	One	Two	Three or more
To splint fractures at scene	1 ☐	2 ☐	3 ☐	4 ☐
To control hemorrhage at scene	☐	☐	☐	☐
To supply dressings of open wounds at scene	☐	☐	☐	☐
To supply oxygen and maintain airway both at scene and in vehicle	☐	☐	☐	☐
With portable resuscitator	☐	☐	☐	☐
With seat belts for driver and attendant				
With safety or restraining belt for patient and safety belt for attendant's seat in rear	☐	☐	☐	☐
With two-way radios (vehicle to and from your station)	☐	☐	☐	☐
With portable battery light	☐	☐	☐	☐
With flares	☐	☐	☐	☐
With fire extinguisher	☐	☐	☐	☐

22. Indicate how often you clean your ambulance equipment (CHECK ONLY ONE ITEM FOR EACH LINE THAT APPLIES)

	After each Use	Daily	Weekly	Other
Change linens	1 ☐	2 ☐	3 ☐	4 ☐
Sweep and dust inside vehicle	☐	☐	☐	☐
Clean inside vehicle with water, detergent or antiseptic	☐	☐	☐	☐
Clean outside vehicle	☐	☐	☐	☐
Clean medical equipment with water, detergent or antiseptic	☐	☐	☐	☐

23. Do you have a special cleaning procedure that is used after transporting a patient with a known infectious disease?

1 ☐ Yes
2 ☐ No

E. SERVICES RENDERED

24. In addition to the ambulance personnel, how often do the following accompany patients in the ambulance? (ANSWER EACH LINE IN ONE SPACE ONLY)

	Most of the time	Some of the time	Never
Physician	1 ☐	2 ☐	3 ☐
Nurse	☐	☐	☐
Relative	☐	☐	☐
Friend or bystander	☐	☐	☐
Police or highway patrol	☐	☐	☐

25. In emergency cases, do your ambulance drivers and/or attendants routinely render first aid before moving a patient?

1 ☐ Yes
2 ☐ No . . . If no, indicate reasons for **not** rendering first aid (CHECK ALL THAT APPLY)
- 4 ☐ Attendants not trained for first aid
- 5 ☐ Fear of liability suit for improper handling and/or delay
- 6 ☐ Police or bystanders insist that patient be removed at once
- 7 ☐ Other (what?) ______

F. PERSONNEL

26. Here is a list of various requirements that could be set for ambulance drivers and attendants. Would you check below whether your firm or organization has these personnel requirements and, if so, who sets them. (ANSWER EACH LINE IN ONE SPACE ONLY)

	Not Required	Required by Your Firm	Required by Local Ordinance
a. Personnel requirements:			
Minimum age 21 years or over	1 ☐	2 ☐	3 ☐
Chauffeurs license	☐	☐	☐
Health card issued by health department	☐	☐	☐
No handicapping physical condition	☐	☐	☐
High school education or over	☐	☐	☐
No conviction for traffic accident	☐	☐	☐
No conviction for misdemeanor or felony	☐	☐	☐
No excessive use of beverage alcohol	☐	☐	☐
b. Training requirements:			
Red Cross **Standard** First Aid	☐	☐	☐
Red Cross **Advanced** First Aid	☐	☐	☐
Committee on Trauma	☐	☐	☐
On the job training and experience	☐	☐	☐
Other (what?) ______	☐	☐	☐

27. Indicate the number of persons employed by your firm or organization that have been trained to do the following things (ANSWER EACH LINE IN ONE SPACE ONLY)

	None	One	Two	Three	Four	Five	Six or more
Splint fractures	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
Control hemorrhages	☐	☐	☐	☐	☐	☐	☐
Apply dressings to open wounds	☐	☐	☐	☐	☐	☐	☐
Administer oxygen and maintain airways	☐	☐	☐	☐	☐	☐	☐
Handle emergency births	☐	☐	☐	☐	☐	☐	☐
Care for heart emergencies	☐	☐	☐	☐	☐	☐	☐
Care for burns	☐	☐	☐	☐	☐	☐	☐

G. COMMUNICATIONS

28. Under the circumstances listed below, do you usually notify the following: (CHECK ALL THAT APPLY)

	Hospital	Police	Other station of your firm	No one
Before dispatching ambulance in non-emergency case	1 ☐	2 ☐	3 ☐	4 ☐
Before dispatching ambulance in emergency case	☐	☐	☐	☐
From the scene of emergency	☐	☐	☐	☐

29
30.
H. RE
31.
I. FII
32.

29. How often do you encounter the following problems upon the arrival of your ambulance at the hospital or medical facility? (ANSWER EACH LINE IN ONE SPACE ONLY)

	Most of the time	Some of the time	Never
Emergency room not staffed	1 ☐	2 ☐	3 ☐
Doctor not readily available	☐	☐	☐
Emergency facilities crowded prior to your arrival with patient	☐	☐	☐
Records required by hospital	☐	☐	☐
Transfer to other facility or home	☐	☐	☐
Delay in determination of disposition of patient	☐	☐	☐
Poor access to emergency or ambulance entrance	☐	☐	☐
Poor design of emergency and receiving areas and emergency rooms	☐	☐	☐
Transfer to x-ray, lab, etc.	☐	☐	☐
Other (what?) ________________	☐	☐	☐

30. Have "prankster" calls presented a problem to your firm or organization?

1 ☐ Yes
2 ☐ No

H. RECORDS

31. Here is a list of some information concerning ambulance calls that could be kept by providers of ambulance service. Please check all items describing information that **you** routinely keep.

1 ☐ Date of call
2 ☐ Time call received
3 ☐ Time arrived at location of call
4 ☐ Time call completed
5 ☐ Name of patient
6 ☐ Address of patient
7 ☐ Marital status of patient
8 ☐ Sex
9 ☐ Age
1 ☐ Telephone
2 ☐ Race
3 ☐ Occupation of patient
4 ☐ Patient's employer
5 ☐ Cause of injury or illness
6 ☐ Diagnosis
7 ☐ First aid rendered
8 ☐ Disposition of patient
9 ☐ Witnesses

I. FINANCIAL

32. Do you carry liability insurance for bodily injury and property damage **specifically** for your operations as an ambulance service?

