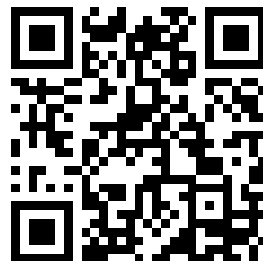


---

This is a reproduction of a library book that was digitized by Google as part of an ongoing effort to preserve the information in books and make it universally accessible.

Google™ books

<https://books.google.com>



*probe*  
**EMERGENCY  
MEDICAL  
SERVICES  
SYSTEMS**

# **PROGRAM GUIDELINES**

DOCUMENTED COPY  
NOV 1 5 1979  
LIBRARY  
UNIVERSITY OF CALIFORNIA



U.S. DEPARTMENT OF HEALTH,  
EDUCATION, AND WELFARE

Public Health Service  
Health Services Administration  
Bureau of Medical Services  
Division of Emergency Medical Services

**U.S. DEPOSITORY**

NOV 1 4 1979



Emergency  
Medical  
Services  
Systems

Rem'd  
SEP  
PUBH

Program  
Guidelines

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
Public Health Service  
Health Services Administration  
Bureau of Medical Services  
Division of Emergency Medical Services  
6525 Belcrest Road  
W. Hyattsville, Maryland 20782

(DHEW pub.no. (HSA) 79-5002)

674 53 9 19  
402

## DISCRIMINATION PROHIBITED

Title VI of the Civil Rights Act of 1964 states: "No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." Therefore, the Division of Emergency Medical Services, like every program or activity receiving financial assistance from the U.S. Department of Health, Education, and Welfare, must be operated in compliance with this law.

For a free copy of this publication write to the DHEW Regional Office that services your State. See Exhibit A for addresses.

*cc: for Puch*

---

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

CONTENTS

	Page
INTRODUCTION	v
GLOSSARY	1
CHAPTER	
I Program Administration and History.....	7
II Eligibility and Funding Limitations and Considerations.....	10
A. Eligibility Requirements.....	10
B. Application Clearances and Assurances.....	10
C. Matching Funds.....	12
D. Funding Limitations and Considerations.....	13
E. Use of Grant Funds.....	14
F. Indirect Costs.....	16
G. Exceptional Financial Need.....	16
III. Special Program Guidance.....	17
A. Regionalization of Emergency Medical Services.....	18
B. Development of Financial Plans.....	19
C. Emergency Medical Care Issues.....	20
D. Basic Life Support System.....	21
E. Advanced Life Support System.....	21
F. Medical Control and Accountability.....	24
G. Grantee Guidance.....	27
H. Guidance of the Scope and Specificity of Each Component....	28
I. Systems Approach to the Care of the Specific Emergency Patient.	40
IV. Evaluation Parameters.....	45
A. Specific Study Parameters for EMS Components.....	46
B. Specific Study Parameters for EMS Clinical Impact Evaluation.....	65
V. Submission, Review and Evaluation of Applications.....	76
A. Criteria for Evaluation of Section 1202(a) Applications.	76
B. Criteria for Evaluation of Section 1202(b)(1)(A) Applications.....	78
C. Criteria for Evaluation of Section 1202(b)(1)(B) Applications.....	78
D. Criteria for Evaluation of Section 1203 Applications....	79
E. Criteria for Evaluation of Section 1204 Applications....	80

RA695

.5

U31

1979

PUBL

CONTENTS

	Page
VI. Post Award Program Administration.....	81
A. EMS Grant Reports.....	81
B. Report of Grant Expenditures.....	81
C. Performance Reports.....	81
D. Final Reports.....	82
 EXHIBIT A	
Regional Office Addresses.....	83
 EXHIBIT B	
A-95 Review.....	84
 EXHIBIT C	
Evaluation Factors for Applications Submitted Under Section 1202.....	88
 EXHIBIT D	
Evaluation Factors for Applications Submitted Under Section 1202(b)(1)(A).....	99
 EXHIBIT E	
Evaluation Factors for Applications Submitted Under Section 1202(b)(1)(B).....	103
 EXHIBIT F	
Evaluation Factors for Applications Submitted Under Section 1203.....	107
 EXHIBIT G	
Evaluation Factors for Applications Submitted Under Section 1204.....	122
 EXHIBIT H	
EMS Regulations.....	138

## INTRODUCTION

The Emergency Medical Services Systems (EMSS) Program is Title XII of the Public Health Service Act. The program was established in 1973, (Public Law 93-154) and amended in 1976 (Public Law 94-573) and 1978 Public Law (95-626). The purpose of the program is to provide assistance and encouragement for the development of comprehensive emergency medical services systems throughout the country and thereby improve the quality of patient care and reduce morbidity and mortality. The guidance contained in this statement is restricted to sections 1202, 1203, and 1204 of this Act.

This policy statement is intended to help applicants understand the legislation, regulations, guidelines and related administrative procedures. It also familiarizes the applicant with the application procedures, evaluation, and post-award project administration.

This policy statement is organized by chapters. It covers the grant process from application procedures through grant administration. It is arranged so that potential applicants may determine their eligibility and the extent of funding limitations within the first two chapters. Mandatory requirements for a successful application and guidance on the EMSS program objectives and philosophy are presented. The criteria and scores by which projects are evaluated are outlined. Evaluation factors are also presented to provide additional guidance on possible indepth detail for inclusion in a grant application. The process for funding of applications, the manner of funds disbursement, the specific and general reporting requirements and the grant administration responsibilities of the grantee are delineated.

Awards under sections 1202, 1203 and 1204 of title XII are authorized to States, units of general local government, public entities administering a compact or other regional arrangement or consortium, or any other public entity and nonprofit private entity for:

- SECTION 1202 - FEASIBILITY STUDIES AND PLANNING
- SECTION 1203 - ESTABLISHING AND INITIAL OPERATION
- SECTION 1204 - EXPANSION AND IMPROVEMENT

Refer to Chapter II for details regarding eligibility and funding limitations of Federal assistance under the Emergency Medical Services Systems Act.

Although every effort has been made to cover areas pertinent to the preparation and submission of applications for emergency medical services systems, additional questions are inevitable. Applicants are invited to direct their questions to the appropriate Regional Office shown in Exhibit A.



Applicants are encouraged to have access to and become familiar with the following documents:

- (a) 42 CFR 56a, Grants for Emergency Medical Services Systems containing regulations covering the EMSS program;
- (b) 45 CFR 74, Administration of Grants establishing uniform regulations for the Administration of DHEW Grants;
- (c) DHEW Grants Administration Manual\* sets forth detailed policies and procedures to which all DHEW agencies must adhere in the administration of grant programs (See Exhibit H);
- (d) Public Health Service, Grants Policy Statement, DHEW Publication No. (OS) 77-50,000, October 1, 1976.

Separate policies and guidelines have been issued covering EMS research (section 1205) and training (titles VII and VIII) of the PHS Act. Organizations interested in applying for EMSS funds for the support of research should apply to the National Center for Health Services Research, Office of the Assistant Secretary for Health, Center Building, 3700 East-West Highway, Hyattsville, Maryland 20782. Organizations applying for support of training projects should address inquiries concerning requests for assistance to the Bureau of Health Manpower, Division of Medicine, Health Resources Administration, 3700 East-West Highway, Hyattsville, Maryland 20782.

\* The Department of Health, Education and Welfare Grant Administration Manual is available for public inspection and copying at the Department or Regional Federal Information Centers listed in 45 CFR 5.3 and may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. New revised chapters are included in this subscription.

## GLOSSARY

The most commonly used emergency medical services (EMS) terms are defined below:

Advanced Life Support Services (ALS) - Implementation of the 15 components of an EMS system to a level of capability which provides both noninvasive and invasive emergency patient care designed to optimize the patient's chances of surviving the emergency situation. Services should include use of sophisticated transportation vehicles, a communications capability (two-way voice and/or telemetry) and staffing by Emergency Medical Technician-Paramedics providing onsite, prehospital mobile and hospital intensive care under medical control.

Areawide EMS System - An emergency medical service area (trade, catchment, market, patient flow) that provides essentially all of the definitive emergency medical care (95%) for all emergencies, including the most critically ill and injured patients. Only highly specialized and limited-use services may need to be obtained outside of the area. The area must contain adequate population and available medical resources to implement and to sustain an EMSS operation. At least three major models exist: (1) multiple urbanized communities and their related suburbs; (2) a metropolitan center and its surrounding rural areas; and (3) a metropolitan center and extreme rural-wilderness settings. The areas may be inter- or intra-state.

Areawide EMSS Planning - Development and establishment of the mechanism for a system, within the appropriate geographical boundaries to deliver EMS either by establishing an initial system or expanding and improving an existing system. The areawide effort includes developing functional emergency and critical care treatment plans for general and specific emergency medical care patients and addressing the 15 mandatory components required by the EMSS Act.

Associate Hospital - A facility designated to participate in the ALS system. It is linked to the resource hospital through the EMS system communication network and accepts the resource hospital's prehospital medical control and supervision of patient care.

Basic Life Support Services (BLS) - Implementation of the 15 components of an EMS system to a level of capability which provides prehospital noninvasive emergency patient care designed to optimize the patient's chances of surviving the emergency situation. There should be universal access to and dispatch of national standard ambulances, with appropriate medical and communication equipment, operated by Emergency Medical Technicians-Ambulance. Regional triage protocols should be used to direct patients to appropriately categorized hospitals.

Budget Period - The intervals of time (usually 12 months) into which the grant project period is divided for budgetary and reporting purposes.

Built-In Equipment - Equipment which is permanently attached to walls, floors, or ceilings, or similarly restricted. This includes items which require: (1) facility modification for installation or removal, and (2) connection to utility services such as water, gas, steam, or the building ventilation system.

Clearinghouses (A-95) - State, Regional and Metropolitan agencies established to facilitate coordination of State, regional and local planning and development. (Reference: OMB-Federal and Federally Assisted Programs and Projects Evaluation, Review and Coordination, Rev. Circular A-95, Federal Register Vol. 38, No. 228, November 28, 1973.)

Command and Control Center - An entity responsible for establishing communication channels and for identifying the necessary equipment and facilities to permit immediate management and control of an EMS patient. This operation must provide access and availability to public safety resources essential to the effective and efficient EMS management of the immediate EMS problem.

Critical Care Units (Centers) - Sophisticated treatment facilities in large medical centers and hospitals that provide advanced definitive care for the most critically ill patients. The units are available for the diagnosis and care of specific patient problems including major trauma, burn, spinal cord injury, poisoning, acute cardiac, high risk infant and behavioral emergencies.

Critical Patient Groups - Patients requiring care for trauma, burn, spinal cord injury, poisoning, acute cardiac, high-risk infant, and behavioral emergencies. These patients have life-threatening conditions and face long convalescence periods if they survive. Target EMS planning for them must be based on knowledge of demography, on epidemiology, and on their specialized clinical requirements.

Designation of Critical Care Units - Public announcement and acceptance of specialty treatment centers for the advanced care of critical patient groups.

Emergency Medical Services (EMS) - Services utilized in responding to a perceived individual's need for immediate medical care to prevent death or aggravation of physiological or psychological illness or injury.

EMS Council - A formally established group representing both providers and consumers which is responsible for reviewing and evaluating the provision of EMS in a defined system's geographical area. Public input into EMS policy may be obtained through this council.

EMS Personnel - Key individual EMS providers. This includes physicians, emergency and critical care nurses, EMT-ambulance, EMT-paramedic, central dispatchers, telephonic screeners, first aid responders, project administrators and medical directors, medical consultants and system coordinators.

EMS System - A system which provides for the arrangement of personnel, facilities, and equipment for the effective and coordinated delivery of health care services in an appropriate geographical area under emergency conditions (occurring as a result of the patient's condition or because of natural disasters or similar situations). The system is managed by a public or nonprofit private entity.

Equipment - Items necessary for the functioning of the EMS system, excluding items of current operating expense or items consumed in use such as glassware, chemicals, food, fuel, drugs, paper, printed forms, books, pamphlets, periodicals, and disposable housekeeping supplies.

Expansion of an EMS System - Increasing a system's geographical boundaries, the level of its medical capability (from BLS to ALS) and/or its functional components.

Feasibility Study - Determining the practicability of planning, establishing, expanding or improving an emergency medical services system. This determination shall be based on: (1) availability or development of definitive data which addresses the need of an appropriate geographical area; (2) potential availability of resources (human, fiscal, facilities and equipment); (3) likelihood of meeting the 15 mandatory component requirements; (4) potential for effective coordination and integration of the EMS system within the total health services delivery system; and (5) potential for identifying the responsible organization to administer and to operate an EMS system.

Fiscal Year - Used in the Federal Government and many State and local governments to designate a 12-month period. For the Federal Government this is October 1 through September 30.

Grant - An award of financial or direct assistance to an eligible recipient under programs that provide for such assistance based on review and approval of an application, plan or other document(s) setting forth a proposed activity or program.

Grantee - The legally accountable entity which submits an application, receives and assumes legal and financial responsibility and accountability for both the awarded funds and for the performance of the grant-supported activity.

Guidelines - Policy statements defining the parameters and constraints for the application, receipt, evaluation and execution of a grant.

Health Systems Agency (HSA) - A health planning and resources development agency designated under the terms of the National Health Planning and Resources Development Act of 1974, P.L. 93-641. This Act requires the designation of an HSA in each of the health service areas in the United States. Health Systems Agencies are to be nonprofit private corporations, public regional planning bodies, or single units of local government, and are charged with performing health planning and resources development functions listed in section 1513 of the PHS Act. The legal structures, size, composition, and operation of HSAs are specified in section 1521 of the Act. The HSA functions include preparation of a health system plan and an annual implementation plan, the issuance of grants and contracts, the review and approval or

disapproval of proposed uses of a wide range of Federal funds in the agency's health service area, and review of proposed new and existing institutional health services and making of recommendations respecting them to State health planning and development agencies.

Horizontal Categorization - A system used to identify the readiness and capabilities of the hospital and its entire staff to receive and to treat (adequately and expeditiously) emergency patients. The four basic American Medical Association categories are: I - Comprehensive, II - Major, III - General, IV - Basic. Many States have developed their own categorization schemes which identify levels of urgent and critical care capability.

Initial Operations - The bringing together of existing capabilities to form an EMS system which includes all 15 mandatory system components and which is operated directly or indirectly by a single management agent. These initial operational steps must address the provision of BLS services to all citizens within the EMS service area.

Lead Agency - The organization which has been delegated the responsibility for coordinating all component and care aspects for an EMS system.

Major Repairs - Repairs to an existing building, excluding routine maintenance, which restore the building to a sound state, the cost of which is in excess of \$100,000.

Medical Control - Directions and advice provided from a centrally designated medical facility staffed by appropriately trained EMS personnel utilizing regional treatment and triage protocols. Facility staff supply professional support through radio or telephonic communication for onsite and in-transit BLS and ALS services given by field and satellite-facility personnel.

Medical Directors - Physicians employed at State or regional levels to direct and to administer EMS medical programs. These physicians should preferably be full-time employees, hired directly or through contracts. At the ALS level, the term medical director also refers to a physician at the resource hospital who is responsible for the actual daily operation of the system, including on-line supervision of field personnel. This medical director relates administratively to State and other regional medical directors.

Medical Emergency - An unforeseen event that creates a need for immediate medical care (anatomic physiological or psychological).

Notice of Grant Award (Form PHS-5152-1) - The document sent to the grantee indicating the budget period, the amount awarded, and any special conditions under which the grant is awarded.

Prior Approval - Written permission to use grant funds for certain purposes not included in the approved budget, or to change certain aspects of the program in a way not originally planned. Such

permission must be obtained from the PHS component which awarded the grant or, when specifically prescribed, from the designated institutional official prior to performing the act requiring approval. Failure to obtain approval, when required, is at the grantee's risk; PHS makes no commitment to approve such expenditure on a retroactive basis.

Program Director/Project Director - A qualified individual designated by the grantee, and approved by the awarding component, to direct the project being supported by the grant.

Public Involvement - An established mechanism for public participation in policymaking. Public involvement is usually obtained by having consumer representation on an organized EMS Council or other policymaking group.

Resource Hospital - Facility designation for the supervision and medical control of the ALS system, usually the communication base station for the system responsible for program monitoring of paramedics and participating associate hospitals.

Resource Management Center - A center responsible for the allocation of those resources essential to the most effective and efficient resolution and/or management of the immediate problem. In most communities these resources would include police, fire and emergency medical services. The Resource Management Center is most effective when its responsibilities encompass the whole public safety response.

Rural - An EMS area or portion thereof that is not classified as an urbanized area by the Bureau of Census. (Reference: 1970 Census Population - Number of Inhabitants, Bureau of Census, U.S. Department of Commerce, 1971)

State Health Planning and Development Agency (SHPDA) - Section 1521 of the PHS Act, added by P.L. 93-641, requires the establishment of a State health planning and development agency in each State. As a replacement for existing State CHP agencies, SHPDAs will prepare an annual preliminary State health plan and the State medical facilities plan (Hill-Burton). The agency will also serve as the designated review agency for purposes of section 1122 of the Social Security Act and administer a certificate-of-need program.

Statewide Health Coordinating Council (SHCC) - A State council of providers and consumers (who shall be in the majority) required by section 1524 of the PHS Act, added by P.L. 93-641. Each SHCC generally will supervise the work of the SHPDA, and review and coordinate the plans and budgets of the HSA's. It will also annually prepare a State health plan from HSA plans and the preliminary plans of the SHPDA. The SHCC will also review applications for HSA planning and resource development assistance.

Systems Evaluation - Assessment of the EMS system using descriptive operational data and impact studies to show program effectiveness.

Transportation - PRIMARY - Ambulances and other ground, air and water emergency vehicles providing direct BLS and ALS services.

Transportation - SECONDARY - Air and ground ambulances providing interhospital transportation by appropriate critical care vehicles for ALS services.

Treatment Protocols - Written uniform treatment and care plans for emergency and critical patients. These treatment plans must be approved and signed by appropriate physicians and/or medical groups.

Triage Protocols - Regionwide plans for identifying, selecting and transporting specific critical patients to appropriate, designated treatment facilities.

Vertical Categorization - Designating facilities as critical care units based on equipment availability and staff competency. Criteria for this categorization process are obtained from the following professional associations:

1. American College of Surgeons (trauma and spinal cord injury)
2. American Burn Association (burn)
3. American Association of Poison Control Centers (poisoning)
4. American Heart Association (acute cardiac)
5. American Academy of Pediatrics (high risk infant)
6. American Psychiatric Association (behavioral emergencies)

## Chapter I - Program History and Administration

### Program History

During the last decade, considerable improvements have been made in emergency medical care. These advances have primarily resulted from a systems approach and from the integration of standardized vehicles, communications and medical equipment, training programs, emergency facilities, and critical care unit capabilities. Advances in onsite care by physician agents (Emergency Medical Technicians-Ambulance and -Paramedic) have been shown to be effective in improving care for a wide variety of emergency patients, especially those suffering from acute myocardial infarction and major trauma. A brief review of some of the main events that have occurred in emergency medicine include:

- The National Academy of Sciences - National Research Council (NAS-NRC) published "Accidental Death and Disability: The Neglected Disease of Modern Society." This landmark 1966 study made 24 recommendations that became some of the main goals for EMS systems development.
- The National Highway Safety Act of 1966 authorized the Department of Transportation to provide funds for ambulances, communications, training programs, and statewide planning. The Act led to major development of local and State basic life support EMS systems.
- EMS programs started in early 1970 in Miami, Florida; Nassau County, New York; Charlottesville, Virginia; Chicago, Illinois; Seattle, Washington; San Diego, California; and Baltimore, Maryland.
- California was the first State to pass paramedic legislation beginning the movement for State involvement in EMS delivery. Today most States have EMS legislation on training of ambulance personnel.
- Emergency Medicine residencies were first established at the University of Cincinnati in 1970. By 1978 there were 32 throughout the country.
- HEW allocated \$16 million in 1972 to EMS demonstration programs in Arkansas; Illinois; Jacksonville, Florida; San Diego, California; and Athens, Ohio.
- The Robert Wood Johnson Foundation made \$15 million available in 1973 for 44 EMS projects in 32 States and Puerto Rico. This was the largest amount of private funds ever allocated to emergency medical services.
- The Emergency Medical Services Systems Act of 1973 (P.L. 93-154) was signed into law in November 1973 and received a \$170 million authorization over 3 years. Congress later extended the



legislation through 1979, authorizing \$200 million for systems development, \$15 million for research, \$30 million for training, and \$22.5 million for burn injuries.

- The White House Office of Telecommunications Policy issued a statement urging national adoption of 911.
- Federal Communications Commission Docket #19880 established rules and regulations for EMS communications, setting aside new radio frequencies.
- NAS-NRC published a document in 1973 on "Roles and Resources of Federal Agencies in Support of Comprehensive Emergency Medical Services."
- In 1970 Emergency Medicine was adopted as a new specialty area by the American Medical Association.
- A report on "Emergency Medical Services at Midpassage" was issued by NAS-NRC in 1978. The report examined the present status of EMS in the United States and noted the promulgation of standards by Federal agencies and professional groups.
- In October 1978, a Memorandum of Understanding on EMS was signed between the Departments of HEW and Transportation.
- There is a growing awareness of and interest in emergency medicine by established professional organizations, such as the American Medical Association, American Hospital Association and American College of Surgeons. New groups which have formed to take active roles in EMS include the American Trauma Society, the Emergency Department Nurses Association, American College of Emergency Physicians, the ACT Foundation and the National Association of Emergency Medical Technicians.

The EMSS Act of 1973 provides the mechanism for communities to establish regular EMS delivery systems. With the passage of the Act, Congress mandated that emergency medical care programs funded with Federal dollars use a systems approach for providing emergency response and medical care. This approach centers around 15 systems components and 7 critical patient groups, and requires a management and organizational structure and an evaluation mechanism. Emphasis is also given to regionalization, medical control, facility categorization, treatment protocols and long-term financial stability. (Each of these topics is discussed in Chapter III.)

By 1978, the States had identified 304 EMS regions. All but a few regions have received funds from the National EMS Program; about 10 percent of the regions have completed their funding eligibility.