1 ☐ No
2 ☐ Yes . . . If yes, approximately what are the limits of your coverage? (CHECK ONLY ONE ANSWER)

4 ☐ $5,000/10,000/5,000
5 ☐ $10,000/20,000/10,000
6 ☐ $50,000/100,000/50,000
7 ☐ $100,000/200,000/50,000
8 ☐ Other (what?) ________________

33. Do you carry malpractice insurance specifically for your operations as an ambulance service?

1 ☐ No
2 ☐ Yes

34. The amount of insurance you carry is determined by . . . (CHECK ONLY ONE ANSWER)

1 ☐ Your choice
2 ☐ Regulation of government
3 ☐ Other (what?) ____________________

35. Has anyone ever made a claim against you arising out of your operation as an ambulance service?

1 ☐ No
2 ☐ Yes . . . If yes,

	Yes	No
Was this claim in the nature of a law suit?	1 ☐	2 ☐
Was this claim paid by you or your insurance company?	☐	☐

36. The current estimated value of all equipment, including vehicles, radios, etc. (**NOT** structures) used for ambulance service by your firm or organization is . . . (CHECK ONLY ONE ANSWER)

1 ☐ Under $10,000
2 ☐ $10,000-19,999
3 ☐ $20,000-29,999
4 ☐ $30,000-49,999
5 ☐ $50,000 or over

37. Indicate what per cent of patients handled by your firm or organization you would consider unable to pay for ambulance services. (CHECK ONLY ONE ANSWER)

1 ☐ Under 10%
2 ☐ 10-14%
3 ☐ 15-19%
4 ☐ 20-24%
5 ☐ 25-29%
6 ☐ 30% or over

38. Indicate what arrangements you have for payment by welfare agencies for ambulance services rendered to charity patients. (CHECK ONLY ONE ANSWER)

1 ☐ Regular fees
2 ☐ Regular fees less discount
3 ☐ Negotiated payment
4 ☐ No arrangements

39. What is your **most** difficult cost problem? (CHECK ONLY ONE ANSWER)

1 ☐ Cost of equipment
2 ☐ Cost of maintenance of equipment
3 ☐ Cost of personnel for 24 hour coverage
4 ☐ Other (what?) ____________________

40. Does your firm or organization routinely make charges for ambulance services rendered?

1 ☐ Yes
2 ☐ No . . . IF ANSWER IS NO, PLEASE SKIP TO QUESTION 47 (AUTO ACCIDENTS SECTION)

41. a. Are your rates posted in your vehicles or literature?

1 ☐ Yes
2 ☐ No.

b. Place a check in the appropriate column indicating your approximate rate for calls involving the following round trip distances: (ANSWER EACH LINE IN ONE SPACE ONLY)

	Under $5.00	$5.00 to 9.99	$10.00 to 14.99	$15.00 to 19.99	$20.00 to 24.99	$25.00 to 49.99	$50.00 or Over
Local community	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐	7 ☐
10-24 miles	☐	☐	☐	☐	☐	☐	☐
25-49 miles	☐	☐	☐	☐	☐	☐	☐
50-199 miles	☐	☐	☐	☐	☐	☐	☐
200 miles or over	☐	☐	☐	☐	☐	☐	☐

42. What per cent of your patients are charged on the basis of: (TOTAL SHOULD EQUAL 100%)

1 ______% Flat rate only
2 ______% Flat rate plus mileage
3 ______% Flat rate plus extra charge for special handling or equipment
4 ______% Other (what?) ______________________________
100% Total

43. Indicate what percent of your actual charges for ambulance service were collected during the past fiscal year. (CHECK ONLY ONE ANSWER)

1 ☐ Under 25%
2 ☐ 25-49%
3 ☐ 50-74%
4 ☐ 75-89%
5 ☐ 90-100%

44. What is your **most** difficult income problem? (CHECK ONLY ONE ANSWER)

1 ☐ Inadequate payment by those apparently able but unwilling to pay
2 ☐ Inadequate payment by those apparently unable to pay
3 ☐ Inadequate fees charged for services rendered
4 ☐ Other (what?) ______________________________

45. For the last fiscal year, after deducting all operating expenses, did your operation as an ambulance service (CHECK ONLY ONE ANSWER)

1 ☐ Show a profit
2 ☐ About break even
3 ☐ Show a loss . . . If you showed a loss, was this partially or wholly underwritten by . . . (CHECK ONLY ONE ANSWER)
   1 ☐ Operations of other business
   2 ☐ Payment from government (City, town or state)
   3 ☐ Grant from fund raising agency, such as Community Chest, etc.
   4 ☐ No recovery of loss

46. By taking the last **three** years as a whole, which of the following statements will most correctly reflect the trend as far as your ambulance service is concerned? (CHECK ONLY ONE ANSWER)

1 ☐ It has become more profitable
2 ☐ There has been no change in the financial trend.
3 ☐ It has become less profitable

J. AUTO ACCIDENTS

47. How many **auto accident** calls do you receive in an average **month?**

1 ______ Calls originating **outside** city limits
2 ______ Calls originating **inside** city limits
______ Total auto accident calls per average month

48. What % of the auto accident calls originating outside the city limits are received: (TOTAL SHOULD EQUAL 100%)

1 ______% Calls during night (dusk through dawn)
2 ______% Calls during day
100% Total

49. How do holidays and weekends affect the number of outside city limits auto accident calls received by you? (CHECK ONLY ONE ANSWER)

1 ☐ Same as any other day
2 ☐ Twice as many
3 ☐ Three times as many
4 ☐ More than three times as many

50. What per cent of calls to auto accidents outside city limits come from: (TOTAL SHOULD EQUAL 100%)

1 ______% State Highway Patrol
2 ______% County official (sheriff, coroner, etc.)
3 ______% Passerby
4 ______% People living near scene of accident
5 ______% Other
100% Total

51. How many of the victims of auto accidents occurring outside city limits die on the way to the hospital? (CHECK ONLY ONE ANSWER)

1 ☐ Less than 1%
2 ☐ 1% to 4%
3 ☐ 5% to 9%
4 ☐ 10% or over

52. When answering calls to auto accidents outside city limits, what is the **average** length of time involved between time of accident and delivery of patient to the hospital? (CHECK ONLY ONE ANSWER)

1 ☐ Less than 15 minutes
2 ☐ 15 to 29 minutes
3 ☐ 30 to 44 minutes
4 ☐ 45 to 60 minutes
5 ☐ More than one hour

53. What is **usually** the basis for the decision to take the victim of an auto accident which has occurred outside the city limits to a given hospital? (CHECK ONLY ONE ANSWER)

1 ☐ Time involved
2 ☐ Distance and/or route to be taken
3 ☐ Condition of patient
4 ☐ Availability of medical care
5 ☐ Orders of state patrol or other police
6 ☐ Requests by patient and/or family
7 ☐ Other (what?) ______________________

K. OPINION

54. In your opinion, how adequate are the following in your community? (ANSWER EACH LINE IN ONE SPACE ONLY)

	Adequate	Slight Changes Needed	Major Changes Needed
Availability of ambulance services	1 ☐	2 ☐	3 ☐
Method of covering cost of operating ambulance service	☐	☐	☐
Amount and type of ambulance equipment	☐	☐	☐
Training and efficiency of ambulance personnel	☐	☐	☐
Communications system between ambulance service, law enforcement agencies and the users of ambulance services	☐	☐	☐
Sanitation and maintenance of ambulances and equipment	☐	☐	☐

55. In your opinion, who should be given the full responsibility for the organization and day to day operation of the ambulance service? (CHECK ONLY ONE ANSWER)

1 ☐ Commercial ambulance firm
2 ☐ Funeral homes
3 ☐ Police department
4 ☐ Fire department
5 ☐ Rescue squad other than police or fire department
6 ☐ Other governmental agency
7 ☐ Local hospital
8 ☐ Other (what?) ____________________

56. In your opinion, who should provide the money to cover the cost (equipment and day to day expenses) of operating the ambulance service? (CHECK ONLY ONE ANSWER)

1 ☐ Persons that use ambulances
2 ☐ Persons that use ambulances, plus county, city or state government
3 ☐ Government (county, city or state) pay entire cost
4 ☐ Other (what?) ____________________

57. If ambulance service is to be a city, town or county responsibility, do you think it should be: (CHECK ONLY ONE ANSWER)

1 ☐ A separate service
2 ☐ Combined with police department
3 ☐ Combined with fire department
4 ☐ Other (what?) ____________________

58. If ambulance service is to be provided by a **non-governmental** agency or agencies, do you think that government should assist in its financing?

1 ☐ No
2 ☐ Yes . . . If yes, how should this assistance be given? (CHECK ONLY ONE ANSWER)

4 ☐ Negotiated lump sum in advance
5 ☐ Pay losses at end of fiscal year
6 ☐ Payment for charity cases on per call basis
7 ☐ Other (what?) ____________________

59. Who do you think should sponsor a training program for ambulance drivers and attendants? (CHECK ONLY ONE ANSWER)

1 ☐ Not needed
2 ☐ Red Cross
3 ☐ Local physicians
4 ☐ Local hospital
5 ☐ Local police or fire department
6 ☐ Agency of government
7 ☐ Other (what?) ____________________

60. Do you think that there is a need for governmental action in the following areas of ambulance service? (ANSWER EACH LINE IN ONE SPACE ONLY)

	None needed	Local ordinance	Statewide legislation
Method of covering cost of operations	1 ☐	2 ☐	3 ☐
Amount and type of equipment	☐	☐	☐
Traffic regulations	☐	☐	☐
Records kept by ambulance services	☐	☐	☐
Rates charged	☐	☐	☐
Communication systems	☐	☐	☐
Personnel standards	☐	☐	☐
Liability insurance limits	☐	☐	☐
Sanitation of vehicles and equipment	☐	☐	☐
Other (what?) ____________	☐	☐	☐

61. Do you think there is any need for air ambulance service (for example, by helicopter) in your vicinity, either to serve the community as a whole or to meet the needs of a particular institution in the area?

1 ☐ Yes
2 ☐ No

62. During the past year, have you seriously considered discontinuing your ambulance service?

1 ☐ No
2 ☐ Yes . . . If yes, why? ____________________

____

63. Do you think that a governmental agency should grant franchises and issue regulations for ambulance services as it does for public utilities?

1 ☐ No
2 ☐ Yes . . . If yes, indicate if you think ambulance service should be primarily the responsibility of... (CHECK ONLY ONE ANSWER)
  4 ☐ City or town
  5 ☐ County
  6 ☐ Both

64. Would you list below your other comments regarding ambulance service?

North Carolina Ambulance Service Study

Miller Hall

Chapel Hill, N. C.

A research project conducted by the North Carolina Hospital Education and Research Foundation, in cooperation with the Institute of Government and the Department of Hospital Administration of the School of Medicine of the University of North Carolina.

PROVIDERS OF AMBULANCE SERVICE

(Part 2)

INSTRUCTIONS

A most important part of our study will result from data obtained during a controlled period from October 8, 1963 through October 14, 1963. During this period, will you kindly furnish the data requested.

We have attempted to give full explanations. If, however, you need further instructions, do not hesitate to get in touch with us by phone or by mail.

Note that two mailing envelopes are enclosed. One is to be used for Part 1 of the questionnaire, which should be completed and returned at once. Part 2 should be returned in the second envelope after the information has been gathered and recorded on October 14, 1963.

Your cooperation and assistance are appreciated.

PROVIDERS OF AMBULANCE SERVICE

(Part 2)

Please indicate below, by dates, the number and destination of ambulance calls handled by your firm or organization during the one week period October 8, 1963 through October 14, 1963. Emergency calls are defined as those of an urgent nature, demanding immediate medical attention.

	Number of Calls Handled		Destination			
Date	Emergency	Non-Emergency	To Local Hospital	To Hospital other than local	To Home	Other
TOTALS						

PLEASE NOTE: ALL SPACES SHOULD BE FILLED IN, USING ZERO IF APPLICABLE.

PROVIDERS OF AMBULANCE SERVICE

(Part 2)

Kindly furnish the name, road or street address, etc., of **all** persons to use ambulance services (either for admission, transfer or discharge) at your facility during the one week period October 8, 1963 through October 14, 1963.

Date of Service	Name First	Middle	Last	Road or Street	City	Phone	Age	Sex	Race

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MEDICAL CARE FACILITIES

(Hospitals, Nursing Homes, etc.)

INSTRUCTIONS

1. This questionnaire takes 15 minutes or so to complete, although some additional data gathering may be necessary if you are not familiar with the ambulance services in your area. Please read the instructions to each question before answering it. Most questions require just a check in the appropriate box.
2. Answer all the questions as well as you can. If you want to explain or modify your response, check the answer that is nearest to your opinion and jot a note in the margin or on the blank page at the end of the questionnaire.
3. Information you provide will be machine tabulated and used in statistical summaries only. Your identity will not be revealed in any way. The questionnaires are anonymous and we have numbered them only to keep track of them as they are returned.
4. Pay no attention to the small numbers next to the response boxes. They are for coding purposes.

B.

MEDICAL CARE FACILITIES
(Hospitals, Nursing Homes, etc.)

A. OPERATIONAL

1. Your institution is a . . . (CHECK ONLY ONE ANSWER)
   1 ☐ Hospital, general short term
   2 ☐ Hospital, special (rehabilitation, etc.)
   3 ☐ Hospital, V.A. or military
   4 ☐ Nursing or boarding home

2. Does your institution or facility provide ambulance service for your patients?
   1 ☐ No
   2 ☐ Yes . . . If yes, do you: (CHECK ALL THAT APPLY)
   4 ☐ Transfer patient from this to another institution
   5 ☐ Take patient home from this institution
   6 ☐ Pick patient up at home or the scene of accident and bring him in

3. Are you usually notified in advance when a patient is being brought to your institution by ambulance? (ANSWER EACH LINE IN ONE SPACE ONLY)

	Most of the time	**Some of the time**	**Never**
In emergency cases	1 ☐	2 ☐	3 ☐
In non-emergency cases	☐	☐	☐

4. Have you found that most ambulances in your area . . . (ANSWER EACH LINE IN ONE SPACE ONLY)

	Yes	**No**
Are prompt in replying to calls	1 ☐	2 ☐
Are staffed with two adequately trained attendants	☐	☐
Are aware of your admission and discharge procedures	☐	☐
Provide essential data for your use	☐	☐
Cooperate with your personnel	☐	☐

5. Does the service rendered by ambulances present any problem for your institution?
   1 ☐ No
   2 ☐ Yes . . . If yes, briefly state the problem

B. MEDICAL IMPLICATIONS

NOW WE WOULD LIKE TO KNOW SOMETHING ABOUT THE MEDICAL IMPLICATIONS OF AMBULANCE USAGE. **AFTER DISCUSSION WITH YOUR MEDICAL STAFF AND EMERGENCY ROOM PERSONNEL,** WOULD YOU GIVE US THE FOLLOWING INFORMATION.