## Program Administration

The EMSS Program is administered by the HEW Office of the Assistant Secretary for Health primarily through the Health Services Administration. The Division of Emergency Medical Services (DEMS) within the Bureau of Medical Services is responsible for program administration, technical assistance, information activities and coordination of an Interagency Committee on EMS. DEMS has project grant authority in these sections of the EMSS Act:

Section 1202 (a)	Feasibility studies and planning
Section 1202 (b)	Feasibility studies and planning
Section 1203	Establishing and initial operation
Section 1204	Expansion and improvement

The HEW Regional Offices are responsible for requesting, receiving, reviewing, evaluating and awarding grants under the EMSS Program. Questions regarding sections 1202, 1203, and 1204 should be directed to the Regional Health Administrator in the appropriate HEW Regional Office. (Exhibit A)

The Interagency Committee on EMS operates in support of the EMS Program. Specific Committee functions are to evaluate the adequacy and technical soundness of all Federal programs and activities related to EMS, and to provide for the communication and effectiveness of such programs and activities. The Committee also makes recommendations to the HEW Secretary concerning administration of the EMS Program, but has no responsibility for the review, selection or approval of individual grants.

Applicants seeking funds under the provisions of the EMSS Program must meet specific eligibility criteria and provide for the use of funds in accordance with program regulations and guidelines. The purpose of this chapter is to assist applicants with determining: (1) eligibility for EMS funds, (2) requirements for application clearances and review, (3) matching fund requirements, and (4) funding limitations and the use of Federal funds awarded under the EMS Program rules.

### Eligibility Requirements

The entities that may apply for grant funds for (1) Feasibility Studies and Planning, (2) Establishing and Initial Operation, and (3) Expansion and Improvement of a total EMS system are:

- ° a State (one of the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Northern Mariana Islands, or the Trust Territory of the Pacific Islands);
- ° a unit of general local government, (1) any city, county, township, town, borough, parish, village, or other general purpose political subdivision of a State; or (2) an Indian tribe;
- ° a public entity administering a compact or other regional arrangement or consortium; and
- ° any other public entity and any nonprofit private entity.

For additional information on eligibility requirements applicants should write to the appropriate HEW Regional Office, Regional Health Administrator.

### Applications, Clearances and Assurances

Applicants for funds under section 1202, 1203, and 1204 are responsible for submitting the clearance documentation as described in this Chapter.

- (a) Health Systems Agencies: It is required by Public Law 93-641, that all applications be provided to the appropriate Health Systems Agency (HSA), section 1513 (e) of P.L. 93-641 requires the Health Systems Agencies to review, approve, and/or disapprove uses of Federal funds. Instructions on how to submit applications will accompany the application packet from the appropriate Regional Office. A period of not more than 60 days will be required for review, approval, and/or disapproval. Applicants should note that the Health Systems Agency will submit the results of their review to the appropriate HEW Regional Office. The applicant may also request from the Health Systems Agency a copy of the results of the review. Regional Offices which have not heard from the HSA by the end of the review period will assume concurrence. Following HSA comments, applicants are provided

a 10-day calendar period to respond to comments of HSA. This period begins from the date of receipt. A copy of the response should be sent to the Regional Office as well as the HSA. Upon receipt of such information, the Regional Office will make the final programmatic decision regarding the responsiveness and appropriateness of the application.

(b) Project Notification and Review System (A-95): Under the provisions of OMB Circular A-95, applicants must notify State and Area A-95 Clearinghouses of their intent to apply for Federal assistance. This notification should be accomplished as early as possible since these Clearinghouses are permitted up to 60 days for review of both the notification of intent and any resulting application. Such reviews must be completed prior to submission of a final application. However, when such time is not available, applications may be submitted concurrently to the A-95 Clearinghouse and HEW. The Project Notification and Review System is explained in Exhibit B. The notification to the A-95 Clearinghouses and unresolved comments received from them should be included in the application.

(c) State EMS Organization: If the applicant is neither a State nor an organization legally responsible for the coordination and/or control of the State EMS system, the applicant is required to provide to the State EMS organization a copy of the proposed application. The responsible State EMS organization will have 60 days from the date of receipt to review and comment. If comments are not provided within 60 days to the applicant, it is assumed that the State EMS organization concurs with the application.

A copy of the written request to the State EMS organization and the unresolved comments received should be provided to the HEW Regional Office.

(d) Other Reviews: An application submitted by a public entity administering a compact or other regional arrangement or consortium must include within the scope of such application written documentation of the authority of such entity to act on behalf of each appropriate unit of local government located within the service area covered by such a compact, regional arrangement or consortium for the purposes of the application.

Statements from local entities should cover the extent and degree of cooperation to be provided, an evaluation of the applicant's capability to conduct the EMS project, the compatibility of the project with other local plans and an assessment of the probability of the project being accomplished.

An application submitted by a nonprofit private entity or any other public entity that is not (1) a State, (2) a unit of general local government, or (3) a public entity administering a compact, regional arrangement or consortium must provide a copy of its application for review and comment to each State, unit of local government and other appropriate public entity included with the proposed EMS area covered by the application prior to submission to the HEW Regional Office. The application must contain the written comments of reviewing organizations.

Special Waiver and Clearance Requirements for Section 1203, Establishing and Initial Operations and Section 1204, Expansion and Improvement.

In the event that the applicant submits an application which for specific reason(s) cannot address the implementation of one or more of the 15 mandatory components of a total EMS system, documentation is required to demonstrate such inability. Further, the applicant is required to submit an appropriate alternative for the missing requirement(s) and a schedule for accomplishing this alternative. The clearance organizations are, in such cases, required to specifically comment on the appropriateness of the application.

Matching Funds

Sections 1203 and 1204 of the EMSS Act require the matching of grant-provided funds with non-Federal contributions. The non-Federal contributions may be (1) cash including the outlay of money contributed to the grantee by a third party, and (2) inkind contributions representing the value of noncash contributions provided by the grantee or third parties. Inkind contributions may consist of depreciation and use charges for real property and nonexpandable personal property, and the value of goods and services directly benefiting and specifically identifiable to the grant-supported activity.

In determining the matching share of the project costs, neither the costs borne by other Federal funds, unless under authority of law, or costs used to match other Federal grants and contracts may be considered as part of the applicant's matching contribution. Public Law 92-512 as amended by PL-94-488 allows for the use of revenue sharing funds as matching funds. (See 45 CFR 74 for Recordkeeping Requirements.)

Specific Matching Requirements:

For the first grant under sections 1203 and 1204, not more than 50 percent of the eligible costs for an EMS grant will be provided with Federal funds under the EMSS Program. In cases of exceptional financial need, however, the Federal share may be 75 percent of such costs.

For the second grant under these sections, not more than 25 percent of the eligible costs for an EMS project will be provided with Federal funds under the EMSS Program. In cases of exceptional financial need, however, the Federal share for a second grant may be 50 percent.

## Funding Limitations and Considerations

In considering applications submitted by all eligible applicants, HEW shall give priority of Federal funds to (1) a State, (2) a unit of general local government, and (3) a public entity administering a compact or other regional arrangement or consortium. Not less than 20 percent of the appropriated funds for sections 1202, 1203, and 1204 shall be made available for EMS systems which serve or will serve rural areas.

### Section 1202, Feasibility Studies and Planning

Two types of grants for feasibility studies and planning are provided under this section, as follows:

1. A grant may be made to any eligible entity to study and plan for (a) the establishment and operation of an EMSS, (b) the expansion and improvement of an EMSS, or (c) both [section 1202(a)3].
2. A grant may be made to a qualified eligible entity (a) to study or plan for expansion and improvement of an EMSS to provide for the use of advanced life support techniques, or (b) to update the State plan for EMS in rural and medically underserved areas of the State [section 1202(b)].

All eligible entities set forth in Chapter II may submit applications for grants for 1. and 2.(a) above. Applications for 2.(b) above are restricted to States for a statewide EMSS for which a previous grant has been made under Section 1202(a).

The applicant who receives funds under section 1202(a) will be required during the initial period (within 90 days after the initial grant award is made) of the grant to submit a report which demonstrates the feasibility of planning and implementing a total EMS system. Otherwise consideration may be given to terminating the grant prior to the end of the grant period.

Only one grant may be awarded under section 1202(a) and one grant under 1202(b) for the same geographic area or an area that includes 40 percent or more of the same area. Therefore, applicants are urged to coordinate potential planning for an area to avoid any such prohibited overlap. Applications submitted for projects in the same State are expected to provide evidence demonstrating coordination between applicants. When States submit statewide planning applications and note specific area(s) not to be included in the State plan, a separate award may be made for each area.

Special consideration shall be given for applications for sections 1203 and 1204 for systems which will coordinate with statewide EMS systems. Applications which demonstrate exceptional need for financial assistance will also be given special consideration. This special consideration for financial assistance only refers to the percentage of matching funds required for the first and second grants awarded under sections 1203 and 1204. Qualification by an applicant for either of

the two preceding special considerations does not alleviate the applicant from satisfying the mandatory requirements set forth in the law, the regulations, and the guidelines.

#### Use of Grant Funds

Any funds granted pursuant to the EMSS Program shall be expended by the grantee solely for carrying out the approved project in accordance with the appropriate section of the Act, the regulations pertaining thereto, the terms and conditions of the award, and the applicable cost principles set forth in 45 CFR 74 Subpart Q and HEW Grants Administration Manual. Because allowable costs differ for sections 1202, 1203, and 1204, they will be separately discussed.

Applicants may obtain a maximum of two grants under section 1202. Each of these grants shall not be funded for a period of more than 12 months. No extension of grants is permitted under this section.

Applicants may obtain a maximum of two grants under sections 1203 and two grants under section 1204. However, each grant under these sections shall not be funded for a period of more than 12 months. If the grantee demonstrates satisfactory performance during the first grant period, a competitive extension application may be made for a second grant.

Consideration of requested funds under these sections will include the availability and use of other funds from HEW and other Federal agencies to be used in the total EMS system plan. Applicants are encouraged to make application for funds from other available Federal sources to support the implementation of an EMS system.

No funds provided under these sections may be used to purchase, lease, or rent equipment or facilities which do not meet applicable Federal standards.

Section 1202 - Allowable costs under this section are limited to activities solely for the approved project. Examples of allowable expenditures are:

1. Salaries and related benefits.
2. Leasing, rental, and maintenance of office space, furniture and equipment.
3. Costs related to the conducting of surveys.
4. Printing costs.
5. Domestic travel related to feasibility studies and planning activities.
6. Consultant's fees and related travel expenses in accordance with local compensation rates, or if unavailable, with current Federal cost principles.

Section 1203 - Project funds under this section may be used for those expenditures necessary to carry out the approved project, within the intent and scope of section 1203. Domestic travel may be supported at the rate of eight cents per mile when justified as a necessary and integral part of an approved training program.

Project funds may not be used for the following:

1. Construction of new facilities.
2. Acquisition of facilities.
3. Purchasing built-in hospital equipment which will be used more than 25 percent of the time for nonemergency department purposes.
4. Establishment, operation, or improvement of services or facilities involved in the care of patients in the normal hospital environs or in any other care facility, except for those which are customarily associated with the emergency department. Although these emergency department costs are allowable, it is the intent that such costs be justified and do not constitute or imply a subsidy.
5. Financial assistance to trainees for stipends, tuition and fees, per diem, or other reimbursement for food, lodging, etc. No allowance for normal commuting from the trainee's place of residence to the training site, or food, lodging or other travel costs may be paid from grant funds.
6. Hospitalization costs normally borne by the patient.
7. The purchase of receiving and sending devices for individuals with auditory handicaps.

Major repairs of emergency facilities costing more than \$100,000 are allowable under section 1203. However, funding for major repairs has been excluded by administrative decision because of the limited funds available.

#### Section 1204

Project funds under this section may be used for those expenditures necessary to carry out the approved project activities within the intent and scope of the project approved for section 1204. Domestic travel may be supported at the rate of eight cents per mile when justified as a necessary and integral part of an approved training program.

Project funds may not be used for the following:

1. Construction of new facilities.
2. Purchasing built-in hospital equipment which will be used more than 25 percent of the time for non-emergency department purposes.



3. Establishment, operation, or improvement of services or facilities involved in the care of patients in the normal hospital environs or in any other care facility, except for those which are customarily associated with the emergency department. Although these emergency department costs are allowable, it is the intent that such costs be justified and do not constitute or imply a subsidy.
4. Financial assistance to trainees for stipends, tuition and fees, per diem, or other reimbursement for food, lodging, etc. No allowance for normal commuting from the trainee's place of residence to the training site, or food, lodging or other travel costs may be paid from grant funds.
5. Hospitalization costs normally borne by the patient.
6. The purchase of receiving and sending devices for individuals with auditory handicaps.

Funding for the acquisition of existing facilities, exclusive of land and offsite improvements has been excluded by administrative decision because of limited funds.

#### Indirect Costs

Any award will be made on the basis of the amount necessary for the allowable direct project costs plus an additional amount for indirect costs. The indirect cost allowance will be determined based on an indirect costs proposal submitted to the Regional Office's Division of Cost Allocation, Regional Administrative Support Center.

#### Exceptional Financial Need

The EMSS Act makes provisions for an increased share of Federal funds to be applied to areas that can document exceptional financial need. Applicants wishing to be considered for such additional Federal funds must provide appropriate documentation to justify the need. Consideration will be given by the Regional Office to such factors as (1) availability of other funds (including Federal), (2) the local tax base, (3) the area's economic conditions, (4) the projected per capita costs of the EMS system, (5) the existing EMS system's components, especially those of trained manpower, transportation, communications and facilities, and (6) the ability of the community to continue the EMS program on a self-sustaining basis.

## CHAPTER III - SPECIAL PROGRAM GUIDANCE

This chapter addresses those issues that have proven to be essential in EMS program development and in reducing death and disability occurring from medical emergencies.

DEMS as the lead agency for the administration of the EMS program has attempted to utilize considerable flexibility in assisting regional EMS project development. It attempts to provide timely, current and knowledgeable technical expertise, assistance and guidance to State and regional EMS projects so that the most appropriate systems modeling can be accomplished. Varying models of systems operations, facilities orientation, transfer agreements and project extensions outside of regional project areas into adjacent or distant regions is consistent with DEMS program recommendations. It is the purpose of EMS legislation and of these guidelines, while allowing for varying systems configurations, to minimize differences and coordinate operations so that a national network of quality emergency health care is available to all citizens.

### EMS SYSTEMS MANAGEMENT

Few strategic factors are more paramount to a successful EMS system's effort than sound management structure to plan, implement, and operate a successful regional EMS program. Experience shows that the various administrative roles and responsibilities of the EMS system must be clearly understood by all concerned for effective inter-level communication and intra-level operation. The success of any EMS system is dependent upon the wisdom of its leadership, an informed and responsive community, and appropriate integration of components, resources, operations, management, evaluation and financial planning.

### LEAD AGENCY

A State lead agency or regional operational unit must be identified early in the planning process as being responsible for coordinating and managing the State EMS system including grants management control, coordination of involved communities, systems operations, and regional organization of resources. These lead agencies should have medical and technical expertise in order to provide the necessary assistance to their respective regional EMS systems. They should be working in liaison with professional societies, public safety, other governmental agencies, and legislative bodies to establish statewide standards, program policies and to develop a legislative funding base for continued operations. The lead agencies should include a medical director who must assume a public health responsibility for all emergency patients and begin to develop a comprehensive system to meet patient needs at the regional level.

Within the lead agency, a project director is responsible for scheduling implementation, guiding the support for implementation and managing the grant and extra grant resources to comply with overall project direction.

## REGIONALIZATION OF EMERGENCY MEDICAL SERVICES

A regional EMS system is one that is geographically described by the existing natural patient care flow patterns. It must be contiguous with the adjoining regions and large enough in size and population to provide definitive care services to the majority of general, emergent and critical patients. Where possible, EMS regions will be consistent with HSA boundaries. Where care deficiencies of a highly sophisticated nature exist within the region, arrangements must be made for obtaining these patient care services in an adjoining region. Dual plans may be developed for intercommunication with adjoining regional EMS systems as well as for operations to cover the population in the fringe area. A coordination mechanism should be developed between intrastate regions and interstate regions.

The regional EMS system must be integrated through an appropriate organization so that the total EMS resources can be effectively utilized to meet the needs of the geographical area. An EMS council may be developed to provide advisory input into these regional EMS programs and assist in developing relationships with other regional and State health authorities.

The system must be integrated so that there is coordination of the total health care delivery system. The planning, organization and development of the emergency medical services system must be done not only with the aid of the community that is served, but with the regional provider elements working together to solve mutual medical problems. Planning and evaluation must be based upon sound clinical considerations. State and inter-regional provider relationships must be considered and assured.

All resources should be coordinated and linked so that quality EMS care results. In addition, these resources should be linked to local disaster organizations in order to respond to sporadic high intensity needs such as natural disaster within the regional service area as well as adjoining service areas.

The intent of the EMSS Act is to fund EMS projects on a regional multigovernmental and multicomunity basis. The EMS lead organization must establish a special health and safety consortia or rely on the established State and local health units for authority and regulatory capability.

Some State legislatures have enacted laws which reinforce the implementation of EMS systems. Each State should assess its own areas of need and together with its lead agencies consider legislation which best serves the EMS regional systems. Financial support for initial and continued EMS operations must be considered.

State and local funds, general revenue sharing funds, third party payments and direct payments from patients and other sources must be utilized for operations and services.

## DEVELOPMENT OF FINANCIAL PLANS

The EMSS Act funds are intended to provide the "seed" monies for planning, establishing and expanding regional EMS systems. Limited funds are available for projects to plan and establish these regional systems. One of the most important intentions of the EMSS Act is that communities in an EMS region shall partially fund the development of the system and eventually provide fiscal stability. A financial plan is required for applications for 1204 grants.

Each application for a first year grant under section 1204 must contain a financial plan which will project financial support of the system. After the conclusion of EMS program support, second year applications must include evidence of substantial progress to achieve the financial plan.

Each financial plan will present (1) a breakdown of the funds necessary to support the regional system. The breakdown will consider a budget for each system component or groups of components, together with a budget for coordination, management and the general delivery of EMS in the service area. The plan will show (2) a summary by source of the financial support for the system after grant support has ended. Sources may include State, local and other funds supporting the budget. The budget will be for a 3 year period to include the 1204 (first year), the 1204 (second year) and the first year after the conclusion of EMS program support. The plan submitted (3) must be accompanied by endorsements of the plan by each source of funds identified in (2) above. Written endorsements and assurances must also be signed by an official with authority to act on behalf of the proposed funding source.

In addition, the application must contain assurances of support for the financial plan as evidenced by formal resolutions, proclamations, or other documented acts of the responsible legislative or executive bodies of the major governmental units encompassed by the EMS region. These assurances must be presented for at least those governmental units encompassed by the EMS region and which collectively govern the majority of the EMS regional population.

Therefore, all regional project plans for 1204 (first year) must have the following:

1. A conceptualization of emergency and critical care delivery for all patients, emphasizing the integration of the 15 components into a system of care for the 7 critical patient groups.
2. A mechanism for management and coordination of the health and public safety resources within the area.
3. A financial plan for the proposed EMS system budget following the use of these grant funds, together with an identification of the sources of funds and endorsement of the plan by each identified source of funds, together with an assurance of support for the plan by at least those governmental units which govern a majority of the population within the region.

Applications for a second grant under section 1204 must contain the same assurances for continuation from a governmental unit and a progress report which demonstrates that substantial progress has been made to achieve the financial plan submitted for the 1204 first year grant application.

#### EMERGENCY MEDICAL CARE ISSUES

The objective of the EMSS Act is to develop systems of emergency medical care that will significantly decrease EMS patient death and disability rates. Through regional planning and integration of the 15 components in providing the essential EMS services.

Sound clinical and epidemiological knowledge and consideration must be used and matched to the regional EMS resources and to patient needs. A progressive indepth knowledge of the incidence and the demographic, epidemiological and clinical requirements associated with the critical patient groups is mandatory. This is possible by accomplishing basic patient origin and demand studies from highway accident, vital statistics and hospital discharge data.

Program narratives must include an analysis of the present situation and the plans that are being made for the change during the development period. The plan for the system must consider the overall general patient population and identifiable critical patient groups and relate their problems and the proposed systems approach solutions for the applicant's geographical regional area.

Each regional plan must include a description of patient care for the general routine nonemergent, emergent and critically injured. Program critical patient groups represent conditions which are easily identified and lend themselves to effective planning and implementation of an EMS system. They are: trauma, burn, spinal cord injury, poisoning, acute cardiac, high risk infant and behavioral emergencies.

There should be a detailed explanation of care patterns for these critical patient groups which integrates the 15 components into a system that meets patient needs. Ambulance placement strategy will depend upon patient requirements and the sophistication of the response and transportation capability of the system. Treatment and triage protocols determine the level of care during transportation and delivery to an appropriately categorized hospital. Written agreements between the various provider elements emphasizing sound areawide medical care must be developed to assure compliance with transfer agreements and protocols.

## BASIC LIFE SUPPORT SYSTEM

A Basic Life Support (BLS) System includes all of the 15 components. BLS can be effectively provided by the integration of accepted standards for ambulance personnel (e.g. Emergency Medical Technicians-Ambulance), ambulances in compliance with the General Services Administration (GSA) specification, two-way voice communications and standard equipment as recommended by the American College of Surgeons. Effective placement of these vehicles, staffed by at least two trained EMT-As, can provide emergency medical care with patient stabilization, airway clearance, hemorrhage control, initial wound care and fracture stabilization. Under medical control specific noninterventive treatment in which the EMT-A has been previously trained can be applied. The transportation subsystem must be developed in the context of a sound vertical categorization care program. The categorization and designation of the facilities (hospital emergency departments, critical care units, and rehabilitation center) is a major aspect of any program and is critical in the initial development of a BLS system. It gives identification and direction to all communications, transportation, and manpower elements at the basic level, and makes possible the sound conceptualization of a delivery system for all emergency patients. It also provides a standard for clinical impact and EMS process evaluation.

## ADVANCED LIFE SUPPORT SYSTEM

An Advanced Life Support (ALS) System is the more sophisticated logical progression of BLS, in which trained EMT-Paramedics can provide resuscitation (CPR), utilizing specific interventive measures, e.g. endotracheal or esophagogastric intubation, intravenous therapy, specific cardiac dysrhythmia detection and control with drugs and electrocountershock. These lifesaving techniques administered by EMT-Paramedics are always undertaken under the direct control of a physician or physician surrogate in contact by voice and EKG telemetry. Most urban and many metropolitan communities have initiated ALS prehospital mobile intensive care unit (MICU) programs and have realized a major impact on the trauma, cardiac and other critical patients. This increased capability of critical care is being developed not only in the central metropolitan areas, but also in outlying rural communities. This ALS restructuring and resource approach will affect primary and secondary transportation, communications, and manpower to meet this advanced level of care. This applies particularly in the prehospital and interhospital phases of systems development.

ALS requirements include a medical control categorized facility, standardized treatment, triage, and transfer protocols that ensure a progressive and continued enhancement of critical care for patients from the field to appropriate care facilities within or outside of the region.

Outlined below is a summary of the EMS systems issues and tasks that must be addressed and completed in a successful 1202(a) plan:

Designate a Medical Director and clinical care consultants.

Develop an organization and determine staffing requirements.

Complete inventory assessments and determine needs for all components, i.e. communications, transportation, facilities, disaster plans.

Initiate patient origin studies by critical patient group to determine patient flow patterns.

Develop and initiate an evaluation strategy including baseline data collection demonstrating need.

Initiate coordination and liaison with professional medical groups and establish criteria for vertical and horizontal categorization of facilities based upon assessment of critical care capabilities.

Design transfer agreements for the critical care patient categories.

Design treatment, triage and transfer protocols.

Complete medical care plan for all emergency patients.

Obtain approval of the plan from the health authority.

Coordinate activities with health planning agencies and other review authorities.

During the implementation of a regionwide BLS System (1203) a management structure, implementation of the clinical design and integration of all the 15 components into a system is completed. Outlined below are the issues and tasks that must be addressed and completed by a successful project.

Hire Medical Director, Staff and Clinical Consultants.

Initiate Basic Life Support Systems as conceptualized.

Train EMT-Ambulance, first responders and nurses.

Implement critical care plans.

Designate facilities according to regional categorization plan.

Implement transfer agreements.

Implement ambulance placement strategy.

Implement the communication system.

Designate the resource and associate hospitals for medical control.

Implement treatment, triage and transfer protocols.

Initiate secondary interhospital transportation program.

Continue liaison with health planning agency and other review authorities.

Implement coordination of resources with public safety agencies.

Continue coordination and liaison with professional, medical, and governmental groups.

Test the regionwide disaster drill capability.

Develop mutual aid agreements.

Develop an ALS plan for critical patient groups and components.

Develop a public education and information program.

Develop a coordinated recordkeeping system.

Initiate a BLS evaluation strategy.

Develop a financial plan.

Complete implementation of 15 components for BLS.

The final 2 years of project support under 1204 will provide for the extension to an advanced life support capability. There is a progression in the quality of the 15 components and system services to all EMS patients and patient groups. This progression requires that ALS be accomplished during this project period. The activities encompass the seven critical patient groups and appropriate expansion of the EMS components. Projects may move forward to develop ALS in a geographic area or throughout the region as they successfully complete their BLS system. All of the program requirements of the 1202 and 1203 must be met as prescribed above.



Listed below is a summary of EMS systems issues and tasks that must be addressed and completed by a successful 1204 project:

Initiate the ALS system.

Implement critical patient group projects.

Initiate training of paramedics and other ALS personnel.

Initiate prehospital and interhospital medical control.

Initiate ALS communication capability to include equipment and on-line medical supervision.

Implement an ALS coordinated recordkeeping system.

Implement a public education program on CPR.

Establish linkage to rehabilitation services for critical care patients.

Initiate and establish local and State mechanisms for continued funding.

Update analysis of categorization and patient flow to critical care units.

Perform regionwide disaster drill.

Initiate evaluation strategy to include compliance and impact studies.

#### MEDICAL CONTROL AND ACCOUNTABILITY

A physician who is acceptable to the medical community as well as knowledgeable in the planning and implementation of the EMS system is essential at both the State lead agency level and the regional EMS level. This administrative (offline) position assures medical soundness and appropriateness of all aspects of the program. In each situation, the medical director must be responsible for the concept system's design and overall supervision of the EMS medical program.

Although in some instances both the State and regional medical director positions may be filled by the same individual, functional responsibilities differ. At the State lead agency level, the Medical Director works in close liaison with other governmental operations, agencies, legislative bodies and executive offices as well as with the public. His administrative activities may also include working with regional medical directors to establish statewide standards, monitoring and evaluating the EMS program clinical designs and the component activities. He may be delegated the responsibility for defining activities that are in accord with State regulations and standards, e.g. categorization criteria, ALS medical control.

There must be a medical director within the regional level administrative organization and structure. He is responsible for overall supervision to assure implementation of all medical requirements.

Physicians representing the seven clinical patient groups give consultation to the medical director for developing standards and practices of care for all EMS patients. They also assist in developing the operational configuration, the writing and implementation of medical policies, procedures, and regulations that best meet the patient needs of the area.

Decision pathways for action by EMS personnel must be developed for patient treatment, triage and transfer. These must be acceptable not only to other area physicians (medical societies) but to administrators of the involved EMS system health facilities as well.

Because emergency care is being provided by a team separated by distance in a complex health system, treatment protocols are essential. They should be formally adopted as part of all participating hospitals' policy and by the regional EMS system so they can be regionwide in application. Treatment and triage protocols provide a basis for the training of all EMTs and the standardization of training programs on a regional basis. They establish a medical-legal standard of care for specific patients with a particular emergent problem. Through this standardized approach to patient care, cooperation between rescue personnel is facilitated and allows for meaningful evaluation of training efforts and patient outcome. Such protocols can be simple or complex as required by the patient type and will be influenced by such factors as the level of training of available rescue personnel and the length of transport time to the nearest appropriate medical facility. Planning and final designation of facilities that can provide the most suitable definitive care for each patient is essential. Implementation of this designation through triage and transfer protocols provide the ALS physician at the base station resource hospital an objective standard for transportation of the patient.

The medical director (on-line) of an advanced life support, pre-hospital system is considered responsible for the actual day-to-day operation of the EMS system. Typically this physician practices at the major facility (regionally-designated resource hospital), and provides ALS direction and monitors all ALS activities within the system's area or region. He may also have the regional medical director administrative responsibility.

This physician assumes the supervision and legal responsibility for all paramedic care rendered in an emergency at the scene of an accident, and enroute to the hospital. In most systems, medical supervision is provided through the availability of voice communications between a physician and emergency medical technician and paramedic in the field.

The communications may rely solely on a telephonic link from the scene of the incident to the physician, but usually involves radio communications or a combination of radio and telephone linkages between the EMS personnel in the field and the physician.

In urban areas, medical control is provided through a single base resource hospital for a designated geographic area. This facility should be responsible for coordination of hospital to hospital communications with the associate hospitals in the region. The purpose of such communications is for patient referral, patient time of arrival, the summary of care given in the prehospital phase, and the expected need for resources.

The medical director must be responsible for identification of the types of patient care problems presented in the prehospital phase and the frequency with which such problems are encountered. He must be familiar with the regionally approved treatment, triage and transfer protocols, the standards of care established for the region and the level of training of prehospital personnel. Because of the supervisory role, the physician must review EMT-P compliance to protocols in their prehospital setting as well as evidence of skill decay in performing those activities. In ALS, medical control provides the framework and justification for paramedics to provide critical care and interventive treatments in the field. Care by paramedics outside a hospital but under medical direction, must have the same accountability as other medical care provision within a hospital. There must be proper recordkeeping, case review, audit process, committee structure and continuing education.

In rural areas where ALS systems are implemented, there is a similar medical control and supervision of paramedics for direction, monitoring, and training. The communication configuration and clinical conditions encountered vary with the rural makeup of the region.

In summary, medical control and accountability consist of the following elements:

1. Designation of a medical director for the area's advanced life support program (on-line) with accountability for the medical-legal establishment of the program.
2. Effective area emergency medical planning and designation of a base resource and other associate receiving hospitals and critical care centers with communications linking field personnel with base hospital physicians and nurses.
3. Utilization of treatment protocols adopted by the system and hospital structure in which the team operates with referral from the scene to the appropriate level of definitive care within the area according to the pre-existing transfer and triage protocols.

4. Physician responsibility for the management of the patient with either a supervisory nurse or on-line physician giving orders to the paramedic for prehospital care.
5. Technologic innovation which supports the training and operations of the program, e.g., mast trousers.
6. An effective process for accountability (records, case review, audits, etc.).

#### GRANTEE GUIDANCE

##### EMS System Components

The EMSS Act requires that the systems funded address the following components:

1. Manpower.
2. Training.
3. Communications.
4. Transportation.
5. Facilities.
6. Critical Care Units.
7. Public Safety Agencies.
8. Consumer Participation.
9. Access to Care.
10. Patient Transfer.
11. Coordinated Patient Recordkeeping.
12. Public Information and Education.
13. Review and Evaluation.
14. Disaster Plan.
15. Mutual Aid.

In reviewing applications for funding, HEW considered these 15 components as mandatory. If an applicant determines that one or more of these components are not appropriate or nonachievable within an areawide system, then justification must be provided to show an alternative system configuration which meets the intent of the Act. The intent is to address each component appropriately for the special geography and medical conditions of the region.

## GUIDANCE OF THE SCOPE AND SPECIFICITY OF EACH COMPONENT

1. Manpower - An adequate number of health professionals, allied health professionals and other health personnel including ambulance personnel, with appropriate training and experience.

This means sufficient numbers of all types of personnel to provide EMS on a 24-hour a day basis, 7 days a week, within the service area of the system. These manpower needs must be addressed even if funds are not requested for their support or training.

The grantee will develop plans utilizing national criteria and guidelines to ensure that adequate manpower are now available including first responders, communicators, EMT-A, EMT-P, emergency nurses, physicians, specialty physicians and other appropriate personnel for the EMS system. Manpower roles should be defined along with methodologies and formulas used to obtain projected manpower needs. The EMS system must emphasize recruitment of veterans of the Armed Forces with military training and experience in health care fields and of appropriate public safety personnel in such areas.

There should be a detailed listing of key manpower personnel: medical director (full/part-time, contractual, volunteer, etc.), project director, project clinical administrators, system coordinators, specialists in communications, education and evaluation, etc.

The medical director is the key person for program implementation and should be identified in 1202 and hired prior to 1203. Physician consultants will need to be identified early in 1202 and utilized during 1203 and contracted for by 1204 to administer the clinical project grants required in this section. Other specialists in training, communications, public education and evaluation will also be needed with program development.

The major manpower elements to be considered are:

- ° First Responders - fire, police and other public safety elements.
- ° Communicators - EMS Dispatcher.
- ° Emergency Medical Technician-Ambulance (EMT-A).
- ° EMT - Intermediate.
- ° Emergency Medical Technician-Paramedic.
- ° Registered Nurses - Emergency Department.
- ° Registered Nurses - Critical Care Units.
- ° Paramedic and/or Nurse MICU Coordinators.

- EMS Physician Consultants.
- EMS Project Director.
- EMS Systems Coordinators.
- EMS Systems Consultants.

Effectiveness of the system in providing manpower should be documented according to the evaluation methods prescribed in Chapter IV.

2. Training - The provision for appropriate training (including clinical training) and continuing education programs which (1) are coordinated with other programs in the system's service area which provide similar training and education and (2) emphasize veterans of the Armed Forces with military training and experience in health care field and of appropriate public safety personnel in such areas.

"Appropriate public safety personnel" includes police, firemen, lifeguards, park rangers and other public employees charged with maintaining the public safety.

The grantee should address curricula utilized that meet national criteria and guidelines established for individual manpower elements; where and by whom is such training being conducted; a description of the certification, recertification and revocation process developed to maintain the quality of EMS personnel; and methods introduced or planned for resolution of skill maintenance problems.

Each program must develop measures of quality and effectiveness of training based upon the evaluation methods prescribed in Chapter IV.

3. Communications - Provisions for linking the personnel, facilities and equipment by centrally coordinated communications systems so that requests for emergency health care services will be handled by a facility which (1) utilizes emergency telephonic screening, (2) utilizes or will utilize the universal emergency telephone number 911, and (3) will have direct communication connections and interconnections with the personnel, facilities, and equipment of the system and with other appropriate emergency medical services systems.

The system should include a command and control center which would be responsible for establishing those communication channels and allocating those public resources essential to the most effective and efficient EMS management of the immediate problem. The center should have the necessary equipment and facilities to permit immediate interchange of information essential for both the system's resource and medical management and control.

The EMS communications system must address access, allocation of resources, centralized coordination and medical control for basic life support and advanced life support.

The communication elements should include:

Access providing public interface with the emergency resource system.

- ° 911.
- ° Alternative single access number.
- ° Provisions for auditory handicapped individuals.
- ° Provision for multilingual access.

Resource Management Function

- ° Central Dispatch or centrally coordinated dispatch.
- ° Coordination of EMS and other public services.

Medical Control Function

- ° Medical communications between field personnel and resource hospital for diagnosis, treatment and triage.

Hospital to Mobile

- ° Basic voice.

Hospital to Hospital (Resources, Associate)

- ° Basic voice.
- ° Advanced biomedical telemetry (optional).

Program operation experience with "911" systems providing access to police, fire, and EMS has shown that approximately 85% of the incoming calls involve police services; 10% fire services, and 5% emergency medical services. Applicants should thoroughly investigate the implementation and use of 911 as the community access number. Funds under this Act may be used to assist implementation of a 911 system commensurate with the level of EMS usage.

A 911 implementation plan should be developed during the planning phase. If the community is not prepared for immediate 911 implementation, the communications plan should set forth a time at which 911 will be reexamined.

HEW supports the ultimate transfer of EMS system communications to the UHF band. Grant applications and EMS system planning documents will be carefully evaluated in accordance with this policy. When the requested project involves a particular completed VHF system, a case by case evaluation of the proposed methods of interface between UHF and VHF systems will be made. Provision for telecommunication equipment must be made at the command control center with appropriate interface to the public safety agency to provide for access by persons with auditory handicaps. In addition, provision must be made for predominate population groups in the area with limited English speaking ability.

The supervising medical control resource facility (communication base) must be responsible for monitoring all ALS communications and notification of other receiving hospital(s) so that they will be aware of the problem, and can assume responsibility for the care of the patient immediately upon arrival to their facility.

This supervising facility is responsible for field decisions of triage and transportation of a patient to an appropriate facility or to a special care unit in accordance with previously developed patient triage/transfer guidelines and agreements.

Effectiveness of the system in providing efficient and effective communication in relation to access, central dispatch and medical control appears in Chapter IV.

Transportation - This component shall include an adequate number of necessary ground, air and water vehicles and other transportation facilities properly equipped to meet the transportation and EMS characteristics of the system area. Such vehicles and facilities must meet appropriate standards relating to location, design, performance, and equipment; and the operators and other personnel for such vehicles and facilities must meet appropriate training and experience requirements.

The elements of transportation should include:

Ground--Basic Life Support

- ° Radio communication providing for vehicle control, for medical control and consultation.
- ° Ambulance vehicles meeting GSS (KKK-A-1822) specifications and including equipment recommended by the American College of Surgeons.
- ° At least two EMT-As.
- ° Ambulance locations permitting (for 95% of all calls) a maximum of a 30 minute accurate response time in rural areas.



- Tiered response arrangement of vehicles.

#### Ground--Advanced Life Support Elements

- All elements of a ground basic life support capability.
- At least two EMTs trained beyond the EMT-A level to address specific clinical items in the medical service plan.
- Advanced communications to provide advanced biomedical telemetry (optional).
- Additional equipment as appropriate.

#### Other

- Helicopters.
  - Primary response--unique use depending on geographical constraints.
  - Secondary response--30-150 mile transport radius.
- Fixed Wing
  - Greater response for 150 mile transport radius.
- Water
  - Special geographical considerations.
- Snow Mobile
  - Special geographical considerations.

Effectiveness of the system in providing transportation should be documented according to the evaluation methods prescribed in Chapter IV.

5. Facilities - This component shall include an adequate number of designated easily accessible emergency medical service facilities which are collectively capable of providing services on a continuous basis. They must have appropriate nonduplicative and categorized capabilities which meet appropriate standards. All emergency receiving facilities must be categorized horizontally utilizing American Medical Association criteria and vertically utilizing national professional organizations' criteria for emergency critical care.\*

---

\* American College of Surgeons (ACS), American Burn Association (ABA), American Association of Poison Control Centers (AAPCC), American Heart Association (AHA), American College of Pediatrics (ACP), and American Psychiatric Association (APA).

The strategy and process for utilizing the criteria for designation of participating facilities for critical care within each region and the specialty facilities outside the region must be stated in the application. Plans for upgrading/downgrading emergency department personnel and equipment must be coordinated with other health care facilities and planning organizations in the region and based upon patient origin and distribution studies. There should be emphasis on upgrading critical care capabilities through consolidation and use of nonduplicating facilities resources.

Elements for facilities consideration include:

- Regional categorization with accepted State or national criteria with at least one Category II hospital providing 24-hour physician coverage in the emergency department in each EMS region.
- Regional EMS Advisory Groups to plan and carry out the categorization plan. These groups should include hospital administrators, physicians, nurses, other providers and health system planners.
- Regional plans for mutual agreement of facility categorization and designation of critical care capabilities, transfer agreements, and resource sharing.

Each EMS program must develop measures of quality and effectiveness for the categorization of facilities based upon the evaluation methods prescribed in Chapter IV.

6. Critical Care Units - This component requires providing access (including appropriate transportation) to specialized critical medical care units. These units should be the number and variety necessary to meet the demands of the service area and are to include trauma, burn, spinal cord injury, poisoning, acute cardiac, high risk infant, and behavioral emergencies. The grantee must provide for the inventory and categorization and designation by name of critical care capability (units, centers, program units) for specific critical patient groups. Plans must delineate the responsibility for identifying and providing transfer of specific patients.

Standard critical care capability must be identified for the seven patient categories in regions with such capabilities, and where necessary in distant regions. Facility projected needs assessments of care resources must be documented at least annually. This would include resources within the region and in other distant EMS regions. EMS projects must review the need for further centralization and expansion, and in some cases initiate decentralization as appropriate by patient impact studies.

An operational plan for utilization of critical care units should be developed, including training of personnel, equipment, transportation, triage and interhospital treatment protocols. The EMS system should include the development of professional advisory groups to work with EMS programs to insure that critical services are being appropriately utilized and interrelate across political boundaries.

Evaluation parameters appearing in Chapter IV should be utilized to measure compliance and outcome of patient movement through the system.

7. Public Safety Agencies - The grantee will take appropriate actions to ensure the participation of public safety agencies to include police, fire departments, life guards, park rangers and other appropriate public safety personnel, as first responders and/or EMTs within the EMS system.

Provision must be made for effective utilization of appropriate personnel, facilities, and equipment of each public safety agency in the area, with sharing of resources and personnel as appropriate. "Effective utilization" means the integration of public safety agencies into standard EMS and disaster operating procedures of the regional system. It also includes the shared use of personnel and equipment, such as helicopters and rescue boats, appropriate for medical emergencies.

Public safety agency personnel are most frequently the first responders to an emergency patient. The EMS system must, therefore, work with these agencies to ensure the use of special equipment, proper training of staff, linked communications, and the development of cooperative operating procedures demonstrating appropriate coordination and mutual aid plans for day-to-day operations as well as during major disasters.

Evaluation should be based upon the parameters found in Chapter IV.

8. Consumer Participation - The EMS system must make provisions in its systems management and take appropriate action to ensure that persons residing in the area who have no professional training or experience participate in policymaking for the system.

While there is no federally-required percentage of consumer participation in EMS planning or membership in advisory organizations, reasonable consumer representation must be provided. There should be representation of and linkages with the Health Systems Agency in the

region not only for planning purposes but for representation of consumers as well.

Consumers must have access to policymakers to register complaints and constructive comment in regard to the planning, operation and implementation of a regional EMS system. A grievance procedure must be developed and implemented within each regional EMS system. The grantee should take appropriate action to ensure that nonprofessional consumer participation and access to policymakers to register complaints and make constructive comments in the EMS program.

Evaluation should be based upon the parameters found in Chapter IV.

9. Access to Care - The grantee shall take appropriate actions to ensure that all patients will have access to the EMS system without prior inquiry as to the ability to pay. This access must be assured for the ambulance services, initial general hospital, secondary transport to critical care units and rehabilitation centers. The system should provide the means to monitor for restrictive measures that may eliminate any person or group of people from equal quality of services within the region. Agreements for admission should be negotiated between hospital and ambulance services within the EMS region by the completion of the BLS system period and likewise for the ALS system period.

Specific parameters for evaluation will be found in Chapter IV.

10. Patient Transfer - The EMS system shall provide for transfer of patients to facilities which offer definitive followup care and rehabilitation as is necessary to effect the maximum recovery of the patient.

The transfer of emergency patients from the emergency site to the emergency department of the general hospital critical care unit, and rehabilitation centers are all within the scope of a total EMS system. The components of training, transportation, categorization, recordkeeping, and others all interrelate to this continuum of care.

The transfer agreement is necessary to facilitate communication and cooperation of physician providers within the system. Written arrangements between referring and receiving physicians for each of the critical groups must be documented by physician signoff for acceptance and participation. These transfer agreements from individual rural physicians to individual central critical care physicians must be established and be an integral part of an operating EMS system.

Areawide prehospital treatment and triage protocols must be established by councils of physician providers for the various specialty patient groups and are essential for completion of a Basic Life Support system.

Evaluation of this component should follow the parameters outlined in Chapter IV.

11. Coordinated Patient Recordkeeping - Each EMS regional system shall take appropriate action to provide for a coordinated patient recordkeeping system which shall cover the treatment of the patient from initial entry into the system through his discharge from it. This includes the prehospital, hospital and critical care unit care within the system. Data elements shall be consistent in patient records used in followup care and rehabilitation of the patient; it shall be developed to ensure that emergency patients can be tracked through the system, and used to measure the systems change in efficiency in delivering emergency care.

The minimal patient records necessary for the EMS system are the dispatcher records, the ambulance records (ALS and BLS) the emergency department and critical care records. In order to fulfill requirements of evaluation, certain information must be available to be derived from these records.

- ° Patient identification information: the records must be designed so that the dispatcher record, ambulance record and emergency department record on each patient can be compared for evaluation and management purposes.
- ° Patient access information: How did the patient arrive at the emergency department? What was the mode of access and transportation of the patient to the emergency department?
- ° Timing of ambulance services: response time, time at scene and travel time to hospital.
- ° Patient condition: at scene, upon arrival in emergency department and critical care unit.
- ° Patient diagnostic and treatment services: at the scene, during transport in emergency department, in hospital, and critical care unit.
- ° Disposition of patient: discharged, referred for outpatient care, referred to another hospital, admitted or died.
- ° Condition of patient: at discharge from emergency department, hospital or critical care unit.