6. Are patients brought to your medical facility by means **other than** ambulance when the use of ambulance would have resulted in better patient care?
   1 ☐ No
   2 ☐ Yes . . . If yes, for each of the following reasons, indicate how often this occurs. (ANSWER EACH LINE IN ONE SPACE ONLY)

	Frequently	**Seldom**	**Almost Never**
Not enough ambulances available in your area	1 ☐	2 ☐	3 ☐
Ambulance service not operated on stand-by basis	☐	☐	☐
Need for ambulance arises in remote area with poor communication system	☐	☐	☐
Rates charged for ambulance service too high	☐	☐	☐
Patient refuses to use ambulance	☐	☐	☐
Need for ambulance not recognized	☐	☐	☐
Case felt to be too urgent to wait for ambulance	☐	☐	☐
Unsatisfactory previous experience with ambulance service	☐	☐	☐
Other (what?) ________________	☐	☐	☐

7. Are patients brought to your medical facility **by ambulance** when other means of transportation (such as auto, etc.) would have been sufficient?

   1 ☐ No
   2 ☐ Yes . . . If yes, for each of the following reasons indicate how often this occurs. (ANSWER EAC LINE IN ONE SPACE ONLY)

	Frequently	**Seldom**	**Almost Never**
Ambulance called before need determined	1 ☐	2 ☐	3 ☐
Patient or family insist on use	☐	☐	☐
"Accident chasing" tactics	☐	☐	☐
No other means of transportation readily available	☐	☐	☐
Patient or family use ambulance in order to receive special consideration for admission to hospital or other facility	☐	☐	☐

8. Do you or your physicians know of cases where there was additional injury to the patient, resulting from the apparent improper care by ambulance personnel?

   1 ☐ No
   2 ☐ Yes . . . If yes, could you furnish us with a brief summary of the nature of such injuries, possible causes involved, the difference in prognosis due to the additional trauma, etc., as supplied by the physician who saw the patient? All such information will, of course, be strictly confidential, and names need not be mentioned. The attached blank sheet may be used for this purpose

AUTO ACCIDENTS

9. Approximately how many auto accident victims are brought to you for treatment each month? ______

10. Approximately what per cent of these auto accident victims were involved in accidents outside the city limits? (CHECK ONLY ONE ANSWER)

    1 ☐ Less than 10%
    2 ☐ 10-19%
    3 ☐ 20-29%
    4 ☐ 30-39%
    5 ☐ 40-49%
    6 ☐ 50% or over

11. Approximately what per cent of the total operations of your facility is required in the care of auto accident victims? (CHECK ONLY ONE ANSWER)

    1 ☐ Less than 1%
    2 ☐ 1-4%
    3 ☐ 5-9%
    4 ☐ 10% or over

D. OPINION

12. In your opinion, how adequate are the following in your community? (ANSWER EACH LINE IN ONE SPACE ONLY)

	Adequate	**Slight Changes Needed**	**Major Changes Needed**
Availability of ambulance services	1 ☐	2 ☐	3 ☐
Method of covering cost of operating ambulance service	☐	☐	☐
Amount and type of ambulance equipment	☐	☐	☐
Training and efficiency of ambulance personnel	☐	☐	☐
Communications system between ambulance service, law enforcement agencies and the users of ambulance services	☐	☐	☐
Sanitation and maintenance of ambulances and equipment	☐	☐	☐

13. In your opinion, who should be given the full responsibility for the organization and day to day operations of the ambulance service? (CHECK ONLY ONE ANSWER)

1 ☐ Commercial ambulance firm
2 ☐ Funeral homes
3 ☐ Police department
4 ☐ Fire department
5 ☐ Rescue squad other than police or fire department
6 ☐ Other governmental agency
7 ☐ Local hospital
8 ☐ Other (what?) ____________________

14. In your opinion, who should provide the money to cover the cost (equipment and day to day expenses) of operating the ambulance service? (CHECK ONLY ONE ANSWER)

1 ☐ Persons that use ambulances
2 ☐ Persons that use ambulances, plus county, city or state government
3 ☐ Government (county, city or state) pay entire cost
4 ☐ Other (what?) ____________________

15. If ambulance service is to be a city, town or county responsibility, do you think it should be: (CHECK ONLY ONE ANSWER)

1 ☐ A separate service
2 ☐ Combined with police department
3 ☐ Combined with fire department
4 ☐ Other (what?) ____________________

16. If ambulance service is to be provided by a **non-governmental** agency or agencies, do you think that government should assist in its financing?

1 ☐ No
2 ☐ Yes . . . If yes, how should this assistance be given? (CHECK ONLY ONE ANSWER)
 4 ☐ Negotiated lump sum in advance
 5 ☐ Pay losses at end of fiscal year
 6 ☐ Payment for charity cases on a per call basis
 7 ☐ Other (what?) ____________________

17. Who do you think should sponsor a training program for ambulance drivers and attendants? (CHECK ONLY ONE ANSWER)

1 ☐ Not needed
2 ☐ Red Cross
3 ☐ Local physicians
4 ☐ Local hospital
5 ☐ Local police or fire department
6 ☐ Agency of government
7 ☐ Other (what?) ____________________

18. Do you think there is a need for governmental action in the following areas of ambulance service? (ANSWER EACH LINE IN ONE SPACE ONLY)

	None needed	Local Ordinance	Statewide Legislation
Method of covering cost of operations	1 ☐	2 ☐	3 ☐
Amount and type of equipment	☐	☐	☐
Traffic regulations	☐	☐	☐
Records kept by ambulance services	☐	☐	☐
Rates charged	☐	☐	☐
Communication systems	☐	☐	☐
Personnel standards	☐	☐	☐
Liability insurance limits	☐	☐	☐
Sanitation of vehicles and equipment	☐	☐	☐
Other (what?) ____________________	☐	☐	☐

19. Do you think there is any need for air ambulance service (for example, by helicopter) in your vicinity, either to serve the community as a whole or to meet the needs of a particular institution in the area?

1 ☐ Yes
2 ☐ No

20. Would you list below your other opinions regarding ambulance service?

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Miller Hall

Chapel Hill, N. C.

A research project conducted by the North Carolina Hospital Education and Research Foundation in cooperation with the Institute of Government and the Department of Hospital Administration of the School of Medicine of the University of North Carolina.

MEDICAL CARE FACILITIES

(Hospitals, Nursing Homes, etc.)

Part 2

INSTRUCTIONS

A most important part of our study will result from data obtained during a controlled period from October 8, 1963 through October 14, 1963. During this period, will you kindly furnish the data requested.

We have attempted to give full information. If, however, you need further instructions, do not hesitate to get in touch with us by phone or by mail.

Note that two mailing envelopes are enclosed. One is to be used for Part 1 of the questionnaire, which should be completed and returned at once. Part 2 should be returned in the second envelope after the information has been gathered and recorded on October 14, 1963.

Your cooperation and assistance are appreciated.

MEDICAL CARE FACILITIES

(Hospitals, Nursing Homes, etc.)

Part 2

Indicate in the spaces below, by dates, the information as requested. The data requested should be readily available from the admitting office, discharge office and emergency room records.

The following information is given to supplement the data in the column headings:

Column 1—The total number of patients admitted each day

Column 2—The total number of each day's admissions that were brought to you by ambulance

Column 3—The total number of patients discharged each day

Column 4—The total number of each day's discharges that left your facility by ambulance

Column 5—The total number of patients seen each day as outpatients

Column 6—The total number of each day's outpatients that were brought to you by ambulance

	TOTAL IN PATIENTS				TOTAL OUT PATIENTS	
Date	(1) Admitted	(2) Brought by Ambulance	(3) Discharged	(4) Removed by Ambulance	(5) Seen	(6) Brought by Ambulance
TOTAL						

PLEASE NOTE: ALL SPACES SHOULD BE FILLED IN, USING ZERO IF APPLICABLE.

MEDICAL CARE FACILITIES

(Hospitals, Nursing Homes, etc.)

(Part 2)

Kindly furnish the name, road or street address, etc., of **all** persons to use ambulance services (either for admission, transfer or discharge) at your facility during the one week period October 8, 1963 through October 14, 1963.

Date of Service	Name First	Middle	Last	Road or Street	City	Phone	Age	Sex	Race

North Carolina Ambulance Service Study

Miller Hall

Chapel Hill, N. C.

A research project conducted by the North Carolina Hospital Education and Research Foundation in cooperation with the Institute of Government and the Department of Hospital Administration of the School of Medicine of the University of North Carolina.

GOVERNMENTAL GROUPS

(City, Town, County)

INSTRUCTIONS

1. This questionnaire takes 10 minutes or so to complete. Most questions require just a check in the appropriate box. Please read the instructions to each question before answering it.

2. Answer all the questions as well as you can. If you want to explain or modify your response, check the answer that is nearest to your opinion and jot a note in the margin or on the blank page at the end of the questionnaire.

3. Information you provide will be machine tabulated and used in statistical summaries only. Your identity will not be revealed in any way. The questionnaires are anonymous and we have numbered them only to keep track of them as they are returned.

4. Pay no attention to the small numbers next to the response boxes. They are for coding purposes.

GOVERNMENTAL GROUPS

(City, town, county)

A. SURVEY

1. Who provides ambulance service in your county (city, town)? (CHECK ALL THAT APPLY)

1 ☐ No one
2 ☐ Commercial ambulance service
3 ☐ Funeral homes
4 ☐ Military
5 ☐ Police or fire department
6 ☐ Rescue squad other than police or firemen . . . Under auspices of:
  1 ☐ City
  2 ☐ County
  3 ☐ Other
7 ☐ Local hospital
8 ☐ Other (what?) ____________________

2. During the past three years, has your county (city, town) been presented with a problem involving ambulance service?

1 ☐ No
2 ☐ Yes . . . If yes, what type of problem? (CHECK ALL THAT APPLY)
  1 ☐ Providers of service discontinued service
  2 ☐ Providers of service gave notice of intent to discontinue service
  3 ☐ Providers of service requested financial assistance for **operating expenses**
  4 ☐ Providers of service requested financial assistance for **equipment**
  5 ☐ Citizens requested additional ambulance service
  6 ☐ Request for regulations concerning ambulance service arose
  7 ☐ Other (what?) ____________________

B. RESPONSIBILITY

3. Does your county (city, town) have in effect at present any ordinances, regulations, etc., in the following areas of ambulance services? (CHECK ALL THAT APPLY)

1 ☐ Issued specifications for ambulance vehicles and/or equipment
2 ☐ Issued franchise for operators of ambulance service
3 ☐ Issued traffic regulations for ambulances
4 ☐ Issued specifications for competence and training requirements for ambulance driver and/or attendants
5 ☐ Issued regulations for liability insurance concerning ambulance operators
6 ☐ Issued regulations for keeping records and reports of ambulance services
7 ☐ Issued regulations to assist ambulance operators to collect their bills
8 ☐ Issued regulations for rates to be charged users of ambulance services
9 ☐ Issued operating rules for ambulance services
1 ☐ Issued regulations regarding communication systems in ambulance services
2 ☐ Purchased liability insurance to cover operations of ambulance service by rescue squad, police or fire departments
3 ☐ Provided financial support for ambulance equipment
4 ☐ Provided financial support for ambulance operations
5 ☐ Issued regulations for sanitation of ambulance vehicles and equipment
6 ☐ No ordinances or regulations in effect

C. FINANCIAL

4. Is your governmental agency providing financial assistance during this current fiscal year to operators of ambulance services?

1 ☐ No
2 ☐ Yes . . . If yes, please indicate the following:

a) To whom and for what purpose is the assistance given? (CHECK ALL THAT APPLY)

	Purchase of Equipment	Operating Expenses
Commercial ambulance service	1 ☐	2 ☐
Governmental agency, such as police or fire department	☐	☐
Volunteer groups such as rescue squad, etc.	☐	☐
Other ambulance service	☐	☐

b) Source of funds appropriated by your governmental agency for ambulance services outlined above (CHECK ALL THAT APPLY)
1 ☐ Ad valorem taxes
2 ☐ Other general tax funds
3 ☐ A.B.C. or other special source funds
4 ☐ Other (what?) ______________________________

c) Method of payment for ambulance operational services during current fiscal year was (CHECK ALL THAT APPLY)
1 ☐ Lump sum payment
2 ☐ Per call for charity cases, etc.
3 ☐ Included in budget for Welfare or Health Department
4 ☐ Included in budget for police or fire department
5 ☐ Other (what?) ______________________________

D. COMMUNICATIONS

5. Method used by police and/or fire department to summon ambulance (CHECK ONLY ONE ANSWER)
1 ☐ Two-way radio from fire or police vehicle to fire or police station, who then call ambulance service
2 ☐ Direct short-wave radio from fire or police vehicle to ambulance service
3 ☐ Telephone direct to ambulance service, same as general public

E. OPINION

6. In your opinion, how adequate are the following in your community? (ANSWER EACH LINE IN ONE SPACE ONLY)

	Adequate	Slight Changes Needed	Major Changes Needed
Availability of ambulance services	1 ☐	2 ☐	3 ☐
Method of covering cost of operating ambulance service	☐	☐	☐
Amount and type of ambulance equipment	☐	☐	☐
Training and efficiency of ambulance personnel	☐	☐	☐
Communications system between ambulance service, law enforcement agencies and the users of ambulance services	☐	☐	☐
Sanitation and maintenance of ambulances and equipment	☐	☐	☐

7. In your opinion, who should be given the full responsibility for the organization and day to day operations of the ambulance service? (CHECK ONLY ONE ANSWER)
   1 ☐ Commercial ambulance firm
   2 ☐ Funeral homes
   3 ☐ Police department
   4 ☐ Fire department
   5 ☐ Rescue squad other than police or fire department
   6 ☐ Other governmental agency
   7 ☐ Local hospital
   8 ☐ Other (what?) ______