Suggested minimum data elements are described in the publication "EMS Patient Recordkeeping System Handbook." Optional data elements are also described in this publication. Advice is given on the design and management and specific impact evaluation programs.

Specific parameters for the effectiveness of this component can be found in Chapter IV.

12. Public Information and Education - The EMS system shall provide programs of public education and information for all people in the area so they know about the system, how to access it, and how to use it properly.

Residents and visitors to the area need to know or be able to learn immediately how to access EMS. It should also stress the general dissemination of information on appropriate methods of self-help and first aid and the availability of first aid training programs in the area.

An EMS system can have the best equipment, employ highly trained personnel and provide quality care, but if the people of the community do not understand: (1) What is an EMS system? (2) How can it help me? (3) How do I use it?, the system is worthless. The purpose of the information and education component is to provide local citizens with an acceptable understanding about EMS and provide information on a periodic basis to local people.

The grantee shall develop appropriate publications and other materials to provide the public with information on the development of the EMS system, how to access it, how to use it, and what services it provides to the public. In BLS and ALS, a description of resources including agencies and organizational activities of the public information and education program will be essential. Existing resources, American Heart Association (CPR training) and American Trauma Society (public education materials), should be utilized. Both general and specific public information and education programs can and should utilize the lay and professional agencies within the EMS project area.

Specific parameters to measure the effectiveness of this component can be found in Chapter IV.

13. Review and Evaluation

HEW requires the grantee to provide information regarding the periodic, comprehensive and independent reviews and evaluations of the extent and quality of the emergency care services provided in the EMS systems service area.

Therefore, the grantee will provide HEW with a written plan of how an objective review and evaluation is to be conducted within the EMS region. Such a plan shall include the appropriate identification of funds, staff, plans and programmatic activities to be evaluated. The grantee will deliver a report of such review and evaluation within the period of the grant.

The following should be the basic ingredients for the development of an evaluation strategy.

- A. Descriptive narrative. The development of a written explanation of the organization's design and implementation of the operational components and clinical system.

- B. Structural analysis and resource development. A description showing the analysis of what is now available versus what is needed (radios installed, ambulances placed, EMTs trained, etc.) during the implementation phase.
- C. EMS activities or processes. A description of those structural components now implemented e.g. communications, 911 dispatchers, ambulances, trauma units having activity levels which can be counted using operations data. For instance, this would include data such as counting trauma victims admitted to a specialized designated trauma unit, or the numbers of calls via the 911 number.
- D. Patient outcome and program impact. Critical clinical questions must be developed in an evaluation strategy and will evolve from simple to complex. There are at least three types of impact evaluations essential to documentation of a comprehensive and successful system.
  - 1. Compliance studies: These studies test the system by measuring the number of patients going to designated centers for care versus the number of patients who should receive such care but remain at a lesser level facility. Comparisons from the baseline year with more sophisticated EMS service years can also be done to document the regional change that has occurred.
  - 2. Death and disability: This program impact can be measured by national norms, peer judgments, or using newly developed indices on morbidity. Interest here will obviously be along the lines of hard data (e.g. lives saved and deaths). These can only be attributed to the systems' effectiveness if in fact the patient was responded to and processed appropriately through the system according to established protocols.

Studies of death and disability on a regional basis will be necessary to show what changes in the death rate for a specific emergency are operative throughout the entire geographic region.
  - 3. Patient outcome studies: Evaluation of treatment effects, therapy alternatives, program options, phases of implementations, and other experimental studies, will be possible in regional programs as the level of maturity and sophistication progresses.

This very basic, but progressive evaluation strategy will provide a graduated experience in evaluations methodology for newly developing EMS programs. The implementation and results of this evaluation strategy will be submitted as part of the grantee's

progress reports. They will be provided as comprehensive documentation in the grant application or final report and in abstracts of clinical component progress within the project year.

#### 14. Disaster Plan

The EMS systems must have a plan to assure that the systems will be capable of providing emergency medical services in the system's service area during mass casualties, natural disasters or national emergencies.

The EMS system is not the regional health disaster organization. It is the emergency medical organization that will work with other agencies during a disaster to provide emergency medical care. The EMS system must be linked to the local regional and State disaster plans and participate in exercises to test disaster plans. A description of the regional disaster drill and its evaluation is within the 1203(2) level. Projections of required disaster drills under 1204 must be documented. The grantee shall participate in the preparation of the EMS portion of a disaster plan for any nuclear power plant or other potentially hazardous installation being planned, constructed, or operated in or adjacent to the service area of their EMS system.

Parameters for determining the system's effectiveness for this component can be found in the evaluation section of Chapter IV.

15. Mutual Aid - Each EMS system must provide for the establishment of appropriate arrangements with other EMS systems or similar entities serving neighboring areas for the provision of emergency medical services on a reciprocal basis where access to such services would be more appropriate and effective in terms of the services available, time and distance.

Arrangement among EMS regional systems and similar entities serving neighboring areas shall be written agreements, signed by individuals authorized to act for the respective parties with respect to such agreements, and reviewed and reevaluated at least once a year. Such agreements should cover the exchange of service coverage, communication linkages, licensure and certification, and reimbursement.

Continued support for BLS systems programs should be letters of such support by appropriate agencies and by incremental funding of appropriate EMS activities by local agencies.

Parameters for evaluation of this component can be found in Chapter IV.



## SYSTEMS APPROACH TO THE CARE OF THE SPECIFIC EMERGENCY PATIENTS

Guidance on the scope and specificity of each clinical care area is set forth below for applicant assistance.

Critical patient groups have been identified as foci for subsystem development. Consideration of these groups allows EMS systems to address the needs of all citizens who access regional systems in a systematic way. Within this pool of critical patients, there are seven groups which can be clearly identified for systems development because they represent real and significant emergency medical problems. They are easily identified and can be utilized for planning, operations and evaluation models. They have distinct and different medical needs. Being the most critically ill or injured, they will benefit from the systems approach.

These critical clinical groups are:

1. trauma victims
2. burn victims
3. spinal cord injury victims
4. poisonings victims
5. acute cardiac victims
6. high risk infant
7. behavioral emergencies (alcohol, drug, psychiatric, related victims)

Regional systems, during the planning phase should, for each clinical area, develop a conceptualization and design for prehospital, hospital, and critical care phase that defines the regional area to be covered. Hospital facilities should be vertically categorized utilizing national professional organizations' criteria and there should be planning for the integration of the 15 components to meet the needs of each of the patient groups.

During BLS, treatment and triage protocols for the prehospital and critical care phases are to be developed utilizing technological advances and adaptations for emergency care. Training programs for first responders, EMT-A's, emergency department nurses and physicians should be instituted. Patient origin studies utilizing evaluation ICD-9-CM tracer groups should be completed to show compliance and system efficiency.

### A. Trauma

Trauma is the most common and complex emergent condition to which the EMS system will respond. Based upon an identification of patients by trauma diagnosis, special needs and magnitude of injury or illness, each EMS region should conceptualize and design a system of emergent care for prehospital, hospital and interhospital and critical care phases. Facilities should be vertically designated according to the American College of Surgeons Criteria for initial and definitive care; treatment protocols developed for the prehospital and

critical care phases; and training programs for trauma paraprofessionals should be completed. Patients should be tracked throughout the spectrum of care according to the selected hospital discharge tracer ICD-9-CM codes to determine systems compliance and effectiveness.

The trauma center concept utilizes small community hospitals as well as large medical centers. At local trauma centers, basic resuscitation and life support procedures may be performed in local trauma center hospitals having competent medical and nursing staff on a 24-hour staffing basis, before the patient is transferred to a regional trauma center. Major trauma centers, either areawide or regional, provide 24-hour staffing by highly competent medical, (in-house surgeons) nursing and allied health personnel who are able to perform resuscitative and definitive care for all injured patients.

## B. Burn

Each EMS Region should conceptualize and design a system of emergent care for the prehospital, hospital, interhospital, and critical care phases for major burn injury. Facilities should be designated for initial and definitive care based upon American Burn Association criteria.

Treatment protocols should be developed for the prehospital and critical care phase, programs for burn paraprofessionals and professionals should be completed. Patients should be tracked throughout the spectrum of care according to the selected hospital discharge tracer ICDA-9-CM codes to determine systems compliance and effectiveness.

A regional critical burn care plan should include not only the designation of specialized burn hospitals within the region or in an adjacent region but should also take into consideration the feasibility and/or need for hospital emergency departmental care that is based upon special professional services for initial burn care and triage through an established referral system.

## C. Spinal Cord Injury

Although a relatively uncommon injury, the permanent morbidity, long-term hospitalization, emotional impact and extensive cost of care make this condition one of the most important EMS target patient categories. Experience to date indicates that systems of care for the spinal cord injured has brought substantial improvement in the process of care, its outcome, and in reduced cost. Because of ease of diagnosis, spinal cord injury makes a satisfactory tracer population.

Because of relatively low incidence and the high care requirements, spinal cord injury regions, like burn and poison, are usually much larger than a typical EMS region. A patient, initially triaged through a trauma center, should be secondarily transferred to a Spinal Cord Injury (SCI) Center for definitive and rehabilitative care in accordance with regional and intraregional protocols. These patients can be transferred safely by air using state-of-the-art stabilization equipment. However, in cities, the primary transport of these patients to the Spinal Cord Injury Center is appropriate. Prehospital and interhospital treatment and triage protocols unique to the SCI patient

are required. A broad spectrum of ancillary services are necessary from early care through rehabilitation. The systematic addition of these ancillary services to overall care allows savings in hospitalization cost and increases the effect of rehabilitation.

Systems impact should be measured by standardized structural, process and outcome measures utilizing prescribed ICD-9-CM tracer patient groups.

#### D. Poisoning

Poisonings occur as a result of exposure to a very large number of toxic substances. The majority of toxic exposures can be handled over the phone by trained professionals within the Regional Poison Information and Control Center, who give instructions to the public for patient management according to antidotal procedures. This consumer access system must include return telephone calls to insure effectiveness and patient safety as well as providing a link to in-hospital providers.

Regional Poison Information and Control Centers provide resource information to the in-hospital physician enabling identification of toxic substances and subsequent treatment. The region served by a center should be based on population and geography. Most often the center may serve an EMS region, a State or several States. The suggested population base for a Center is between 2-4 million. The Center is provided with the necessary authority, data sources, medical expertise and funding.

Hospital facilities for the care of the emergency poison patient should be categorized according to the American Association of Poison Control Center criteria. Special poison treatment centers should have adult and pediatric CCUs with in-house internist and pediatrician, medical director-clinical toxicologist, and with complete laboratory services.

Systems impact should be measured by standardized structural, process and outcome measures utilizing prescribed ICD-9-CM tracer patient groups and calls to the Regional Poison Information and Control Center.

#### E. Acute Cardiac Care

Acute cardiac emergency is one of the most prevalent conditions seen within the EMS system. The EMS system provides early intervention and CPR at the scene. Basic life support procedures should be initiated as quickly as possible in the prehospital phase with further rapid integration to the Emergency Department and Coronary Care Unit. Successful resuscitation of arrest victims requires rapid measures. American Heart Association criteria should be utilized when cardiac care designation of facilities and transportation units is done.

There must be identification of patients by diagnosis, special needs and magnitude of illness and a conceptualization and design of an emergent care system. Treatment and triage protocols with appropriate training courses for field, emergency department and hospital personnel must be completed. Medical control is of utmost importance and is provided by the designated resource hospital emergency physician. This physician provides not only on-line medical direction to field paramedics at all times, but also monitors the associate hospitals within the areawide and/or regional paramedic program.

Systems impact should be measured by standardized structural, process and outcome measures utilizing prescribed ICD-9-CM tracer patient groups.

#### F. High-Risk Infant

The EMS system in improving the transportation and care of the high-risk infant should be planned within the frame work of the overall State perinatal plan. The development of the statewide plan should be the responsibility of the State department of public health, and appropriate groups. This group would include all disciplines of perinatal health professionals throughout the State, the State University medical system, professional societies and organizations and representatives of regional health planning agencies. The plan thus developed should make provision for definition of health service regions as well as provide guidelines for regional planning activities.

Designation of facilities should provide for primary care centers (Level I) that provide care for uncomplicated perinatal patients, serving a small birth population with limited access to perinatal specialty care. Intermediate care centers (Level II) are for the care of the majority of high-risk pregnancies, the premature, convalescing newborn, and moderately ill newborn, as well as the full-term newborn. These intensive care centers provide the full range of care from specialty treatment for the most complex high-risk pregnancy and newborn intensive care through normal pregnancy and newborn care. The Level III centers are responsible for providing 24 hour telephone consultation and responding regionally with personnel and equipment to support acute care when needed. Level III certified staff will execute patient transfer in vehicles well equipped for total life support of the mother, fetus or infant.

The system would include the community hospital and all out-reach ambulatory care settings caring for the needs of up to 90% of a population. Predictably high-risk mothers (teenagers, mothers with medical problems) should be encouraged not to deliver at the primary care institutions. Neonates born in distress at primary care institutions should be transferred to a Level III center.

Systems impact should be measured by standardized structural, process and outcome measures utilizing prescribed ICD-9-CM tracer patient

groups.

#### G. Behavioral Emergencies

The EMS System must coordinate a comprehensive range of medical and social services for those individuals experiencing psycho-social trauma in cooperation with existing institutions and agencies.

The system should plan for care of alcoholism, drug abuse, suicide, rape and other behavioral emergencies. The responsibility for development of the regionwide behavioral care plan rests with the regional EMS organization. An advisory planning group with membership from the existing agencies and institutions involved with the various aspects of behavioral medicine can be of invaluable assistance as the problem of categorization of treatment facilities and community mental health centers is planned and implemented. As in the other clinical care areas, specialty care services including the number of behavioral critical care beds that should exist within each regional system or in adjacent EMS region should be considered. Triage protocols should provide a primary access point as well as referral centers within the continuum of care so that coordination of the multiple resources is assured. Training programs for EMS personnel, taking into account the safety of patient and personnel, should be implemented.

Systems impact should be measured by standardized structural, process and outcome measures utilizing the prescribed tracer group patients.

## CHAPTER IV - EVALUATION PARAMETERS

The EMSS Act provides the mechanisms and funds for communities to develop regional EMS delivery systems across the Nation. Congress stipulated that if emergency medical care programs are to be funded with Federal dollars, they must plan and implement a "systems approach" for the provision of emergency response and medical care.

The goal for the National EMS Program is to initiate regional planning and operations which address the 15 mandatory components so that essential and appropriate emergency and critical care services are provided to all emergency patients.

In the past, EMS programs have been geared toward inventories, surveys and collecting data on subsystems. EMS systems are now being requested to progress beyond simple data collection through the analysis and interpretation of that information so that the results can be utilized to correct imperfection in the developing system. The analysis can be used for programmatic decisions as to the appropriate utilization of facilities, personnel and equipment and will also permit examinations of the effectiveness of clinical treatments and cost-efficiencies of various system configurations. Findings based upon these analyses can be presented to key decisionmakers in the hierarchy of emergency medical care.

All funded grantees will be required to submit reports each year for each of the 15 components and each of the 7 clinical areas. These reports will be utilized for monitoring of system implementation and effectiveness and provide the basis for technical assistance to regional grantee.

A structured, three tiered methodological approach for each component and each clinical area at each level of system development is utilized for the evaluation reporting. These are:

- 1° structural/narrative/descriptive (1202)
- 2° functional/process/intermediate outcomes (1202)
- 3° outcome and/or impact analysis (1204)

For evaluation of each clinical group, a general population at risk is identified, within which a more specific tracer patient group is selected for indepth regionwide studies. These patient categories will provide the framework on which impact evaluation can be based to

measure the current and future program effectiveness in decreasing death and disability by EMS systems.

During the 1202 phase of program development grantees should be able to gather data information at the first level (1°) of evaluation. Most information at this level consists of numbers and descriptions and will comprise a basis for the conceptual design and narrative description of their EMS system. It will also demonstrate the demand placed on the system in both component and clinical care.

All core questions, designated by a single asterisk (\*), must be answered since they represent basic data points of information. Interpretative questions, designated by a double asterisk (\*\*), require the grantee to develop a specific analytic design that allows for regional differences and peculiarities. Therefore, the findings must be based upon the specific regional design.

Grantees developing Basic Life Support Systems must be able not only to respond to the first level (1°) description/process questions, but the function and process (2°) questions as well. Grantees developing Advanced Life Support Systems are to evaluate progress at the qualify/goodness/optimization (3°) level in addition to the previous two levels of care and interpretive questions.

The following is an outline of the requirements in both component and clinical care systems development.

#### SPECIFIC STUDY PARAMETERS FOR EMS COMPONENTS

##### Manpower/Training #1 and #2

For purposes of evaluation and monitoring, the Manpower and Training components have been combined.

##### 1° - Description/Structure (1202)

- \*a. A description of EMS personnel resources and requirements, utilizing national criteria, guidelines, and/or professional certification mechanisms.
- \*b. A description of the "systems" role of each EMS element and how training has prepared these individuals to function.
- \*c. A description (numbers, place) of training programs, and how the curriculum meets the recommended national standards.

**\*\*d.** A description of the methods utilized for evaluation of EMS personnel courses and graduates to assure conformance with national standards, and the numbers required to meet projected needs based upon geography and population. Describe certification, recertification, and revocation processes developed to maintain the quality of EMS personnel.

Chart #1

A separate chart should be developed to show: (Col. 1) the number of each category of personnel projected and needed by the EMS system through all phases of project development; (Col. 2) the number working in the system in the current year who have completed approved courses according to the regional plan; and (Col. 3) the percent of personnel needs met at the end of the calendar year.

Trained Manpower Inventory for Current Year

<u>Type of Personnel</u>	(1) Total Projected Needs through <u>1204(2)</u>	(2) Currently Working in <u>EMS</u>	(3) % of Need Met <u>(Col. 2(1))</u>
# of public CPR			
# of first responders			
# of EMT-A			
# of EMT-P			
# of critical care nurses			
# of E.D. nurses			
# of E.D. physicians			
# of physicians in approved emergency residency programs			

Methodology: Indicate methodology to project needs.

2° - Function/Process (1203)

- \*a. The accomplishments in meeting the projected needs for EMS personnel categories during the current year.
- \*b. The utilization of these personnel on EMS services within the regional program.
- \*\*c. A comparison of different arrangements of tiering for EMTs (BLS/ALS).



Chart 2

This chart shows the assessment of training accomplishments for the current year. The courses defined as an acceptable level of training for each category of personnel should be discussed in the body of the abstract.

Type of Personnel	<u>Current Year Training</u>		(3) Actually trained and certified	(4) % of goal met (Col. 3/ Col. 1)
	(1) Personnel needing to be trained and certified	(2) Actually trained		
# of public CPR				
# of first responders				
# of EMT-A				
# of EMT-P				
# of critical care nurses				
# of E.D. nurses				
# of E.D. physicians				
# of physicians in approved emergency residencies				

\* \_\_\_\_\_ % attrition rate included

Chart #3

This chart should reflect that an assessment of EMS personnel skills and training has been done and that there is a regional plan for recertification of personnel who have such needs.

Type of Personnel	<u>Current Year Recertification Training</u>		(3) % of goal met (Col. 2/1)
	(1) Personnel needing recertification	(2) Personnel recertified in current year	
# of public CPR			
# of first responders			
# of EMT-A			
# of EMT-P			

### 3° - Quality/Goodness/Optimization (1204)

- \*\*a. The effectiveness of EIS Personnel in performing skills according to regional protocols (e.g., the number of times EMT-Paramedics apply their skills according to approved protocols in the field and/or during transport).
- \*\*b. Objective evidence of studies of skill decay, failure to follow protocols, and/or clinical mistakes.
- \*\*c. The effectiveness of training programs in providing the necessary course content to meet the needs of EMS personnel.
- \*\*d. Analysis of the methods utilized to control outputs of training programs (meeting local and national projections and replacements).

### COMMUNICATION #3

Communications component evaluation must address:

1. Access to the system.
2. Dispatching and resource coordination.
3. Medical control.

#### A. Access

##### 1° - Description/Structure (1202)

- \*a. A description of "911", or, a uniform access number and the geography (% of region) and population served.

The universal access data will be reported as total amount of population covered by universal access number including 911 and a subset of geography/population within the region covered only by 911 will also be reported.

- \*b. A description of special access and access numbers (e.g., poison, crises intervention, auditory handicapped, non-English speaking) in terms of population and geography covered.

2° - Function/Process (1203)

- \*a. The measurement of the functional activity (numbers of calls) of a uniform access system, including calls from auditory handicapped individuals.
- \*b. The measured rates of utilization of 911 sequentially on an annual basis and in relation to the total number of all emergency medical calls.

3° - Quality/Goodness/Optimization (1204)

- \*\*a. The effectiveness and magnitude of 911 and uniform numbers in decreasing response time.
  - 1.) The comparisons of activities to include the following:
    - (1) fire vs. police vs. EMS; (2) metropolitan vs. rural
  - 2.) The utilization of special access programs in improving care and/or prevention.
- \*\*b. The cost effectiveness and/or clinical payoff in terms of lives saved, or the decreased access time.

B. Central Dispatch

1° - Description/Structure (1202)

- \*a. A description of the structure and functional arrangement of the dispatch system.
  - (1) EMS alone
  - (2) EMS and Fire
  - (3) EMS and Police
  - (4) EMS, Fire, and Police
- \*b. A description of the central dispatch and resource management operations.
- \*c. A description of public safety coordination by central dispatch.

- \*b. A description of the central dispatch and resource management operations.
- \*c. A description of public safety coordination by central dispatch

2° - Function/Process (1203)

- \*a. The utilization of central dispatch for transportation (e.g. number of EMS-dispatched ambulance runs vs. estimated ambulance runs) per area.
- \*b. A comparison of percent of dispatched fire-police-EMS response activities.

(1) EMS alone	_____	%
(2) EMS and Fire	_____	%
(3) EMS and Police	_____	%
(4) EMS, Fire, Police	_____	%

- \*c. A description of the dispatch operation for a two-tiered BLS/ALS system.