8. In your opinion, who should provide the money to cover the cost (equipment and day to day expenses) of operating the ambulance service? (CHECK ONLY ONE ANSWER)
   1 ☐ Persons that use ambulances
   2 ☐ Persons that use ambulances, plus county, city or state government
   3 ☐ Government (county, city or state) pay entire cost
   4 ☐ Other (what?) ______

9. If ambulance service is to be a city, town or county responsibility, do you think it should be: (CHECK ONLY ONE ANSWER)
   1 ☐ A separate service
   2 ☐ Combined with police department
   3 ☐ Combined with fire department
   4 ☐ Other (what?) ______

10. If ambulance service is to be provided by a **non-governmental** agency or agencies, do you think that government should assist in its financing?
   1 ☐ No
   2 ☐ Yes . . . If yes, how should this assistance be given? (CHECK ONLY ONE ANSWER)
      4 ☐ Negotiated lump sum in advance
      5 ☐ Pay losses at end of fiscal year
      6 ☐ Payment for charity cases on per call basis
      7 ☐ Other (what?) ______

11. Who do you think should sponsor a training program for ambulance drivers and attendants? (CHECK ONLY ONE ANSWER)
   1 ☐ Not needed
   2 ☐ Red Cross
   3 ☐ Local physicians
   4 ☐ Local hospital
   5 ☐ Local police or fire department
   6 ☐ Agency of government
   7 ☐ Other (what?) ______

12. Do you think there is a need for governmental action in the following areas of ambulance service? (ANSWER EACH LINE IN ONE SPACE ONLY)

	None needed	**Local ordinances**	**Statewide legislation**
Method of covering cost of operations	1 ☐	2 ☐	3 ☐
Amount and type of equipment	☐	☐	☐
Traffic regulations	☐	☐	☐
Records kept by ambulance services	☐	☐	☐
Rates charged	☐	☐	☐
Communication systems	☐	☐	☐
Personnel standards	☐	☐	☐
Liability insurance limits	☐	☐	☐
Sanitation of vehicles and equipment	☐	☐	☐
Other (what?) ______	☐	☐	☐

13. Do you think there is any need for air ambulance service (for example, by helicopter) in your vici[n]
either to serve the community as a whole or to meet the needs of a particular institution in the are[a]

1 ☐ Yes
2 ☐ No

14. Have the officials of both county and city or town held **joint** meetings to discuss and plan for ambula[nce]
service?

1 ☐ No
2 ☐ Yes . . . If yes, what were the conclusions reached? ______________________

____

____

15. Do you consider ambulance service similar to public utilities and therefore a proper subject for a g[ov]ernmental agency to grant franchises and regulations?

1 ☐ No
2 ☐ Yes . . . If yes, indicate if you think ambulance service should be primarily the responsibility
(CHECK ONLY ONE ANSWER)
4 ☐ City or town
5 ☐ County
6 ☐ Both

16. Would you list below your other opinions regarding ambulance service?

North Carolina Ambulance Service Study

Miller Hall

Chapel Hill, N. C.

A research project conducted by the North Carolina Hospital Education and Research Foundation in cooperation with the Institute of Government and the Department of Hospital Administration of the School of Medicine of the University of North Carolina.

USERS OF AMBULANCE SERVICES

INSTRUCTIONS

1. This questionnaire takes 15 minutes or so to complete. Most questions require just a check in the appropriate box. Please read the instructions to each question before answering it.
2. Answer all the questions as well as you can. If you want to explain or modify your response, check the answer that is nearest to your opinion and jot a note in the margin or on the blank page at the end of the questionnaire.
3. Information you provide will be machine tabulated and used in statistical summaries only. Your identity will not be revealed in any way. The questionnaires are anonymous and we have numbered them only to keep track of them as they are returned.
4. Pay no attention to the small numbers next to the response boxes. They are for coding purposes.

USERS OF AMBULANCE SERVICES

A. GENERAL INFORMATION

1. What were the circumstances which made use of an ambulance necessary? (CHECK ONLY ONE ANSWER)

   1 ☐ Auto accident which happened in the city
   2 ☐ Auto accident which happened outside the city limits
   3 ☐ Other kind of accident
   4 ☐ Sudden severe illness (such as heart attack, acute appendicitis, etc.)
   5 ☐ An illness which you had for some time that made you unable to travel any other way
   6 ☐ Childbirth or onset of labor
   7 ☐ Injuries from an assault
   8 ☐ Other (what?) ____________________

2. Who called the ambulance? (CHECK ONLY ONE ANSWER)

   1 ☐ You or your family
   2 ☐ Your doctor
   3 ☐ A bystander or passerby
   4 ☐ Policeman, fireman or highway patrolman
   5 ☐ Welfare department
   6 ☐ Other (what?) ____________________
   7 ☐ Don't know

3. How many ambulance services were called before one was found which could take you? (CHECK ONLY ONE ANSWER)

   1 ☐ One
   2 ☐ Two
   3 ☐ Three
   4 ☐ Don't know

4. Was the ambulance which carried you owned and operated by (CHECK ONLY ONE ANSWER)

   1 ☐ Commercial ambulance firm
   2 ☐ Funeral home
   3 ☐ Military
   4 ☐ Fire or police department
   5 ☐ Rescue squad other than police or fire department
   6 ☐ Local hospital
   7 ☐ Don't know

5. When you were picked up and transported by ambulance, were you (CHECK ONLY ONE ANSWER)

   1 ☐ Fully conscious the entire time
   2 ☐ Unconscious when picked up, but "came to" at some time during ride
   3 ☐ Conscious when picked up, but "passed out" at some time during ride
   4 ☐ Unconscious when picked up and remained unconscious during entire trip

6. When you were transported in an ambulance, were you (CHECK ONLY ONE ANSWER)

1 ☐ Transferred from a hospital or nursing home to another place (either to your home or to another hospital)
2 ☐ Taken to a hospital or nursing home and left there
3 ☐ Taken to a hospital, seen by a doctor, but not left there

} Who decided which hospital to use? (CHECK ONLY ONE ANSWER)

1 ☐ You or your family
2 ☐ Your doctor
3 ☐ Police or highway patrol
4 ☐ The ambulance driver
5 ☐ Someone else at the scene
6 ☐ Don't know

B. SERVICE RENDERED

7. After the ambulance was called, how long was it before it arrived to pick you up? (CHECK ONLY ONE ANSWER)

1 ☐ Less than 5 minutes
2 ☐ 5 to 9 minutes
3 ☐ 10 to 19 minutes
4 ☐ 20 to 29 minutes
5 ☐ More than 30 minutes
6 ☐ Don't know

8. How far did the ambulance have to travel to pick you up? (CHECK ONLY ONE ANSWER)

1 ☐ Less than 1 mile
2 ☐ 1 to 4 miles
3 ☐ 5 to 10 miles
4 ☐ More than 10 miles
5 ☐ Don't know

9. How many attendants were in the ambulance which picked you up? (CHECK ONLY ONE ANSWER)

1 ☐ Just the driver
2 ☐ Driver plus one attendant
3 ☐ Driver plus two attendants
4 ☐ Don't know

	Yes	No	Don't know
10. Did a nurse ride in the ambulance with you?	1 ☐	2 ☐	3 ☐
Did a doctor ride in the ambulance with you? (ANSWER EACH LINE IN ONE SPACE ONLY)	☐	☐	☐
11. When you arrived at your destination, did the ambulance driver remain long enough to see if you would need his services any longer? (CHECK ONLY ONE ANSWER)	☐	☐	☐
12. When you arrived at your destination, did the ambulance driver or attendant give any information to the doctors or nurses about your condition while you had been in his care? (CHECK ONLY ONE ANSWER)	☐	☐	☐

C. FINANCIAL

13. Was a charge made for the use of the ambulance?
    1 ☐ Yes
    2 ☐ No . . . IF NO, PLEASE SKIP QUESTIONS 14 THROUGH 16.