3° - Quality/Goodness/Optimization (1204)

- \*\*a. The effectiveness (time and efficiency) and appropriate deployment of ambulance services.
- \*\*b. The cost benefits, number of encounters and lives saved through more effective dispatch and resource management, e.g. trauma, coronary care, poison, behavioral.

C. Medical Control

1° - Description/Structure (1202)

- \*a. A description of medical control including identification of the resource hospital and associate hospital(s) to be designated during 1203, their configuration, triage, treatment and transfer protocols.
- \*b. A description of medical control operations, both in BLS and ALS.

Describe the procedures, mechanisms and arrangements to be followed by the system for the transfer of patients from the site of the emergency to the emergency department and

subsequent transfer to critical care units for followup definitive care and/or rehabilitation. Include in your description, care for trauma, burn, spinal cord injury, poisoning, acute cardiac, high-risk infant, and behavioral emergencies.

2° - Function/Process (1203)

- \*a. Describe the utilization of medical control communications in the system for ALS and BLS
- \*b. Describe the resource hospital and associate hospitals' utilization of treatment and triage protocols relevant to various emergency situations, e.g., trauma, burn, etc.
- \*c. Provide an analysis of the result of paramedic supervision.
  - (1) How many times do paramedics call to relay the condition of patients? How many times do they fail?
  - (2) How many times do paramedics need two-way voice communication?
  - (3) How many times is telemetry (EKG) needed and used by paramedics?

3° - Quality/Goodness/Optimization (1204)

- \*\*a. An analysis and interpretation of the medical control direction given for specific ALS treatments of patients initially, prehospital and, secondarily, interhospital.
- \*\*b. An analysis of conformance to protocols by paramedics.
- \*\*c. An analysis of the number of ventricular fibrillation patients reported during the prehospital phase, the number of conversions and its results.
- \*\*d. An analysis of response to traumatic shock and the resuscitation results.
- \*\*e. How often is coma and/or respiratory distress reported improved because of EMS activities?
- \*\*f. An analysis of the cost and clinical effectiveness of medical control resources for ALS/BLS and rural/urban services.

## TRANSPORTATION #4

### 1° - Description/Structure (1202)

- \*a. A discussion of the ambulance placement strategy describing projection for how primary and secondary systems are implemented according to national standards. Describe various response times and dispatch activities using a variety of vehicle tier arrangements.
- \*b. A discussion of the current transportation inventory and area of service e.g. number of ambulances, number of ambulances meeting GSA specifications, the number of specialty vehicles (helicopters, etc.).

### 2° - Function/Process (1203)

- \*\*a. A Study of the utilization of ambulance services: in terms of (1) response time; (2) response accuracy; (3) delivery time and (4) delivery correctness along triage protocols.
- \*\*b. A comparison of the efficiency of differing response capabilities and their arrangements: (1) single vs. two tier response; (2) rural vs. metro; (3) helicopter vs. OCCV vs. fixed wing.

A regional map should be attached showing BLS and ALS response units and tiering arrangements.

### 3° - Quality/Goodness/Optimization (1204)

- \*\*a. An analysis of the effectiveness of the transportation care component in relation to improvement of the patient status upon arrival at the designated primary and/or secondary treatment facility.

## FACILITIES #5

The facilities component evaluation must include the strategy and process of utilization of national categorization criteria for the horizontal, vertical, and circular approach. There should be name designation of the participating facilities within each region as well as name(s) of specialty facilities outside of the region.

1° - Description/Structure (1202)

\*a. A discussion of the categorization status strategy and a description of hospitals in the region in terms of:

- (1) the utilization of national criteria for the categorization process and the regional methodologies utilized for horizontal and vertical categorization;
- (2) the organizational responsibility for categorization and the key participants;
- (3) the methodology being utilized to accomplish categorization and final designation of facilities;
- (4) the availability of physician(s) on duty 24 hours in emergency departments;
- (5) the plans for upgrading emergency rooms to emergency departments;
- (6) the plans for upgrading and consolidating critical care capabilities;
- (7) the utilization of patient origin, incidence and distribution patterns in determining the plan for categorization;
- (8) the role and use of legislation.

\*b. A structural analysis of the following:

- (1) the horizontal scheme according to the American Medical Association criteria (AMA);
- (2) the vertical categorization according to the American College of Surgeons Criteria (ACS) for trauma and spinal cord injury, American Burn Association (ABA) for burn, American Association of Poison Control Centers (AAPCC) for poisoning, American Heart Association (AHA) for acute cardiac, American Academy of Pediatrics for high-risk infants, and American Psychiatric Association (APA) for behavioral emergencies. Provide a matrix of actual proposed hospital designations for both horizontal and vertical categories that will meet the clinical care needs for each level and patient care group.

- \*c. Description of intended or accomplished categorization impact on the distribution of general and critical patients based upon the sophistication of equipment and resources available for the delivery of immediate and optimum EMS services at regional care facilities.

This description should include a map showing the actual geographic service area of responsibility for each horizontally and vertically categorized hospital and the linkage with specialized centers.

## 2° - Function/Process (1203)

- \*a. The number of ED visits to all hospitals, the number of critical care unit admissions and transfers, and the rate(s) of utilization of critical care unit facilities.
- \*b. An analysis of the change in general and specialty facility capabilities and resources, and the regional profiles resulting from the categorization process including the upgrading and downgrading of facilities.
- \*\*c. An analysis of the regionwide resource inventory changes including personnel, equipment, and services.
- \*\*d. An analysis of the difference within the region in the categorization programs for:
  - (1) suburban/metropolitan, and
  - (2) rural/wilderness areas in terms of horizontal/vertical matrices.
- \*\*e. Effectiveness of the categorization program in matching patients to facilities and in upgrading (or downgrading) facilities so as to meet regional EMS needs for (1) general hospital resources/development in horizontal and (2) specific patient categories for vertical categorization.

## 3° - Quality/Goodness/Optimizations (1204)

- \*\*a. The numbers of critical patients maintaining physiological and anatomical status after secondary advanced treatment centers admission (including variables of time, team treatments applied to these same patients).
- \*b. Compliance studies and analysis of patient impact in all critical patient groups.



## CRITICAL CARE UNITS #6

The Critical Care component evaluation will analyze the effectiveness of identification and access (1) by primary admission or (2) by secondary transfer of critical patients to CCUs within or outside of each EMS Region according to the system conceptualization and categorization plan, transfer agreements, etc. It will look at the system's ability to improve patient access and subsequent upgrading of these CCUs.

### 1° - Description/Structure (1202)

- \*a. A description of the existing critical care units for each critical patient group that meets national standards, and their identification for level of care capability both within and outside of the EMS region.
- \*b. Name and location of critical care units for:
  - Trauma - centers, units, specialty centers (ACS)
  - Burn - centers, units, programs (ABA)
  - Spinal Cord Injury - center, regional referral center (ACS)
  - Poisoning - Poison Information and Control Center and treatment (AAPCC)
  - Acute Cardiac - coronary care units, regional referral centers (AHA)
  - High-Risk Infant - intermediate and regional centers (AAP)
  - Behavioral Emergencies - referral facilities (APA)

### 2° - Function/Process (1203)

- \*a. An analysis of the regional demand for and utilization of critical care unit beds per unit.
- \*b. Utilization of facilities within or outside of an EMS region, including the number of critical patients transferred to special types of critical care units.
- \*\*c. Utilization of different mixes of centralized and satellite unit programs.

### 3° - Quality/Goodness/Optimization (1204)

- \*a. An evaluation of the effectiveness of patient referral to an appropriate level of care utilizing compliance studies.

- \*\*b.** An analysis of the changes in patient death and disability in the clinical specialized centers providing advanced care.
- \*\*c.** A discussion of critical patient reporting, utilizing national and State reporting requirements.

#### PUBLIC SAFETY AGENCIES #7

In this component, there should be an evaluation of the effectiveness of utilization of appropriate personnel, facilities and equipment of each public safety agency.

##### 1° - Description/Structure (1202)

- \*a.** Objective evidence of involvement of first responders (police, firemen, life guards, park rangers, etc.) in the EMS plan.
- \*b.** A discussion of the linkage of the EMS communications system with that of public safety agencies.
- \*c.** An analysis and discussion of the appropriate training of public safety personnel and its result(s).

##### 2° - Function/Process (1203)

- \*a.** A discussion of the effective utilization and sharing of personnel, facilities and equipment with public safety agencies.
- \*b.** A discussion of the linkage of the EMS communications system with public safety agencies.
- \*c.** An analysis and discussion of the appropriate training of public safety personnel and its result(s).

##### 3° - Quality/Goodness/Optimization (1204)

- \*\*a.** An analysis and testing of cooperative operating procedures demonstrating appropriate coordination and mutual aid plans for day-by-day operations.

#### CONSUMER PARTICIPATION #8

The evaluation of this component should demonstrate that persons residing in the area who have no professional training or expertise do, in fact, participate in policymaking for the system.

1° - Description/Structure (1202)

- \*a. The development of a written plan showing lay participation and membership on policymaking committees.
- \*b. The development of a procedure for comment on the EMS planning operation.

2° - Function/Process (1203)

- \*a. Evidence of involvement of EMS consumers in the regional planning process being developed and implemented by the health planning agency.
- \*b. A discussion of the development of written procedures for comment/grievance on EMS planning and operations and the corrective action taken in response to comment on adverse operations.

3° - Quality/Goodness/Optimization (1204)

- \*a. A discussion of consumer participation in the determination of the system's policies.

ACCESS TO CARE #9

The evaluation of this component should reveal that patients are receiving the necessary care at the appropriate levels regardless of their ability to pay.

1° - Description/Structure (1202)

- \*a. The development of a written plan having approval of key agencies/institutions that specifies patient access regardless of ability to pay for ambulance services, hospital admission and secondary transport.

2° - Function/Process (1203)

- \*a. A description of the method utilized for monitoring grievances and the results of the monitoring procedure.
- \*b. The results of sampling of billing procedures carried out by EMS transport services.

- \*c. An analysis of the number of negotiated and signed agreements between ambulance and hospital services.

3° - Quality/Goodness/Optimization (1204)

- \*a. The monitoring of the number of grievances submitted by users according to the regional EMS written plan.

PATIENT TRANSFER #10

The patient transfer component should have an evaluation of the numbers and categories of written agreements that provide for movement of patients to more sophisticated levels of care as needed. These agreements should be signed by authorized individuals to assure hospital-to-hospital and/or physician-to-physician participation.

1° - Description/Structure (1202)

- \*a. A description of the development and evidence of transfer agreements for both rural and metropolitan areas for all critical patients.
- \*b. A description of the methodology for the formulation and implementing of transfer agreements for all patients from the emergency site to emergency department and on to definitive care; hospital and ambulance agreements; interhospital physician agreements; written transfer/treatment protocols; hospital record transfer; special transfer equipment; central coordination mechanism, triage protocols.

2° - Function/Process (1203)

- \*a. An analysis of the number of patients transferred along triage protocols in both rural metropolitan and urban areas.
- \*b. An analysis of quantity effectiveness of transfer agreements complying with established triage protocols.
- \*c. A study of patient distribution along regional algorithms, triage and decision patterns (number of patients transferred to critical units from other hospitals by category of critical care services).

3° - Quality/Goodness/Optimization (1204)

- \*a. A study of the effectiveness of interhospital transfer, treatment and triage agreements as they impact upon the quality of patient care, distribuiton, death and disability.

**\*\*b. Compliance of care for critical patients along protocols:**

- (1) referring team support;
- (2) regional response team efforts

COORDINATED PATIENT RECORDKEEPING #11

An evaluation of this component should demonstrate a continuum in patient clinical information from the point of access through discharge with data for evaluation on which the working of the system can be based.

1° - Description/Structure (1202)

- \*a. A description of how the regional EMS has developed a coordinated recordkeeping process utilizing the following forms: (1) dispatch; (2) ambulance (BLS/ALS); (3) hospital emergency department; (4) patient encounter; (5) hospital discharge data (ICD-9-CM).

2° - Function/Process (1203)

- \*a. A description of how operations data, counts, tallies, indices are linked and used to evaluate the system from:
- (1) ambulance standard run form.
  - (2) hospital emergency department form.
  - (3) patient discharge data for general and critical emergencies.
  - (4) vital statistics (department of health, department of transportation, etc.) for analysis of critical care.
- \*b. A discussion on feedback on BLS system operations and/or improved patient care through the use of the above records.
- \*c. A discussion of the coordination of recordkeeping data from a total systems approach to EMS.
- \*d. A discussion of the utilization of coordinated recordkeeping data from health and hospital reporting systems.

3° - Quality/Goodness/Optimization (1204)

- \*a. An analysis of the effectiveness of medical/patient care from the record data base.
- \*b. A discussion of the utilization of appropriate analysis of coordinated record data from each of the critical care categories.

PUBLIC INFORMATION AND EDUCATION #12

Evaluation of this component should demonstrate the educational efforts utilized to improve consumer knowledge of the regional EMS system and the techniques and methodologies utilized to bring such knowledge to the consumer.

1° - Description/Structure (1202)

- \*a. A description of determination of resources - organization, dollars, people, etc.
- \*b. A plan for determining the audience - language groups, resource population, retirement community, etc.
- \*c. A narrative that describes set goals and/or needs of a PI&E program, i.e., need, education, training, refresher ideas, or the concentration on one problem, such as access.
- \*d. A plan for testing a specific promotion before use on a large scale, i.e., door-to-door pamphlet.

2° - Function/Process (1203)

- \*a. An analysis of impact counts on public response.
- \*b. An analysis of the effect of promotion of a central access number. Will people use the system more? The increase in number of calls into the system over "x" period of time.
- \*c. A survey analysis to determine how much about EMS access first aid people know or need to know, i.e., CPR.

3° - Quality/Goodness/Optimization (1204)

- \*a. An analysis of the effectiveness of PI&E program on EMS utilization.
- \*b. An analysis of the effect of promotion of an EMS system. Will people use and support the system more effectively?

- \*c. A survey concerning how much the public knows of what you wished to impart.
- \*d. An analysis to determine how people learn what specifically you wish to impart, i.e., TV, pamphlets, mailings, etc.
- \*e. The methodology for determining the specific changes in behavior related to EMS that can be noted from a PI&E programs.

#### REVIEW AND EVALUATION #13

The result of the evaluation of this component should reveal the key data abstracted from EMS system planning and operation as well as the analysis, interpretation and utilization of that data.

##### 1° - Description/Structure (1202)

- \*a. A written plan for review and evaluation indicating funds, staff, goals, objectives, and activities.
- \*b. A description of collection of baseline data at start of program for EMS resources, capability and performance measures.

##### 2° - Function/Process (1203)

- \*a. A description of the interventions in both the clinical and component areas that demonstrates program monitoring and evaluation, i.e., compliance.

##### 3° - Quality/Goodness/Optimization (1204)

- \*a. The results of clinical output or impact evaluations and/or studies of clinical patient target groups showing system effectiveness, i.e., death/disability.

#### DISASTER PLANNING #14

Evaluation of this component should demonstrate a coordination of civil defense/disaster planning of all community institutions and health agencies with the Emergency Medical Services having responsibility for and providing emergency medical care.

##### 1° - Description/Structure (1202)

- \*a. A discussion of the development of a medical disaster response plan, including the following items:

- (1) Identification of potential hazards and disasters, and possible caseloads;
- (2) Identification of those resources that are currently on hand and those that must be obtained;
- (3) Interagency coordination of executive authority and other emergency contingencies as demonstrated by: hospital disaster plans; coordination with civil defense; coordination with hospitals, ambulances and public safety; a written regional plan; mock drills.

2° - Function/Process (1203)

\*a. A description of the development of a program for the training, implementation, and/or testing of a medical disaster response system, including the following items:

- (1) Identification of objectives and goals;
- (2) Identification of specific types of medical disaster systems' training activities that are necessary for the achievement of stated objectives;
- (3) Designation of a scenario for medical disaster systems training;
- (4) Participation in large scale disaster exercise.

3° - Quality/Goodness/Optimization (1204)

\*\*a. An analysis of evaluation methodologies relevant to the effectiveness of the medical disaster system response in a real-life disaster situation will demonstrate capabilities by discussing answers to the following queries:

- (1) How many lives were saved because of the way the system functioned?
- (2) Would the total number of lives saved have changed if there had been no medical disaster response system?
- (3) How could the system have operated more effectively?
- (4) Would additional lives have been saved had the system operated in a different manner?



- \*\*b. Documentation of the kind and amount of support and assistance to be received from other emergency services, including the following:
  - (1) communications;
  - (2) ambulance response time;
  - (3) operating room scheduling.
- \*\*c. Systems training/disaster drill situation - same methodologies employed in (1) may be applied provided that the simulated conditions and the scenario are relatively realistic.
- \*\*d. A discussion of the problems in the development of an EMSS response plan on a regional basis, including suggestions for effectively developing and implementing regionwide medical disaster system response exercises.
- \*\*e. An analysis of the results. For those regions which have experienced real-life disasters, what effects resulted from having had disaster plans in place? (1) Were the disaster plans adequate or above adequate? (2) Did the decision makers who functioned during the disaster period recognize and utilize existing protocols? (3) What effect did the disaster plans have on public reaction?

#### MUTUAL AID #15

Because EMS Regions should be contiguous and because there will be overlapping of patient care flow patterns at the distant parts of regions, services must be planned and evaluated. This evaluation should reveal that EMS services are available to all within a particular geographic area

#### 1° - Description/Structure (1202)

- \*a. A narrative describing the assessment of resources and facilities within and outside region for reciprocal provision of services.

#### 2° - Function/Process (1203)

- \*a. An analysis of written cooperative agreements developed and signed by authorized individuals of agencies and institutions evaluated and tested yearly.

- \*b. A discussion and analysis of these arrangements specifying service coverage, reimbursement, command and control, communication linkages, protocols, access, training and licensure.

3° - Quality/Goodness/Optimization (1204)

- \*\*a. An analysis of letters showing support, including funding by appropriate local agencies for patient care services being provided in geographic areas having overlapped patient flow patterns.

SPECIFIC STUDY PARAMETERS FOR EMS CLINICAL IMPACT EVALUATION

TRAUMA

1° Description/Structure (1202)

- \*a. A description of the system conceptualization design for pre-hospital critical care phases.
  - \*(1) Definition of EMS area/regional population
  - \*(2) The proposed plan for categorization of facilities to designate a trauma center(s) utilizing national standards (American College of Surgeons criteria; Regional Trauma Center categorization) within the region.
  - \*(3) A description of the trauma clinical care system with integration of the 15 components emphasizing transportation, triage, and treatment protocols.
- \*b. A narrative discussion of patient identification for trauma care demonstrating the need and magnitude of number:
  - \*(1) The number of people in the region.
  - \*(2a) From DOT data - the number of motor vehicle accidents in the region.
  - \*(2b) From DOT data - the number of persons injured from motor vehicle accidents.
  - \*(3) From DOT data - the number of individuals with serious injury (Category "3": or "a") caused by vehicular accidents.

\*(4) From hospital discharge data, the number of those from Item 3 (above) who were hospitalized with CNS head injury ICD-9-CM#800-801, 802, 803, ICD-9-CM#850-854, displayed on a Chi Square Matrix: (lived, died; transferred, not transferred) in rural areas; in urban areas a Chi Square Matrix: (hospitalized in trauma centers, hospitalized in nontrauma center; lived, died).

\*c. The regional geographic incidence and distribution of this trauma injury tracer group of patients.

## 2°- Function/Process (1203)

\*a. A description of the designation of trauma centers within or outside the region according to the regional plan that has been based upon national criteria.

\*b. Evaluation, showing the analysis and results, of the care of the CNS vehicular accident patient:

(1) deaths at scene of accident or in hospital

(2) seriously injured patients who were hospitalized and/or transferred.

\*c. Analysis of movement of patients through system utilizing the Chi Square analysis as explained under 1202 b. (4) above and study of the change since implementation of the EMS system on an annualized basis.

## 3° - Quality/Goodness/Optimization (1204)

\*\*a. Studies utilizing injury severity methodologies on tracer patient groups.

\*\*b. Subgroup analysis of tracer patients in terms of clinical and/or system effects as listed below:

(1) age/sex, etc.

(2) anatomic profiles

(3) surgical complications ratios

(4) morbidity indices

(5) autopsy profiles

**\*\*c.** Analysis of costs relationships (cost/benefits)

(1) systems costs

(2) patients costs

BURN

1° Description/Structure (1202)

**\*a.** Description of system conceptualization design for prehospital/hospital critical care phase.

(1) Definition of EMS area/regional population.

(2) The proposed plans for categorization or facilities within or outside the region to establish a burn unit utilizing American Burn Association standards and/or a regionally modified categorization plan. If burn unit is outside the region, describe the regional relationship to this multiregional burn center.

(3) A description of the burn system with the integration of the 15 components emphasizing transportation, categorization, triage and treatment protocols, evaluation and manpower/training.

**\*b.** A narrative discussion of patient identification for burn care demonstrating the need and magnitude of numbers:

(1) Total population in the region

(2) The total number of deaths from burn (ICD-9-CM# 940-946, 948-949) from records of the morgue, hospital and vital statistics.

(3) The number of patients hospitalized with ICD-9-CM# 940-946, 948-949 with hospital stays of two week or longer.

**\*c.** The geographic incidence and distribution of severe burn injury (ICD-9-CM#-940-946, 948-848) with two weeks or longer hospital stay tracer group patients by site of injury.

## 2° - Function/Process (1203)

- \*a. A description of the designation of a burn care unit/center by name within or outside of the region based upon national criteria and according to the regional plan.
- \*b. Evaluation results of the care of the burn injury patient based upon the analysis and results of:
  - (1) The number of burn injury patients admitted to all hospitals within the region;
  - (2) A Chi Square analysis of the number of tracer group patients hospitalized two weeks or longer with results displayed on a Chi Square matrix: lived, died; transferred to burn unit, nontransfer to burn unit;
  - (3) Analysis of the transfer rate.

## 3° Quality/Goodness/Optimization (1204)

- \*\*a. Subgroup analysis studies of
  - (1) age/sex, etc.
  - (2) complication ratios
  - (3) morbidity indices
  - (4) autopsy profiles
- \*\*b. Analysis of costs relationships (cost/benefit)
  - (1) systems costs
  - (2) patient costs

## SPINAL CORD INJURY

### 1° Description/Structure (1202)

- \*a. Description of the system conceptualization design for prehospital/hospital critical care phase:
  - (1) Definition of EMS area/regional population.

- (2) The proposed plan for categorization of facilities within or outside the region to establish a spinal cord injury center utilizing National Standards (American College of Surgeons and modified regional categorization plan). If center is outside the region, describe regional relationship to the multiregional center.
  - (3) A description of the spinal cord injury care system with integration of the 15 components emphasizing transportation, manpower/training, categorization, treatment and triage protocols and evaluation.
- \*b.** A narrative discussion of patient identification for spinal cord injury care demonstrating the need and magnitude of numbers.
- (1) Total population within region
  - (2) The number of patients hospitalized with ICD-9-CM #806.00-806.9 from any etiology on an annualized basis.
  - (3) All spinal cord deaths as recorded in hospital, morgues and/or vital statistics.
  - (4) The number of spinal cord injuries admitted and/or transferred to the designated spinal cord injury center.
- \*c.** The incidence and distribution of this spinal cord injury patient group by geographic location.

2° - Function/Process (1203)

- \*a.** A description of the designation of spinal cord injury center by name within or outside the region based upon national criteria and according to regional categorization plan.
- \*b.** Evaluation results of the care of the spinal cord injured patient based on the analysis and results of:
- (1) The number of spinal cord injured patients ICD-9-CM#806.00-806.9 admitted to all hospitals in the region.
  - (2) A Chi Square analysis of the patient movement through the system utilizing a Chi Square matrix: lived, died; transfer to a spinal cord injury center, nontransfer to a spinal cord injury center.
  - (3) An analysis of the transfer rate.

3° - Quality/Goodness/Optimization (1204)204)

- \*a. Studies assessing number of patients with time elapse between injury and admission to spinal cord injury center: 6 hours; within 24 hours; more than 24 hours.
- \*\*b. Sub-group analysis of tracer patients.
  - (1) age/sex, etc.
  - (2) complications ratios
  - (3) morbidity indices
  - (4) autopsy profiles
- \*\*c. Analysis of cost relationships (cost/benefit)
  - (1) system costs
  - (2) patient costs

POISONING

1° - Description/Structure (1202)

- \*a. A description of system conceptualization design for prehospital/hospital critical care phase:
  - (1) Definition of EMS area/region(s) population
  - (2) The proposed plan for categorization of facilities within or outside the region according to the American Association of Poison Control Centers criteria and/or regional modified categorization plan. A poison center will, in most probability cover multiple regions. There may be at least one hospital per region eligible for categorization as a poison regional/area treatment center.
  - (3) A description of the poison care system with the integration of the 15 components emphasizing transportation, categorization, triage and treatment protocols, evaluation and manpower/training.

\*b. A narrative discussion of patient identification for poison control and treatment demonstrating the need and magnitude of numbers:

- (1) Total population of region.
- (2) The number of poison information calls for the region from the Poison Information and Control Center data.
- (3) The number of professional consultation calls for the region from Poison Information and Control Center data.
- (4) The number of children under 5 years of age treated by phone for the region from Poison Information and Control Center data.
- (5) The total number of emergency room department visits for poisoning treatment of children under 5 years of age.
- (6) Number of hospitalized patients with ICD-9-CM#965.4, #969.0-969.5, #969.8-969.9, 983.2 and ICD-9 CM #947.0-947.3, 947.8-947.9 in children under 5 years of age.

\*c. The geographic incidence and distribution of poison information calls and poison treatment tracer group patients.

2° - Function/Process (1203)

\*a. Designation of a poison information and control center and regional/area poison treatment centers based upon national criteria and according to the regional plan.

\*b. Evaluation of the care of the poison injured patient based upon the analysis and results of:

- (1) the number of calls (specified in b.(2), (3), (4) above) to the Poison Information and Control Center.
- (2) a Chi Square analysis of the number of poison tracer group patients with results displayed on a Chi Square matrix: lived, died; transferred to a poison treatment center, nontransfer to a poison treatment center.
- (3) an analysis of number of poison injury patients receiving appropriate care.



3° - Quality/Goodness/Optimization (1204)

\*a. Subgroup analysis studies

- (1) age/sex, etc.
- (2) complication ratios
- (3) morbidity indices
- (4) autopsy profiles

\*b. Analysis of cost relationships (cost/benefit)

- (1) system costs
- (2) patient costs

ACUTE CARDIAC

1° - Description/Structure (1202)

\*a. A description of the system conceptualization design for prehospital/hospital critical care phase.

- (1) Definition of the EMS area/region population.
- (2) The proposed plan for categorization of facilities to designate cardiac critical care unit(s) utilizing national standards (American Heart Association) within the region;
- (3) A description of the cardiac critical care system with integration of the 15 components emphasizing manpower/training, categorization, triage and treatment protocols and evaluation.

\*b. A narrative discussion of patient identification for acute cardiac care demonstrating the need and magnitude of the problem.

- (1) The number of cardiac deaths reported within the region for the past year.
- (2) The numbers of acute cardiac arrests (nondiagnosed) in the prehospital phase according to the vital statistics.
- (3) The number of prehospital ventricular fibrillations reported.
- (4) The number of prehospital ventricular fibrillations converted.
- (5) The number of conversions admitted to hospitals.
- (6) The number of conversions discharged from hospitals.

2° - Function/Process (1203)

- \*a. A description of the designation of acute cardiac critical care unit hospitals based upon national criteria and according to the regional plan.
- \*b. Evaluation of the care of the cardiac patient upon a Chi Square analysis of the number of patients (ICD-9-CM#410) who lived, died; were transferred to coronary care unit, were not transferred to a coronary care unit.

3° - Quality/Goodness/Optimization (1204)

- \*a. The number of prehospital recorded cardiac dysrhythmia patients, the number that was successfully converted in the field, admitted to the hospital, discharged from the hospital, alive six months/one year following discharge from the hospital (ICD-9-CM#427).
- \*b. Studies showing relationship of time to the initiation of CPR by citizens, first responders, EMS personnel, paramedics to survival.
- \*c. Subgroup analysis studies
  - (1) age/sex, etc.
  - (2) complications ratios
  - (3) morbidity indices
  - (4) autopsy profiles
- \*d. Analysis of cost relationships (cost/benefit)
  - (1) system costs
  - (2) patient costs

HIGH-RISK INFANT

1° - Description/Structure (1202)

- \*a. A description of system conceptualization design for prehospital/hospital critical care phase:
  - (1) Definition of EMS area/regional population
  - (2) The proposed plan for categorization of facilities within or outside of the region to designate perinatal intensive care centers utilizing the State plan and national recommendations and the development of a regional neonatal transport plan.

(3) A description of the neonatal care system with the integration of the 15 components, manpower/ training, transportation, categorization, triage and treatment protocols and evaluation.

\*b. A narrative discussion of patient identification for perinatal care demonstrating the need and magnitude of the problem:

(1) The number of live births in the region.

(2) The number of live premature births (ICD-9-CM#V30-V37, V39 plus #765.0-765.1 for each) in all hospitals within the region.

(3) The number of fetal and neonatal deaths for the region from vital statistics.

(4) The geographic incidence and distribution of premature births and deaths within the region.

2° - Function/Process (1203)

\*a. A description of the designation of perinatal/neonatal intensive care center hospitals within and outside of the region.

\*b. Evaluation of the care of the perinatal/neonatal patient based upon conformance to the regional plan; the number of premature infants born in level I hospitals (ICD-9-CM #V30-37-V39, plus #765.0-765.1), the number transferred according to triage protocols by neonatal care teams to appropriate level of centers.

3° - Quality/Goodness/Optimization (1204)

\*\*a. Analysis of the relationship of birth weight and age to neonatal deaths in infants born out of the center.

\*\*b. Subgroup analysis studies of complication ratios and other studies of the tracer group in terms of clinical or systems effect.

\*\*c. Analysis of cost relationships

(1) system costs

(2) patient costs

## BEHAVIORAL

### 1° - Description/Structure (1202)

\*a. A description of system conceptualization design for prehospital/hospital critical care phase.

(1) Definition of the area/regional population.

(2) The proposed plan for categorization of facilities involved with various aspects of behavioral medicine according to a regional plan based upon American Psychiatric Association criteria.

(3) Development of a behavioral care system with integration of the 15 components emphasizing manpower/training, transportation, categorization, triage and treatment protocols and evaluation.

\*b. A narrative discussion of patient identification for behavioral care demonstrating the need and magnitude of the problems.

(1) The population within the regional system.

(2) Number of patients seen in the emergency department in all hospitals in regions with ICD-9-CM# 303.-303.9, 304.0-304.5, 304.9, 305.0, 305.4-305.7, E950-958.

(3) From vital statistics, the number of behavioral deaths within the region.

(4) The geographic incidence and distribution of behavioral emergencies and deaths within the region.

### 2° - Function/Process (1203)

\*a. A description of the designation of hospitals and institutions for behavioral care within and outside the region.

\*b. Evaluation of the care of the behavioral patient upon compliance of operation to regional designation of facilities, triage, transfer and treatment protocols.

### 3° - Quality/Goodness/Optimization (1204)

\*\*a. Studies of performance of EMS personnel based upon intervention training.

\*\*b. Sub-group analysis studies

## CHAPTER V - SUBMISSION, REVIEW, AND EVALUATION OF APPLICATIONS

Eligible applicants wishing to receive an application kit should contact the respective Regional Office. Those wishing to apply for a grant under sections 1202, 1203, and 1204 should submit an application to the appropriate HEW Regional Office listed in Exhibit A. Due dates for applications will be announced by the HEW Regional Offices. Applicants will be notified as soon as possible of the action taken on their application. Program practice has been to make awards once a year, on or about June 30.

Applicants planning to submit an application are encouraged to maintain communication with the Regional Office. Applicants wishing technical assistance and additional information should also contact the appropriate Regional Office.

The Regional Office is responsible for grant matters associated with administration of the EMSS Program. Such matters will include the provision of technical assistance prior to submission of applications. They are responsible for the distribution and receipt of application materials, the review and evaluation of applications, the conduct of site visits, grant approval, grant negotiations, grant awards and grant monitoring. The Regional Office is also responsible for notifying the ineligible and unacceptable applicants as soon as possible after completion of review.

### Initial Review

At least two Regional Office staff members will initially review each application submitted. The purpose of the initial review will be to determine: (1) the eligibility of the applicant; (2) that each of the mandatory requirements has been addressed, and (3) the receipt of appropriate clearances required under the EMSS Program Regulations and Guidelines.

The results of the initial review by regional staff members will be documented and filed with each application. The review forms will contain the name and identification of the applicant, together with other appropriate data to indicate the overall eligibility and acceptability of the application.

### Objective Review

Following completion of the initial review, an indepth objective review of each application will be made by designated reviewers. On the basis of the material submitted with the application, reviewers will conduct a detailed review of the proposal and will score the application in keeping with the specific evaluation criteria score factors. Applications will be reviewed in accordance with established PHS

policies and procedures. Applicants are reminded of the importance of submitting a complete application. Incomplete applications may result in the return of the application.

Reviewers considering the technical content of each application will consider the completeness of the material presented and will score the application in accordance with the completeness and comprehensiveness of material presented in that section. No more than the maximum number of points allowed under the specific criteria for a given section will be given. All EMS grant proposals under sections 1202, 1203, and 1204 will be reviewed on the basis of their ability to provide EMS health care. Applications primarily oriented to the purchase of equipment or to less than all 15 EMS mandatory components will be considered incomplete. Applications will also be reviewed on their relation to the total medical services delivery area without exclusion of patient or citizen population within areawide EMSS boundaries.

After all review and evaluation processes have been completed, the Regional Office is responsible for completing the application summary document, with backup materials as appropriate. Such information will be presented to the Regional Health Administrator for his approval.

In the event that there is reasonable doubt among reviewers about the applications, the reviewers may recommend a site visit to determine or clarify certain specific issues. Site visits should be confined to those specific areas of questions raised by the reviewers.

Following are criteria factors which will be used by reviewers scoring applications under sections 1202, 1203, and 1204:

CRITERIA FOR EVALUATION OF APPLICATIONS SUBMITTED UNDER SECTION 1202(a)

Feasibility and Planning for an EMS System

- o Applications for funds under Section 1202(a) shall be evaluated using the criteria and points (Exhibit D) shown below:

	<u>Points</u>
1. Organizational Information	125
2. Component Information	625
3. Clinical Information	500
	<u>1250</u>

CRITERIA FOR EVALUATION OF APPLICATIONS SUBMITTED UNDER SECTION 1202(b)(1)(A)

Feasibility and Planning for the Use of Advanced Life Support in an EMS System

- o Applications for funds under section 1202(b)(1)(A) shall be evaluated using the criteria and points (Exhibit E) shown below:

	<u>Points</u>
1. Scope and Broad Objectives.....	100
2. Description of the Planning Area.....	100
3. Definition of Needs for Advanced Life Support.	200
4. Advanced Life Support Planning Approach.....	400
5. Qualifications of the Applicant Organization..	100
6. Budget Schedule.....	100
7. Regional and Professional Assurances.....	200
Total.....	<u>1200</u>

CRITERIA FOR EVALUATION OF APPLICATIONS SUBMITTED UNDER SECTION 1202(b)(1)(B)

Feasibility and Planning to Insure the Delivery of EMS in Rural Areas and to Medically Underserved Populations of the State

- o Applications for funds under section 1202(b)(1)(B) shall be evaluated using the criteria and points (Exhibit F) shown below:

	<u>Points</u>
1. Scope and Broad Objectives.....	100
2. Description of the State Planning Area.....	100
3. Definition of Needs for Improved EMS.....	200
4. Planning Approach.....	400
5. Qualifications of the Applicant Organization.	100
6. Budget Schedule.....	100
7. Regional and Professional Assurances.....	200
Total.....	<u>1200</u>

CRITERIA FOR EVALUATION OF APPLICATIONS SUBMITTED UNDER  
SECTION 1203 - ESTABLISHING AND INITIAL OPERATION OF AN  
EMS SYSTEM

Applications for funds under section 1203 shall be evaluated  
using the criteria and points (Exhibit G) shown below:

	<u>Points</u>
1. Organization Information.....	450
2. Component Information.....	1500
a. manpower - (75)	
b. training - (150)	
c. communication - (150)	
d. transportation - (150)	
e. facilities - (150)	
f. critical care units - (150)	
g. public safety - (60)	
h. consumer participation - (60)	
i. access to care - (60)	
j. patient transfer - (150)	
k. coordinated patient recordkeeping - (75)	
l. public information and education - (75)	
m. review and evaluation (60)	
n. disaster planning - (75)	
o. mutual aid - (60)	
3. Clinical Information.....	1050
a. trauma - (150)	
b. burn - (150)	
c. spinal cord injury - (150)	
d. poisoning (150)	
e. acute cardiac - (150)	
f. high-risk infant - (150)	
g. behavioral emergencies - (150)	
	-----
Total.....	3000



CRITERIA FOR EVALUATION OF APPLICATIONS SUBMITTED UNDER  
SECTION 1204 - EXPANSION AND IMPROVEMENT OF AN EMS SYSTEM

Applications for funds under section 1204 shall be evaluated using the criteria and points (Exhibit H) shown below:

	<u>Points</u>
1. Organization Information.....	450
2. Component Information.....	1500
a. manpower - (75)	
b. training - (150)	
c. communication - (150)	
d. transportation - (150)	
e. facilities - (150)	
f. critical care units - (150)	
g. public safety - (60)	
h. consumer participation - (60)	
i. access to care - (60)	
j. patient transfer - (150)	
k. coordinated patient recordkeeping - (75)	
l. public information and education - (75)	
m. review and evaluation - (60)	
n. disaster planning - (75)	
o. mutual aid - (60)	
3. Clinical Care Categories.....	1050
a. trauma - (150)	
b. burn - (150)	
c. spinal cord injury (150)	
d. poisoning - (150)	
e. acute cardiac - (150)	
f. high-risk infant - (150)	
g. behavioral emergencies - (150)	
4. Financial Plan for Self-Sufficiency.....	500
a. assurances - (75)	
b. financial plan - (225)	
c. endorsements - (200)	
	-----
Total-----	3500

## CHAPTER VI - POST AWARD PROGRAM ADMINISTRATION

The responsibility for effective and efficient management of the EMS program following a grant award rests with the grantees and HEW. Grantees are responsible for administering their grants according to the provisions of this document title XII of the PHS Act, as amended; EMSS program regulations; the terms and conditions of the grant; and related regulations, policies and procedures of PHS and HEW, as follows:

1. Title XII of the Public Health Service Act - Emergency Medical Services
2. Title 42 CFR 56a - Grants for Emergency Medical Services Systems
3. Approved EMS Grant Application
4. DHEW Grants Administration Manual including PHS Supplementation
5. PHS Grants Policy Statement
6. Title 45 CFR 74 - Administration of Grants (including those subparts not listed in 42 CFR 56a.112)
7. EMSS Program Guidelines

### EMS Grant Reports

Reports should be sent to the Regional Health Administrator in the appropriate HEW Regional Office. Both administrative and specific program reports are required.

### Report of Grant Expenditure

A financial status report (PHS Form 5154) is required on a quarterly basis. In addition to the quarterly reports, a final report is required within 90 days following the end date of the budget period and must indicate the exact balance of unexpended funds. The report forms will be provided from the HEW Regional Office and should be completed in accordance with the instructions accompanying the forms.

### Performance Reports

Both interim and annual performance reports are required for grant supported activities. The time of submission of interim performance reports will vary with the section of the law involved. For section 1202, the report of feasibility study is due not later than 3 months after the grant award. For sections 1203 and 1204 a quarterly performance report is due 30 days following the end of each quarter. An annual performance report is due 60 days following the end of the

budget period. Performance reports shall contain the information stipulated by EMS Regulations on a quarterly basis after the award is granted. A second grant under sections 1203 and 1204 will not be made unless the performance reports provide evidence of satisfactory progress.

### Final Reports

For Section 1202, a final report in the form of a regional EMS plan is due within 12 months from the date of the grant award. For sections 1203 and 1204, a final report is required no later than one year after the completion of the final grant under each section of the Act. Final reports shall contain information stipulated by EMS regulations.

EXHIBIT A

REGIONAL OFFICES  
U.S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE  
PUBLIC HEALTH SERVICE

ATTENTION: Regional Consultants for Emergency Medical Services

Region I Regional Health Administrator Government Center Boston, Massachusetts 02203	Connecticut Maine Vermont	New Hampshire Rhode Island Massachusetts
Region II Regional Health Administrator 26 Federal Plaza New York, New York 10007	New Jersey New York Puerto Rico Virgin Islands	
Region III Regional Health Administrator P.O. Box 13716 Philadelphia, Pennsylvania 19101	Delaware Maryland Virginia District of Columbia	West Virginia Pennsylvania
Region IV Regional Health Administrator 50 Seventh Street, N.W. Atlanta, Georgia 30323	Alabama Florida Georgia Kentucky	Mississippi North Carolina South Carolina Tennessee
Region V Regional Health Administrator 300 South Wacker Drive Chicago, Illinois 60606	Illinois Indiana Michigan	Ohio Wisconsin Minnesota
Region VI Regional Health Administrator 1114 Commerce Street Dallas, Texas 75202	Arkansas Louisiana New Mexico	Oklahoma Texas
Region VII Regional Health Administrator 601 East 12th Street Kansas City, Missouri 64106	Iowa Kansas Missouri Nebraska	
Region VIII Regional Health Administrator Federal Office Building 19th and Stout Streets Denver, Colorado 80202	Colorado Montana Utah Nevada	South Dakota North Dakota
Region IX Regional Health Administrator Federal Office Building 50 Fulton Street San Francisco, California 94102	Arizona California Hawaii Nevada	Guam American Samoa Trust Territory of the Pacific
Region X Regional Health Administrator Arcade Plaza building 1321 Second Avenue Seattle, Washington 98101	Alaska Idaho Oregon Washington	

## EXHIBIT B

### A-95 Review Process

The purpose of the system is to facilitate coordination of State, regional, and local planning and development through the establishment and use of a network of State and areawide clearinghouses. The functions of the clearinghouses include identification of the relationship of any project to the plans or programs of particular State agencies or local governments. The system is the means of carrying out the policies and directives of title IV of the Intergovernmental Cooperation Act of 1968, the requirements of section 204 of the Demonstration Cities and Metropolitan Development Act of 1966, and the provisions of section 102(2)(c) of the National Environmental Policy Act of 1969.

The Project Notification and Review System (PNRS) encourages early contact between applicants for Federal assistance and State and local governments and agencies (including agencies authorized to develop and enforce State and local Civil Rights laws) to assure that there will be sufficient time and opportunity for effective coordination before the application is fully developed, for modifying the application when coordination indicates this is the action to be taken, and for clear identification of any issues which remain unresolved at the time the application is ready for submission.

The "NOTIFICATION OF INTENT TO APPLY FOR FEDERAL ASSISTANCE" (see last page) precedes the preparation of the application. The required information should be forwarded to the appropriate clearinghouse(s) at the earliest feasible time.

#### Applicant's Responsibilities

As soon as the applicant decides to request Federal support from one of the PHS agencies for a project subject to PNRS, such applicant must notify the State and areawide clearinghouses of the intention to apply for Federal assistance (except in States with single notification procedures). The information to be included, the suggested format, and the "Note to Applicant" are on the last page of these instructions.

Applicants for all proposed construction projects, and any nonconstruction projects where any Federal agency has required the submission of environmental impact information as part of the application, must include in the Notification a request for comments on the potential environmental impact of the project and must transmit all comments received from or through the clearinghouse(s) with the completed

application when submitted. The Notification should contain a brief outline of the nature of environmental impact anticipated. This outline should enable the clearinghouse to identify State and local agencies whose primary views and comments should be obtained.

If the clearinghouse assigns an identification number, the applicant thereafter must include such number in the initial and subsequent applications prepared for that project.

In addition, the applicant:

1. Must confer with representatives of the clearinghouse(s) or other appropriate agencies when so requested to discuss any issues which the proposed project may have raised and to resolve such issues, if possible, while the application is under development; and then incorporate agreed-upon modifications.
2. Must transmit the completed application to the clearinghouse(s) for comment if issues remain unresolved and a clearinghouse notifies the applicant of its intent to make comments.
3. Must include with the completed application, when submitting it to the appropriate PHS Agency program office, a statement that all comments of the clearinghouse(s) have been considered in the development of the application and are included with this application; or a statement that the procedures outlined above have been followed and that no comments have been received.