14. At the time of your ambulance ride, did the attendants bring up the matter of payment for their services? (CHECK ONLY ONE ANSWER)
    1 ☐ Did not mention it
    2 ☐ Told you that you would be billed
    3 ☐ Asked for payment before taking you to your destination
    4 ☐ Asked for payment when you were delivered to your destination
    5 ☐ Don't know

15. What were you charged for the use of the ambulance service? (CHECK ONLY ONE ANSWER)
    1 ☐ Under $5.00
    2 ☐ $5.00 to 9.99
    3 ☐ $10.00 to 14.99
    4 ☐ $15.00 to 19.99
    5 ☐ $20.00 to 25.00
    6 ☐ Over $25.00
    7 ☐ Don't know

16. Has this bill been paid?
    1 ☐ Yes
    2 ☐ No
    3 ☐ Don't know

D. OPINION

As a citizen of your community and as someone who has recently used ambulance services, we would like to have your opinion about certain matters. Will you give some thought to the following and indicate your opinion in the appropriate places on the questionnaire.

17. In your opinion, how adequate are the following in your community? (ANSWER EACH LINE IN ONE SPACE ONLY)

	Adequate	**Slight Changes Needed**	**Major Changes Needed**
Availability of ambulance services	1 ☐	2 ☐	3 ☐
Method of covering cost of operating ambulance service	☐	☐	☐
Amount and type of ambulance equipment	☐	☐	☐
Training and efficiency of ambulance personnel	☐	☐	☐
Communications system between ambulance service, law enforcement agencies and the users of ambulance services	☐	☐	☐
Sanitation and maintenance of ambulances and equipment	☐	☐	☐

18. In your opinion, who should be given the full responsibility for the organization and day to day operations of the ambulance service? (CHECK ONLY ONE ANSWER)
    1 ☐ Commercial ambulance firm
    2 ☐ Funeral homes
    3 ☐ Police department
    4 ☐ Fire department
    5 ☐ Rescue squad other than police or fire department
    6 ☐ Other governmental agency
    7 ☐ Local hospital
    8 ☐ Other (what?) ____________________

19. In your opinion, who should provide the money to cover the cost (equipment and day to day expenses) of operating the ambulance service? (CHECK ONLY ONE ANSWER)

1 ☐ Persons that use ambulances
2 ☐ Persons that use ambulances, plus county, city or state government
3 ☐ Government (county, city or state) pay entire cost
4 ☐ Other (what?) ________

20. If ambulance service is to be a city, town or county responsibility, do you think it should be: (CHECK ONLY ONE ANSWER)

1 ☐ A separate service
2 ☐ Combined with police department
3 ☐ Combined with fire department
4 ☐ Other (what?) ________

21. If ambulance service is to be provided by a **non-governmental** agency or agencies, do you think that government should assist in its financing?

1 ☐ No
2 ☐ Yes . . . If yes, how should this assistance be given? (CHECK ONLY ONE ANSWER)
4 ☐ Negotiated lump sum in advance
5 ☐ Pay losses at end of fiscal year
6 ☐ Payment for charity cases on per call basis
7 ☐ Other (what?) ________

22. Who do you think should sponsor a training program for ambulance drivers and attendants? (CHECK ONLY ONE ANSWER)

1 ☐ Not needed
2 ☐ Red Cross
3 ☐ Local physicians
4 ☐ Local hospital
5 ☐ Local police or fire department
6 ☐ Agency of government
7 ☐ Other (what?) ________

23. Do you think that there is a need for governmental action for the following areas of ambulance service? (ANSWER EACH LINE IN ONE SPACE ONLY)

	None needed	**Local ordinances**	**Statewide legislation**
Method of covering cost of operations	1 ☐	2 ☐	3 ☐
Amount and type of equipment	☐	☐	☐
Traffic regulations	☐	☐	☐
Records kept by ambulance services	☐	☐	☐
Rates charged	☐	☐	☐
Communication systems	☐	☐	☐
Personnel standards	☐	☐	☐
Liability insurance limits	☐	☐	☐
Sanitation of vehicles and equipment	☐	☐	☐
Other (what?) ________	☐	☐	☐

24. Do you think that there is any need for air ambulance service (for example, by helicopter) in your vicinity, either to serve the community as a whole or to meet the needs of a particular institution in the area?

1 ☐ Yes
2 ☐ No

25. If you needed an ambulance right now, either for yourself or someone else, would you know where and who to call to obtain one?

1 ☐ Yes
2 ☐ No

26. Were you completely satisfied with the service and treatment you received from the ambulance service organization?

1 ☐ Yes
2 ☐ No . . . If no, please indicate what you found to be unsatisfactory (CHECK ALL THAT APPLY)
   1 ☐ Took too long to get to me
   2 ☐ Attendants were not polite
   3 ☐ Attendants did not give any first aid
   4 ☐ Ambulance did not have adequate equipment to care for me during trip
   5 ☐ Another attendant was needed
   6 ☐ Attendants did not appear neat and clean
   7 ☐ Ambulance did not appear neat and clean
   8 ☐ Ambulance driver drove too fast or too slow
   9 ☐ Charge was too high
   1 ☐ Other (what?) ____________________

27. Would you list below your other opinions regarding ambulance service?

APPENDIX B

North Carolina Ambulance Service Study

MILLER HALL
CHAPEL HILL, N. C.
October 1, 1963

Telephone 968-3575

TO THOSE CONCERNED WITH AMBULANCE SERVICE IN NORTH CAROLINA:

ADVISORY COMMITTEE

MR. ROD A. BRANDES
Commercial Ambulance Firms

MR. A. H. CLARK, JR.
N. C. Funeral Directors and Morticians Association

MISS NETTIE L. DAY
N. C. State Board of Health

MR. N. N. FLEMING, III
N. C. County Commissioners

MR. GEORGE P. HARRIS
The Duke Endowment

MR. WILLIAM F. HENDERSON
N. C. Medical Care Commission

MR. F. J. LEWIS
Research Triangle Institute

MRS. ELIZABETH L. MCMAHAN
N. C. Health Council

MR. DAWSON NETHERCUTT
Fire and Rescue Squad Training Div., N. C. Insurance Commission

MR. J. MINETREE PYNE
N. C. Hospital Association

DONALD M. ROSS, M.D.
The Medical Society of the State of North Carolina

C. F. SIEWERS, M.D.
American College of Surgeons

MR. J. C. SOSSOMAN
N. C. Funeral Directors Association

MAJOR CHARLES A. SPEED
N. C. Department of Motor Vehicles

MR. W. J. VEEDER
N. C. League of Municipalities

You can make a real contribution toward finding a solution for the problems involving ambulance service that have caused concern in communities throughout our state. The General Assembly, officials of local government, firms that render ambulance services, hospitals, nursing homes and the general public all have become involved in this matter.