#### Time Schedule for System

Clearinghouse consultation and review processing are accomplished as follows:

1. The State and areawide clearinghouse to which the project notification is sent will each have 30 days after receipt of the Notification to inform other appropriate State, regional, and local agencies (including agencies authorized to develop and enforce environmental standards and public agencies charged with enforcing State and local Civil Rights laws) and to arrange, if necessary, to consult with the applicant on the proposed project.
2. During this period and during the period in which the application is being completed, the clearinghouse may work with the applicant in the resolution of any problems raised by the proposed project.

3. Clearinghouses may have, if necessary, an additional 30 days to review the completed application and to transmit to the applicant any comments or recommendations which are to accompany the application when submitted to the Federal agency. For projects involving a special purpose unit of government, the review of the completed application is mandatory unless waived by the unit of general local government having jurisdiction over the area in which the project is to be located. Note, however, that several State PNRS procedures prohibit such waivers.

#### Submission of Application to Federal Agency

The Notification to the clearinghouses, discussions to resolve issues while the application is under preparation, and the receipt of comments on the completed application (when necessary) are actions to be completed before the application is submitted. Applications received which have not been processed through the Project Notification and Review System in accordance with their instructions will be returned to the applicant as incomplete.

#### Sources of Information

Applicants should obtain additionally needed information, such as the names and addresses of the clearinghouse(s) to which the Notification must be submitted and the numbers and titles of Federal programs as indicated in the Catalog of Federal Domestic Assistance, from the HEW Regional Office or the PHS headquarters agency which administers the program.

#### Addresses of Clearinghouses

Directory of clearinghouses is maintained in each HEW Regional Office. Applicants should request the names and addresses of the clearinghouse to which they must submit the Notification. The regional or metropolitan clearinghouse to which the Notification is sent is the clearinghouse which has responsibility for the geographical area in which the proposed activity will take place. If the proposed activity extends into two geographical areas or into two States, the clearinghouses in both areas must be notified.

Applicants can also obtain the names and addresses of the pertinent clearinghouses from the Division of Emergency Medical Services, 6525 Belcrest Road, West Hyattsville, Maryland 20782.

#### Notification of Intent to Apply for Federal Assistance

1. Name and address of applicant organization.
2. Geographic location of the project to be assisted.

3. Brief description of the proposed project by type, purpose, general size or scale, estimated cost, beneficiaries, anticipated impact on the environment, or other characteristics which will enable the clearinghouses to identify agencies of State, or local governments having plans, programs, or projects that might be affected by the proposal.
4. A statement as to whether the applicant has been advised by the Federal agency from which assistance is being sought concerning requirements for the submission of environmental impact information in connection with the proposed project, and the nature of such advice.
5. The Federal program and agency under which assistance will be sought; identify by program under number and title as indicated in the latest edition of the Catalog of Federal Domestic Assistance.
6. Estimated date by which time the applicant expects to formally file an application.

-----  
 Name and title of person submitting Notification (This is the person who will be contacted for further information and to whom the clearinghouse will report on coordinated action.)

Signature \_\_\_\_\_ Date \_\_\_\_\_

Telephone: Area Code: \_\_\_\_\_

Distribution:

\_\_\_\_\_ State Clearinghouse                      \_\_\_\_\_ Areawide Clearinghouse

\_\_\_\_\_ HEW Regional Office



## EXHIBIT C

### EVALUATION FACTORS FOR APPLICATIONS SUBMITTED UNDER SECTION 1202 - FEASIBILITY AND PLANNING FOR AN EMS SYSTEM

Applications for funds under section 1202 shall be evaluated using the criteria and points shown below:

1. Organizational Information - 125 points
2. Component Information - 625 points
3. Clinical Area Information - 500 points

TOTAL SCORE 1250 points

The following sections present more specific information on the scope and depth of coverage that might be included in an application. It is not expected that every application address each question or topic. But this material is intended to assist the applicant to prepare and the reviewer to select those applications which are comprehensive, contain all of the required material and have a high probability of achieving their objective(s).

#### 1202 APPLICATION FACTORS

Organizational Information - 125 points

##### 1. Scope and Broad Objectives

- a. Has the applicant described the development of a planning proposal for improved emergency medical care for the acutely ill and injured?
- b. Does the proposed plan provide a strategy for establishing, improving or expanding an areawide EMS system?
- c. Does the proposed EMS plan cover an appropriate health care delivery region?
- d. If the proposed plan is statewide, have regional plans been proposed for development simultaneously?
- e. Has an EMS system management and operating unit been identified and does it have early involvement in the planning process so as to insure later implementation of the EMS system?

## 2. Description of the Planning Area

### a. Geographic Characteristics

- (1) Does the application describe the appropriate EMS systems regional area and include natural barriers, such as mountains, streams, lakes, that may affect the implementation of a total EMS system?
- (2) Are the "natural" catchment, referral and treatment patterns for the general and specific EMS patients discussed and does this plan include the whole region?
- (3) Are secondary factors such as climate, weather, and other natural phenomenon discussed?
- (4) Are multiple, adjoining and supporting regional relationships defined?

### b. Governmental Characteristics

- (1) Have the planning and operational roles of the State, regional and local health and other essential governmental authorities been described?
- (2) If the proposed plan is statewide, identify the appropriate statewide roles and responsibilities (e.g., coordination, standards, certification, and grant management)?
- (3) Does the proposed regional plan relate to the State governmental health agencies?
- (4) Have local options and uniformity issues been addressed and developed?
- (5) Who are the government officials?

### c. Population Characteristics

- (1) Are the characteristics of the major population groups living in the service area described?
- (2) What is the distribution by age, occupational status, income, and education?
- (3) Is the health delivery area affected by seasonal tourists?
- (4) Does seasonal variations affect patient loads and resources available?

d. Transportation Characteristics

- (1) What modes of transportation are available in the area, i.e., air, rail, waterway, or trucking lines?
- (2) Do people have access to mass transit or do they rely on automobiles?
- (3) Are these transportation services available or adaptable for the EMS patients within the area?

e. Legislative Characteristics

- (1) What local, regional and State legislation and health authorities exist that directly affect the standards of emergency care, equipment and personnel in the service area?
- (2) Is there discussion of existing legislation, such as medical practice acts, ordinances, good samaritan laws, licensing and certification requirements for ambulances, equipment and personnel and hospitals (especially care and rehabilitation centers)?
- (3) Are there existing requirements for health reports (e.g., ambulances, hospital discharge, special incidence, violent death, gun shot, etc.)?

f. Health Delivery Systems General Characteristics

- (1) Is there a general description of the health delivery system that now exists?
- (2) Does the description include the number of hospitals, physicians, nurses, ambulance services, paramedical and other support personnel?
- (3) Has the geographical distribution of specialty care units such as rehabilitation services been analyzed and is the proposed planning going to impact these resources and the existing deficiencies?
- (4) Does the applicant (proposed planner) have any experience with previous areawide health or EMS delivery planning or operations?
- (5) Are medical schools, schools of nursing, and teaching hospitals and specialty care units or centers now existing or under development? Are these facilities involved in the planning or future operations of the EMS system?

- (6) Have hospital facilities been categorized in the proposed EMS system area or are strategies presented for future categorization? Is the basis for categorization presented? Does the categorization reflect specialty care units available for critical groups of patients? Will there be written transfer and care agreements for transferred patients?
- (7) Will staff training programs be established for hospital staffs, emergency and critical care ambulance crews and others employed in providing health services at the appropriate health and governmental level?
- (8) Will the EMS system plan cover the entire emergency care problem, including all medical and surgical specialty patient types; such as trauma, burns, cardiac, neurological, reproductive, endocrine, neonatal, pediatric, psychiatric, suicide, poisoning, drug overdose, alcoholism, rape, and emotional disturbances? Will the general, emergent and nonemergent and the special, critically ill and injured patients be included as they occur within the planning area?

Component Information - 625 points

1. Planning Approach

- a. Does the proposal explain how certain adaptations of existing resources as in the 15 components will be made to meet the needs of these critical patients?
- b. Have the various planners and potential operators of the components been coordinated with each other and with the other levels? Will they support improved patient care?
- c. Are general objectives developed for each of the mandatory components of an EMS system?
- d. Are specific objectives and methodologies developed as a major part of the planning application for each component?
- e. Is the medical relevance for the 15 components described?

Manpower and Training

- a. Is there a description of EMS manpower personnel resources and requirements, utilizing National criteria, guidelines, and/or professional certification mechanisms?

- b. Is there a description of the "systems" role of each EMS manpower element and how training will prepare these individuals to function?
- c. Is there a description (numbers, place) of training programs for EMT-A's, EMT-Paramedics, etc., and quality control procedures to assure that the curriculum meets recommended national standards?
- d. What are the methods of evaluation of EMS manpower courses to assure conformance with standards, certification procedures and numbers required to meet systems projections based upon population and geography?

#### Communications

- a. Is there a description of a "911", or a uniform access number and the geography (percent of region) and population served?
- b. Is there a description of special access and access numbers (e.g., poison, crisis intervention, auditory handicapped, non-English speaking) in terms of population and geography covered?
- c. Is there a description of the structure, functional arrangement of the dispatch system: EMS alone; EMS and Fire; EMS and Police; EMS, Fire and Police?
- d. Is there a description of the central dispatch and resource management operations?
- e. Is there a description of public safety coordination by central dispatch?
- f. Is there a description of medical control including identification of the resource hospital and associate hospital to be designated during 1203, their configuration, triage, treatment and transfer protocols?
- g. Is there a description of medical control operations, for both BLS and ALS to include those procedures, mechanisms and arrangements to be followed by the system for the transfer of patients from the site of the emergency to the emergency department and subsequent transfer to critical care units for followup definitive care and/or rehabilitation?

## Transportation

- a. Is there a description of an ambulance placement strategy describing the projection for how primary and secondary systems are implemented according to national standards?
- b. Is there a description of the transportation component in both the prehospital and interhospital phases of the regional EMS system that also addresses special transportation needs of the region (e.g., air, ground, water) where needed?
- c. Does the description include as a minimum the following elements: type of response - time care, vehicles, personnel; treatment at the scene; treatment enroute - ALS or BLS; identification of facility (emergency department) destination; interhospital transport and care to designated critical care centers?

## Facilities

- a. Is there a plan for horizontal and vertical categorization defined and is there delegation of responsibility for categorization designation and its implementation.
- b. Are the key participants (State hospital association, EMS councils, ACS trauma committees, etc.) committed to the program in writing?
- c. Does the categorization program include a structural analysis of the following: (1) horizontal categorization (AMA); (2) vertical categorization (ACS, ARA, AAPCC, AHA, AAP, APA) for the critical care groups and the mechanism for implementing the categorization program?
- d. Is there a matrix of actual hospital designation for both horizontal and vertical categorization?
- e. Is there a description of intended or accomplished categorization impact on the distribution of general and critical patients and on the resource changes necessary for the delivery of immediate and optimum EMS services?
- f. Has a map been included to show the actual geographic areas of service responsibility for each horizontal and vertically categorized hospital for area within the region and to the special linkages to centers outside of the region?

- g. Are the linkages to advance treatment centers outside of the region where appropriate?
- h. Is there a description of hospital facilities within the regions in terms of:
  - (1) availability of physician on duty 24 hours in emergency departments?
  - (2) plans for upgrading emergency rooms to emergency departments?
  - (3) plans for upgrading and consolidating critical care capabilities?
  - (4) patient origin and distribution patterns within the region and where necessary in adjoining regions?

#### Critical Care Units (CCU)

- a. Is there a description of the existing critical care units for each critical care patient group that meets national standards and their identification, both within and outside of the EMS region?
- b. Have the critical care units been named and located for:
  - (1) Trauma (ACS) centers, units, specialty centers?
  - (2) Burn (ABA) centers, units, programs?
  - (3) Spinal cord injury (ACS) centers, regional referred centers?
  - (4) Poisoning (AAPCC) information centers, treatment facilities?
  - (5) Acute Cardiac (AHA) care units, regional and intermediate centers?
  - (6) High-risk infant (AAP) regional and intermediate centers?
  - (7) Behavioral emergencies (APA) referral facilities?
- c. Have baseline utilization rates been established for each CCU and clinical category?

## Public Safety

- a. Have they described the involvement of first responders (police, firemen, life guards, park rangers) in the EMS plan?

## Consumer Participation

- a. Is there a written plan showing lay participation and membership on policymaking committees?
- b. What procedures are there for comment on EMS planning operations?

## Access to Care

- a. Is there a written plan specifying patient access regardless of ability to pay for ambulance services, hospital admission and secondary transport having approval of key agencies/institutions?

## Patient Transfer

- a. Do they describe methodology for the formulation and implementing of practical transfer agreements for all patients from the emergency site to emergency department and on to definitive care at designated facilities: hospital and ambulance agreements; inter-hospital physician agreements; written transfer treatment protocols; hospital record transfer; special transfer; a central coordination mechanism; triage protocols?

## Coordinated Patient Recordkeeping

- a. Is there a description of how they developed a coordinated recordkeeping process utilizing the following forms; (1) dispatch; (2) ambulance (BLS/ALS); (3) hospital emergency department; (4) patient encounter; (5) hospital discharge data (ICD-9-CM); (6) discharge data (ICD-9-CM).

## Public Information and Education

- a. Have they determined the resources, organization, dollars, people, etc., available for consumer information and education?
- b. Have they set goals and/or needs of a PI & E program, (i.e. , need - education, training, refresher ideas, one problem concentration (access), etc.)?



## Review and Evaluation

- a. Is there a description in the written plan for review and evaluation indicating funds, staff, goals, objectives and activities?
- b. Is there a description of an approach for collection of baseline data at the start of program for EMS resources, capability and performance measures?

## Disaster Planning

- a. Is there demonstration of coordination of civil defense/ disaster planning of all community institutions and health agencies with the Emergency Medical Services having responsibility for and providing emergency medical care?
- b. Is there a discussion of the development of a medical disaster response plan, including the following items:
  - (1) identification of potential hazards and disasters, and possible caseloads?
  - (2) identification of those resources that are currently on hand and those that must be obtained?
  - (3) Interagency coordination of executive authority and other emergency contingencies as demonstrated by: hospital disaster plans; coordination with Civil Defense; coordination with hospitals, ambulances and public safety; a written regional plan; mock drills?

## Mutual Aid

- a. Is there an assessment of resources and facilities within and outside the region for reciprocal provision of services?

## Clinical Area Information - 500 points

### 1. Definition of Needs for Improved EMS Care

- a. Does the EMS proposal discuss the general and specific care needs or requirements of all EMS patients in their region to include:
  1. Trauma
  2. Burn
  3. Spinal Cord Injury

4. Poisoning
  5. Acute Cardiac
  6. High-Risk Infant
  7. Behavioral Emergencies
- b. Does the proposed plan trace a nonemergent and the critically ill patients through the EMS system and detail the system's activities?
  - c. Is there a description of the system conceptualization design for prehospital/hospital critical care phase for these patients?
  - d. Is there a definition of EMS area/regional population to be served?
  - e. How will facilities be categorized to designate specialty center(s) utilizing national standards within the region?
  - f. Have these clinical care systems integrated the 15 components emphasizing transportation, triage and treatment protocols?
  - g. Have critical patients groups been identified demonstrating the need and magnitude of number:
    - (1) The number of potential patients in the region from demand studies (e.g., DOT data, hospital ICDA discharge data, etc.)
  - h. Has the regional geographic incidence and distribution of these tracer group of patients been determined?
  - i. Are these clinical projections and the justifications of need realistic in terms of the geographic and systems experience and development in the area plan?
  - j. What is the current level of EMS system capabilities for these patients?
  - k. Is the need for each of the 15 mandatory system components sufficiently addressed?
  - l. Is a description of a current capability discussed together with a definitive and justified projection of future needs?
  - m. Is there a description of the need for the spectrum of emergency medical services and does it include the necessary medical, surgical and mental health service needs for a total EMS system?

- n. Have special needs for medical and mental health services which might be specific to the area, i.e., drug overdose, crisis intervention centers, etc., been discussed?
- o. Have needs been reviewed in terms of patient needs and funding priorities?
- p. Has the applicant addressed the spectrum of needs required to service and support the total population to include permanent and transient population?
- q. Are there provisions for consultation with medical advisory groups (trauma committees, burn, and heart associations, etc.) as well as specialty agencies (for transportation, communications, public education)?

EXHIBIT D

EVALUATION FACTORS FOR APPLICATIONS SUBMITTED  
UNDER SECTION 1202(b)(1)(A) FEASIBILITY AND PLANNING  
FOR THE USE OF ADVANCED LIFE SUPPORT IN AN EMS SYSTEM

Applications for funds under section 1202(b)(1)(A) should be evaluated using the criteria and points shown below:

	<u>Points</u>
1. Scope and Broad Objectives.....	100
2. Description of the Planning Area.....	100
3. Definition of Needs for Advanced Life Support.....	200
4. Advanced Life Support Planning Approach.....	400
5. Qualifications of the Applicant Organization.....	100
6. Budget Schedule.....	100
7. Regional and Professional Assurances.....	200
Total.....	<u>1200</u>

The following sections present specific information on the scope and depth of coverage that might be included in an application. It is not expected that every application address each question or topic. But this material is intended to assist the applicant to prepare and the reviewer to select those applications which are comprehensive, contain all of the required material and have a high probability of achieving their objective(s).

1202 APPLICATION FACTORS

1. Scope and Broad Objectives (100 points)

- a. Has the applicant described the development of a planning proposal for advanced life support within an EMS system for the acutely ill and injured?
- b. Does the proposed plan provide a strategy for planning the expansion of an areawide EMS system to include an advanced life system?
- c. Have the mandatory 15 EMS components been considered within the plan and specifically evaluated to the needs for an advanced life support capability?
- d. Has the EMS system operating unit been identified and does it have involvement in the planning process so as to insure later implementation of the advanced life support capability?

## 2. Description of the Planning Area (100 points)

### a. Geographic Characteristics

- (1) Does the application describe the appropriate EMS systems area in relationship to the advanced life support needs and current medical capabilities?
- (2) Are the "natural" catchment, referral and treatment patterns for the critical care patients discussed and does this plan include the whole region?
- (3) Are essential hospital support (critical care and other) services addressed? Has the advanced life support resource hospital been designated or is there a planned approach to regional advanced life support medical control?
- (4) Are the 15 components appropriately addressed for the advanced life support needs and geographic constraints of the region?

### b. Governmental Characteristics

Have the planning and operational roles of the State, regional and local health authorities and other medical and professional groups been described?

### c. Population Characteristics

- (1) Has the EMS system and/or Health System Agency identified the critical care patient groups or high-risk patient groups in the EMS region?
- (2) Will adequate planning be done for these special groups?

### d. Transportation Characteristics

- (1) What modes of advanced life support transportation are available in the area?
- (2) Are there advanced life support transportation services available within the area?

### e. Health Delivery Systems General Characteristics

- (1) Is there a short description of the EMS system that now exists?
- (2) Has the geographical distribution of critical care units been vertically categorized for the advanced life support patient groups?

3. Definition of Needs for Improved EMS Care (200 points)

- a. Does the proposal discuss the specific advanced life support needs or requirements based on incidence or other epidemiological information for trauma, burn, spinal cord injury, poisoning, acute cardiac, high-risk infant and behavioral emergency EMS patients in the region?
- b. Does the proposal explain what adaptations of the existing 15 components will be made to meet the advanced life support needs of critical patients?
- c. Are the justifications of need realistic in terms of the geographic and systems experience and development in the area plan?
- d. Is a description of current resources discussed together with a definition and justification for future equipment needs?
- e. Have needs been reviewed in terms of future financial capabilities to support an advanced life support system?
- f. Has the applicant addressed the spectrum of needs required to provide service and support for the total population to include permanent and transient population?

4. Advanced Life Support Planning Approach (400 points)

Does the applicant set forth a planning approach which addresses at least the following major attributes of an advanced life support capability:

- a. The improvements and/or adjustment of each of the 15 basic life support system components?
- b. The selection of the resource hospital to coordinate prehospital advanced life support services?
- c. Medical control of the proposed system, both online and offline?
- d. An evaluation methodology for determining the process and patient impact of the advanced life support capability?
- e. The development of a financial plan to project the investment and continued operational costs of advanced life support?

5. Qualifications of the Applicant (100 points)

- a. Are the appropriate planning roles and responsibilities clearly addressed?
- b. Is the management structure of the proposed EMS planning organization described?
- c. Have the procedures for decisionmaking, advanced life support, project implementation and evaluation by this EMS organization been established?
- d. What experience has this staff had in the specific functional areas of EMS systems?
- e. Are the qualifications and responsibilities of the EMS Medical Director and critical physician consultants described?

6. Budget Schedule (100 points)

- a. Is the budget adequate to execute the proposed planning effort?
- b. Is the budget balanced with the objectives to be accomplished?
- c. Is the community sharing a portion of the planning costs?

7. Community and Professional Assurances and Input (200 points)

- a. Will the applicant evaluate the current activity and capability of EMS resources and EMS planning within the area?
- b. How does the proposed EMS plan compare with other local health planning efforts?
- c. Is there documented evidence of support and involvement by political, professional, and health provider organizations and institutions?
- d. Will there be sufficient community support to develop and implement the operations of a total EMS system?
- e. If it is a State or regional proposal, is there evidence of local or regional support?

EXHIBIT E

EVALUATION FACTORS FOR APPLICATIONS SUBMITTED  
 UNDER SECTION 1202(b)(1)(B) FEASIBILITY AND PLANNING  
 TO INSURE THE DELIVERY OF EMS IN RURAL AREAS AND TO  
 MEDICALLY UNDERSERVED POPULATIONS OF THE STATE

Applications for funds under section 1202(b)(1)(B) shall be evaluated using the criteria and points shown below:

	<u>Points</u>
1. Scope and Broad Objectives.....	100
2. Description of the State Planning Area.....	100
3. Definition of Needs for Improved EMS.....	200
4. Planning Approach.....	400
5. Qualificatons of the Applicant Organization.....	100
6. Budget Schedule.....	100
7. Regional and Professional Assurances.....	<u>200</u>
Total.....	1200

The following sections present more specific information on the scope and depth of coverage that might be included in an application. It is not expected that every application address each question or topic. But this material is intended to assist the applicant to prepare and the reviewer to select those applications which are comprehensive, contain all of the required material and have a high probability of achieving their objective(s).