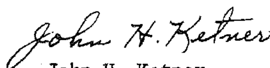
In an effort to help reach a fair and practical solution to this vexing situation, the North Carolina Hospital Education and Research Foundation has obtained a two year grant from the Department of Health, Education and Welfare of the U. S. Government to conduct a statewide study of ambulance services in North Carolina.

You will note from the list of persons and organizations included on this letterhead that our Advisory Committee represents those most affected by the ambulance problems. These agencies and organizations have given their full support to this study.

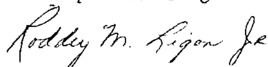
Will you kindly give the few minutes of your time to complete the enclosed questionnaire and mail it promptly in the envelope furnished for this purpose? If you encounter any problems with the questionnaire, please feel free to contact us by mail or telephone.

We cannot overemphasize the most important role that Y O U have in this study. With your assistance and cooperation, we feel that a valuable report of the ambulance situation in North Carolina can be made. You, of course, will receive a copy of our report when the study has been completed.

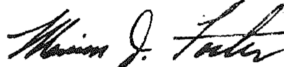
Robert R. Cadmus, M. D.
Principal Investigator



John H. Ketner
Co-Director



Roddey M. Ligon, Jr.
Institute of Government



Marion J. Foster
Executive Secretary
North Carolina Hospital Education and Research Foundation

A RESEARCH PROJECT conducted by the North Carolina Hospital Education and Research Foundation in cooperation with the Institute of Government and the Department of Hospital Administration of the School of Medicine of the University of North Carolina.

APPENDIX C

Copy of a letter from Dr. George Johnson, Special Advisor to the Ambulance Service Study, to Dr. Robert Cadmus, written November 20, 1963.

Robert R. Cadmus, M. D., Chairman
Department of Hospital Administration
U. N. C. School of Medicine
Chapel Hill, North Carolina

Dear Bob:

I have reviewed the literature that you so kindly let me see, and enclosed is a brief resume of some of my thoughts on it. As you will see, there is no perfect manual available for ambulance driver training. The closest to being a proper manual would be the one put out by the North Carolina Chapter of the American College of Surgeons. In addition, I have sent over some literature that I acquired from Joe Owens in Washington. I would appreciate you and Mr. Ketner looking this over. Since I try to pass this around to the faculty of the ambulance attendants' schools, I wish you would return it within a week, as there is a course in Wilson in the very near future. I shall be glad to loan this literature to you again at any time if it is necessary.

As far as the equipment list is concerned, the one recommended by the American College of Surgeons is a most satisfactory minimal list. There should be some revisions however. I might suggest that each ambulance have a kit of the new splints that work by air. I apologize for not having the name immediately available, but if you are interested, I can give you the exact description in the future. Some means of aspirating the nasopharynx should be available - a small asepto syringe with a bulb is sometimes satisfactory. A foot pedal suction machine has been recently devised. There are also some suction machines that attach on to the motor of a car. The "fancy" ambulances could have a suction apparatus that is driven by a battery. Regardless, each ambulance should have some means of clearing out the upper oral pharynx. There is currently available a very nice positive pressure bag and mask which is put out by Air Shields. This I feel would be safer and perhaps more efficient than artificial respiration in the majority of cases. Oral airways such as put out by Johnson & Johnson are essential.

I was most interested in the report of a San Francisco study in which they described the number of times the ambulance equipment was used. This study might be a good basis for equipping ambulances. As you will notice, the suggested list put out by the American College of Surgeons as well as the additions I suggested are minimal requirements and should not run into a great deal of money.

I sincerely appreciate the honor of being able to review this data with you. If I can be of further help, please call upon me.

With best regards,

George Johnson, Jr., M. D., Chairman
Subcommittee on Transportation
North Carolina Chapter
American College of Surgeons

GJ:cmr:gc

P. S. The name of the new splints that work by air is Air Jet.

COMMENTS ON TEXTS THAT WOULD BE APPLICABLE TO TEACHING OF AMBULANCE ATTENDANTS
COMMENTS ON TEXTS THAT WOULD BE APPLICABLE TO TEACHING OF AMBULANCE ATTENDANTS

(Prepared by Dr. Johnson)

1. First Aid-American Red Cross. This book would be a satisfactory reference manual for ambulance attendants; however, I do not feel that this is exactly what we are looking for. This has many pointers that a rescue squad should know and understand. It entails too much to expect most of our ambulance drivers to learn. Ambulance drivers should be instructed in a few basic points. These would include control of hemorrhage by pressure, position for transportation of the comatose patient, positioning for the vomiting patient, clearing of the nasopharynx, positioning and splinting of fractures, management of the patient with back or neck injury, management of the patient in labor, positioning and management of the cardiac patient, points in management of the cardiac patient, points in management of the psychiatric patient, and rules of driving for the ambulance attendant.

2. First Aid-Bureau of Mines. This is very similar to the first aid manual of the American Red Cross and I have the same feelings about it.

3. First Aid for Boy Scouts. Again, too much treatment for us. As an example, the treatment of poison ivy is certainly not needed for an ambulance attendant. This needs more about transportation. There are no obstetrics and no psychiatry included in this.

4. The First Aid Manual for the Navy. I was impressed by this being so well organized. This could be a good reference manual. It does have many items in it which would not interest us, and which I feel our students should not be burdened with.

5. First Aid Manual for the United States Department of Agriculture. I approve of the outline form such as this is presented in. Again, there is too much treatment, no obstetrics and no psychiatry.

6. Transportation of the Injured by Young. This is indeed an excellent book. This would be an excellent book to pass out to ambulance attendants. If they would read this book and could understand it, I believe they would be way ahead of the game. Al people who are driving ambulances should have this book available for their review. I would hope that we might take much of the information and put it out in a cheaper form. The illustrations are excellent, the cartoons especially are most instructive. The biggest criticism would be that since it is so big many of the attendants probably would not read it. In addition, the cost would be more than many of the attendants probably would be willing to pay. This, perhaps, is the best thing I have run into in reading about training of ambulance drivers.

7. The North Carolina Chapter of American College of Surgeons Manual. I think this was an excellent step in the right direction. It needs some revisions, with some additions and deletions. It should have more drawings as some of the pictures are not appropriate in my opinion. It primarily needs additions in the fields of obstetrics, cardiology and medicine. It certainly needs a demonstration of suctioning of the oral pharynx. This could be revised into an excellent manual for a school for ambulance attendants. Young's book as a supplement to this would be most satisfactory.