1202 APPLICATION FACTORS

1. Scope and Broad Objectives (100 points)

- a. Has the applicant described the development of a planning proposal for rural areas and medically underserved populations within an EMS system for the acutely ill and injured?
- b. Does the proposed plan provide a strategy for planning the expansion of an areawide EMS system to include the rural area and medically underserved populations?
- c. Have the mandatory 15 EMS components been considered within the plan and specifically evaluated to the needs for the impact populations?
- d. Has the appropriate regional EMS system organization(s) been identified and does it have involvement in the planning process so as to insure later implementation of an EMS capability?



## 2. Description of the Planning Area (100 points)

### a. Geographic Characteristics

- (1) Does the application describe the appropriate EMS systems area in relationship to the current medical capabilities?
- (2) Are the "natural" catchment, referral and treatment patterns for the critical care patients discussed and does this plan include the whole region?
- (3) Are essential hospital support (critical care and other) services addressed? Has the resource hospital for basic life support and advanced life support been designated or is there a planned approach to regional medical control?
- (4) Are the 15 components appropriately addressed for the rural and medically underserved population needs and geographic constraints of the region?

### b. Governmental Characteristics

Have the planning and operational roles of the State, regional and local health authorities and other medical and professional groups been described?

### c. Population Characteristics

- (1) Has the EMS system and/or Health System Agency identified the EMS need for rural and medically underserved populations in the EMS regions of the State?
- (2) Will adequate planning be done for these special groups?

### d. Transportation Characteristics

- (1) What modes of basic and advanced life support transportation are available in the area?
- (2) Are there primary and secondary transportation services available for the impact areas?

### e. Health Delivery Systems General Characteristics

- (1) Is there a short description of the EMS system that now exists in the impact areas?
- (2) Has the geographical distribution of hospitals and critical care units been categorized?

3. Definition of Needs of Improved EMS Care (200 points)

- a. Does the proposal discuss the specific needs or requirements based upon incidence or other epidemiological information for trauma, burn, spinal cord injury, poisoning, acute cardiac, high-risk infant, and behavioral emergency EMS patients in the region?
- b. Does the proposal explain what adaptations of the existing 15 components will be made to meet the needs of rural and medically underserved populations?
- c. Are the justifications of need realistic in terms of the geographic and systems experience and development in the area plan?
- d. What is the current level of EMS system capabilities?
- e. Have needs been reviewed in terms of patient and potential future financial capabilities to support an EMS system?

4. Planning Approach (400 points)

Does the applicant set forth a planning approach which addresses at least the following factors in relation to the rural and medically underserved populations?

- a. The improvements and/or alternatives of each of the 15 components?
- b. The plan to categorization of facilities?
- c. The development of written transfer agreements, triage protocols and prehospital treatment protocols?
- d. The selection of the resource hospital to coordinate prehospital services?
- e. Medical control of the proposed system, both online and offline?
- f. An evaluation methodology for determining the impact of the planned improvements of EMS services?

5. Qualifications of the Applicant (100 points)

- a. Is the appropriate planning roles and responsibilities clearly addressed?
- b. Is the management structure of the State EMS planning organization described?

- c. Have the procedures for decisionmaking, project implementation and evaluation been established?
  - d. What is the staff experience in EMS, rural, and delivery of care to medically underserved areas?
6. Budget Schedule (100 points)
- a. Is the budget adequate to execute the proposed planning effort?
  - b. Is the budget balanced with the objectives to be accomplished?
  - c. Is the State sharing a portion of the planning costs?
7. Community and Professional Assurances and Input (200 points)
- a. Will the State evaluate the current activity and capability of EMS resources in the rural and medically underserved areas?
  - b. How are the proposed EMS plans coordinated with other local health planning efforts?
  - c. Is there documented evidence of support and input by professional, and health provider organizations and institutions in the impact areas?

EXHIBIT F

EVALUATION FACTORS FOR APPLICATIONS SUBMITTED  
UNDER SECTION 1203 - ESTABLISHING AN INITIAL OPERATIONS

Applications for funds under Section 1203 shall be evaluated using the criteria and points shown below:

- A. Organization Information - 450 points
- B. Component Information - 1500 points
  - 1. manpower - 75 points
  - 2. training - 150 points
  - 3. communication - 150 points
  - 4. transportation - 150 points
  - 5. facilities - 150 points
  - 6. critical care units - 150 points
  - 7. public safety - 60 points
  - 8. consumer participation - 60 points
  - 9. access to care - 60 points
  - 10. patient transfer - 150 points
  - 11. coordinated patient recordkeeping - 75 points
  - 12. public information and education - 75 points
  - 13. review and evaluation - 60 points
  - 14. disaster planning - 75 points
  - 15. mutual aid - 60 points
- C. Clinical Care Categories - 1050 points
  - 1. trauma - 150 points
  - 2. burn - 150 points
  - 3. spinal cord injury - 150 points
  - 4. poisoning - 150 points
  - 5. acute cardiac - 150 points
  - 6. high-risk infant - 150 points
  - 7. behavioral emergencies - 150 points

TOTAL SCORE - 3000 points

The Establishing and Initial Operations Section is intended to provide for the implementation of at least a Basic Life Support capability within the entire EMS region. It is understood that variable rates of progress and accomplishment will occur in certain areas and with certain components. However, a goal toward a total coverage with at least Basic Life Support and addressing all components and patient categories must be considered. Some regions will appropriately be

ready to progress to Advanced Life Support activities and such applications will be fundable under sections 1203 and 1204. Implementation should be ensured early in the grant period as evidenced by previous planning (1202) or from other sources and activities. Some ongoing operations program assessment (secondary operation planning and readjustments are acceptable). It is emphasized, however, that section 1203 is for the implementation of at least a sound and comprehensive Basic Life Support EMS care system to encompass the entire State or regional area.

Factors to be considered by applicants and reviewers for each of the major criteria are presented in the following paragraphs.

#### 1203 APPLICATION FACTORS

##### A. Organization Information - 450 points

###### 1. Scope and Broad Objective of the EMS Program

- a. Has the applicant described an operational proposal to be developed for improved emergency medical care to the acutely ill and injured within the grant period?
- b. Does the plan address the specific needs of patients and provide a strategy for which an effective operational EMS system could be established, implementing BLS, or expanded to an ALS EMS care program?
- c. Have the general, (emergent, nonemergent) and special (critical) emergency care needs that have to be developed been addressed?
- d. Has the mandatory 15 EMS components been prioritized and staged for appropriately enhancing EMS care in the program area.?
- e. Have various public, private, professional, community and governmental interests been addressed and ready to assist the program within the service area?
- f. Will the anticipated deficiencies be accounted for by mutual aid and backup care resources in adjoining areas?
- g. Has the applicant considered the size of the geographical area to be included (i.e., State, region, county or other unit of local government), the functional components to be included within the system, and the professional services to be provided by the EMS system?

- h. Has the applicant described the overall objective of the proposed application, i.e., the establishment of a total EMS system (BLS) for a specified area of geography including a description of these political jurisdictions to be included?
- i. Have key position job descriptions been written and potential candidates for positions, i.e., medical director, project director, projected for employment?

## 2. Description of the Program Area

### a. Geographic Characteristics

- (1) Does the application describe the appropriate EMS system area and include natural barriers, such as mountains, streams, lakes, that may affect the implementation of a total EMS system?
- (2) Are the "natural" catchment, referral and treatment patterns for the general and specific EMS patient discussed? Do these operations include the whole region?

### b. Governmental Characteristics

- (1) Are the appropriate government health agencies and other support organizations ready to help the program?
- (2) Is there a definition of proposed government roles in health care delivery at least the three key levels (State, regional and local)?

### c. Population Characteristics

- (1) What type of people live in the service area?
- (2) What is the distribution by age, occupation status, income, and education?
- (3) What are the general and special emergency patient populations (demography and epidemiology characteristics) that exist in this planning area?
- (4) Is the health delivery area affected by seasonal tourism recreation areas? How do these factors affect patient loads and resources available?

d. Transportation Characteristics

- (1) What local, regional and State capabilities are in the area, i.e., air, rail, waterway, or trucking lines?
- (2) Do people have access to mass transit or do they rely on automobiles?
- (3) Are these transportation services available or adaptable for the EMS patients within the area?

e. Legislative Characteristics

- (1) What local, regional and State legislation and health authorities exist that directly affect the standards of emergency care, equipment and personnel in the service area?
- (2) Is there discussion of existing legislation, such as medical practice acts, ordinances, good samaritan laws, licensing and certification requirements for ambulances, equipment and personnel and hospitals (especially care and rehabilitation centers)?
- (3) Are there existing requirements for health reports (e.g., ambulances, hospital discharge, special incidence, violent death, gun shot, etc.)?

f. Health Delivery Systems Characteristics

- (1) Has the previous planning made a general description of the health delivery system that now exists and how it should operate during the implementation period?
- (2) How is the operations program going to impact these resources and supplement the existing area deficiencies?
- (3) Does the State/region/local EMS health units have experience with previous areawide health or EMS delivery planning and operations? Are these experiences being extended and incorporated in the total EMS program?

3. Definition of Priorities

- a. Does the application develop priorities based upon program needs?

- b. Has consideration been given to the time constraints of meeting these needs?
- c. Are the needs adequately interfaced with other local areawide plans and statewide plans?
- d. Do the priorities selected for funding include consideration of the availability of multiple sources of funds and magnitude of funds?

#### 4. Implementation Schedule

- a. Is the implementation schedule phased to the specific clinical and programmatic objectives of the overall plan?
- b. Can the implementation schedule be used to monitor program accomplishment by participating organizations?
- c. Does the schedule satisfy program needs and achievement of specific objectives?
- d. Does the implementation schedule provide adequate activities for program management assessment?
- e. Are activities sufficiently spread to prevent program overload in any single time period?

#### 5. Budget Schedule

- a. Does the applicant develop a definitive budget schedule?
- b. Is the budget schedule balanced to program objectives?
- c. Is there an adequate community share of the total system cost?
- d. Does the budget contain descriptions of all of the funding sources to be utilized?
- e. Is the budget presented for the entire period so that a time-phased budget schedule can be developed?
- f. Does the budget show the varying State/regional/ local financial role and responsibilities?

#### 6. Commitments and Assurances of Implementation

- a. Does the application contain documentation of commitments and assurances made by local participating professional, political organizations and health institutions to become participants in the total system?



- b. Are these commitments and assurances sufficient to have a high probability of continuation after completion of Federal support?
  - c. Have interagency contracts and agreements been developed with adjacent areas in other organizations linked to the system?
  - d. Have assurances been provided by professional organizations and health care institutions that will participate in the system?
  - e. Is there adequate justification of commitment and assurances of support for the proposed management organization?
7. Organization and Qualifications
- a. Does the applicant set forth a proposed lead organization?
  - b. Does the lead organization represent EMS action groups, funding sources, professional societies, political jurisdictions, etc.?
  - c. Does the organizational plan indicate an understanding of the interfaces to the total system as it relates to political units within the service area?
  - d. Is this a new or existing management group?
  - e. Does the organizational structure and identification of key personnel facilitate decisionmaking for project implementation and evaluation?
  - f. Does the management group relate to various participating sectors of the community?
  - g. Does the management organization operate and control any component(s) of the EMS system?
  - h. Does the key management staff have experience in project implementation?
  - i. What role do subcontractors provide in supplementing the management organization?

8. Other Factors:

- a. What percent of the geographical area proposed is rural?
- b. Does the applicant adequately address the topic linkages of the EMS system with other portions of the total health care delivery system?

Objective and Implementation Approach for EMS Components  
(1500 points)

In this subsection, the applicant is required to describe the general, broad, and specific objectives to be accomplished by the proposed program as they apply to each of the 15 mandatory components of a total EMS system. The paragraphs that follow list factors for reviewer's consideration in reviewing each of the 15 mandatory components as they are appropriate to the EMS needs of each region and State. Reviewers may award the specified number of points for each of the 15 mandatory components based upon the completeness and comprehensiveness of the presentation.

Has the appropriate operations role been addressed in this application? Will these roles provide sufficient information and direction to an effective operational EMS program at the State level, at the regional level and at the local level? Have these various roles for ongoing planning and anticipated operations been coordinated with the other levels and will they support improved patient care? Have the specific planning and operations objectives and methodologies for each objective been developed as part of the overall operations application? Are the objectives developed consistent for each of the mandatory components of the EMS system? Is it understood that liaison must be provided within the region with other regions? Have provisions for consultation with medical advisory groups as well as specialty agencies been established?

1. Manpower (75 points)

- a. Have the accomplishments in meeting the projected needs for each category of EMS personnel been presented?
- b. Is there a description of the utilization of these personnel on EMS services within regional programs in association with each of the system elements including the kinds of personnel to be utilized?
- c. Did they compare different arrangements of tiering for EMTs (BLS/ALS)?

- d. Are sources of manpower identified in terms of existing, planned and potential sources?
- e. Does the applicant make note of the utilization of veteran personnel as a resource?
- f. Does the manpower plan include provision for career development and promotion within a logical career ladder?

2. Training (150 points)

- a. Are training and continuing education programs included for all personnel within the system?
- b. Are programs identified for continuing education, residency education, training for critical care nurses, training for all levels of EMTs, training for first responders and other associated personnel?
- c. Has the training program recognized the availability of such education and training in terms of time frequency and location within the area served?
- d. Does the applicant describe the resources necessary for training and education of personnel, clinical facilities required, teaching aids, etc.?
- e. Does the training and education program contain adequate periodic evaluation and reassessment?
- f. Does the training program fully consider the cost factors involved as a function of the resources available?
- g. Did they prepare a chart showing the categories of training programs, the total projected number of individuals to be trained through 1204(2), the actual number trained during the current year, the cumulative number trained to date, and the percent certified.

3. Communications (150 points)

Access:

- a. Can they measure the functional activity (numbers of calls) of a 911, or other uniform access system, including calls from auditory handicapped?

- b. Are these measured rates of utilization of 911, or other uniform access number sequentially on a timed (annual) basis and in relation to the total number of all emergency medical calls?

Central Dispatch:

- a. Has the utilization of central dispatch for transportation (e.g., number of EMS-dispatched ambulance runs vs. estimated ambulance runs per area) been documented?
- b. Have they made comparisons of percent of dispatched fire-police-EMS response activities: EMS alone (%); EMS and fire (%); EMS and Police (%); EMS, Fire, Police (%)?
- c. Do they explain the dispatch operations for a two-tiered BLS/ALS system?

Medical Control:

- a. Has the utilization of medical control communications in the system for ALS and BLS been documented?
- b. What are the resources hospital's and associate hospital's utilization of treatment-triage protocols relevant to various emergency situations, cardiac, trauma, etc.?
- c. Have they measured how many times paramedics call to relay the condition of patients? How many times do they fail to?
- d. How many times do paramedics need two-way voice communication?
- e. How many times is telemetry (EKG) needed and used by paramedics?

4. Transportation (150 points)

- a. Have they studied the utilization of ambulance services: in terms of (1) response time; (2) response accuracy; (3) delivery times; and (4) delivery correctness along triage protocols?
- b. Have they compared the efficiency of differing response capabilities and their arrangements: (1) single vs. two-tier response; (2) rural vs. metro; (3) helicopter vs. OCCV vs. fixed wing?

5. Facilities (150 points)

- a. What are the number of ED visits to all hospitals, the number of critical care unit admissions and transfers, and the utilization rate of critical care facilities?
- b. What changes have been made in general and specialty facilities' capabilities and resources, and the regional profiles through the categorization designation process, including upgrading and downgrading of facilities?
- c. Have the regionwide resource inventory changes including personnel, equipment, and services been documented?
- d. Have they analyzed the differences in categorization programs between: (1) suburban/metropolitan; and (2) rural/wilderness areas in terms of horizontal/vertical matrices?
- e. Have they demonstrated effectiveness of the categorization program in matching patients to facilities? In upgrading (downgrading) facilities to meet EMS needs for both the horizontally and vertically categorized and designated facilities?

6. Critical Care Units (150 points)

- a. Have they documented the utilization of critical care unit beds per unit, per regional demand?
- b. What has been the utilization of facilities within or outside of an EMS region, including the number of critical patients transferred to special types of critical care units (categorized and designated) and the numbers of patients per critical care unit?

7. Public Safety (60 points)

- a. Have they shown effective utilization and sharing with the public safety agencies of personnel, facilities, and equipment with linkage of communications system and appropriately trained personnel?

8. Consumer Participation (60 points)

- a. What is the evidence of involvement of EMS consumers in the regional planning process that is being developed and implemented by the health planning agency?
- b. Have they developed written procedures for lay comment/grievance on EMS planning and operations and corrective action taken in response to comment on adverse operations?

9. Access to Care (60 points)

- a. What are the projected implemented monitoring methods for grievances, and what are the number of grievances submitted by users according to the regional EMS written procedure for care without ability to pay?
- b. Did they do a sampling of billing procedures carried out by EMS transport services?
- c. Do they have negotiated and signed agreements between ambulances and hospitals to provide care without the patient's ability to pay for such service?

10. Patient Transfer (150 points)

- a. Do they document the number of patients transferred along triage protocols in both rural, metropolitan and urban areas?
- b. How is quantification of the effectiveness of transfer agreements complying to established triage protocols being studied?
- c. Have they done studies of patient distribution along regional algorithms, triage, and decision patterns (number of patients transferred to categorized and designated critical units from other hospitals by category of critical care services)?

11. Coordinated Patient Recordkeeping (75 points)

- a. Do they have the following encounter forms linked and are they used to evaluate the system: ambulance standard run form; hospital emergency department form; patient discharge access data for general and critical emergencies?

12. Public Information and Education (75 points)

- a. What has been the impact on response from the public educational programs?
- b. Has the promotion of a central access number increased the use of the EMS system?
- c. What has been the increase in number of calls into the system over periods of time?

13. Review and Evaluation (60 points)

- a. Is there a description of the analytic approaches to interventions in both clinical and component areas that demonstrate how program monitoring and evaluation will be accomplished, i.e., compliance?

14. Disaster Planning (75 points)

- a. Are there presentations of the development of a program for the training, implementation, and/or testing of a medical disaster response system, including the following items:

- (1) Identification of objectives and goals;
- (2) Identification of specific types of medical disaster systems; training activities that are necessary for the achievement of stated objectives;
- (3) Designation of a scenario for medical disaster systems training;
- (4) Participation in a large scale disaster exercise?

15. Mutual Aid (60 points)

- a. Is there written cooperative agreements developed and signed by authorized individuals of institutions and evaluated and tested yearly?
- b. Are there agreements specifying service coverage, reimbursement, command and control, communication linkages, protocols, access training and licensure?

C. Implementation of the Clinical Care Program (1050 points)

- 1. Definition and Justification of Needs for Clinical Care of Patients
  - a. Will the EMS program deal with the general and specific care requirements of all EMS patients in their region?
  - b. Is a description of a current capability interfaced with a definitive and justified projection of initial grant operations?
  - c. Have needs been programmed in terms of patient care equipment and funding priorities?

- d. Does the program address the spectrum of needs required to service and support the total population and include permanent and transient population?

In addition to all of the questions asked for the 1202 application, the following should be discussed in 1203 grant applications.

1. Trauma (150 points)

- a. Has there been designation of trauma centers within or outside the region according to regional plan based upon national criteria?
- b. Is there a program of evaluation showing the analysis and results, of the care of the CNS vehicular accident patient: deaths at scene of accident or in hospital; seriously injured patients who were hospitalized and/or transferred?
- c. Is there an appropriate analytic technique utilized or planned that studies patient movement through the system and shows, change in number of patients dead or alive, transferred and or not transferred and because of the system?

2. Spinal Cord Injury (150 points)

- a. Has there been designation of spinal cord injury center by name within or outside the region based upon national criteria and according to regional categorization plan?
- b. Is there an evaluation program planned or implemented that utilizes appropriate analytic techniques to measure:
  - (1) number of spinal cord injury patients admitted to all hospitals in the region;
  - (2) number of patients dead/alive, transferred/not transferred according to the regional EMS plan;
  - (3) the transfer rate;
  - (4) the changes occurring in patient transfer since the implementation of the EMS system?

3. Burn (150 points)

- a. Has there been designation of a burn care unit/center by name within or outside of the region based upon national criteria and according to the regional plan?



- b. Is there an evaluation program planned or implemented that utilizes appropriate analytic techniques to measure:
  - (1) the number of burn patients with two weeks length of stay in all hospitals within the region;
  - (2) the number of above burn patients dead/alive, transferred/not transferred for specialized burn care according to the regional EMS plan;
  - (3) the transfer rate;
  - (4) the rate of change occurring in patient transfer since the implementation of the EMS system?

4. Poisoning (150 points)

- a. Has there been designation of a poison control information center and a regional/area poison treatment center based upon national criteria and according to the regional plan?
- b. Is there an evaluation program planned or implemented to:
  - (1) analyze the number of calls to the Poison Control Information Center and present the findings;
  - (2) analyze the number of poison tracer group patients and give the result of the number who lived/died, were transferred /not transferred to a poison treatment facility;
  - (3) analyze the rate of change that has occurred in patient transfer since implementation of the EMS program in the region?

5. Acute Cardiac (150 points)

- a. Has there been designation of cardiac care critical care unit hospitals based upon national criteria and according to the regional plan?
- b. Is there an evaluation program for the care of the cardiac patient based upon appropriate analysis of the number of patients who lived, died; were transferred to a coronary care unit, were not transferred to a coronary care unit?
- c. Is there an analysis of the number of cardiac patients receiving appropriate care and a study of the change since implementation of the EMS system on an annualized basis?

6. High-Risk Infant (150 points)

- a. Has there been designation of perinatal/neonatal intensive care center hospitals within and outside the region?
- b. Is there an evaluation program planned or implemented that utilizes appropriate analytic techniques to measure:
  - (1) the number of premature infants born in all Level I hospitals within the region?
  - (2) the number of premature infants transferred according to triage protocols by neonatal care teams to appropriate level of center(s)?
  - (3) the transfer rate of tracer group patients?
  - (4) the rate of change that has occurred in patient transfer in the region since implementation of EMS?

7. Behavioral Emergencies (150 points)

- a. Has there been designation of hospitals and institutions for behavioral care within and outside the region?
- b. Is there an evaluation program for the care of the behavioral patient assuring compliance of operation to regional designation of facilities; are there triage, transfer and treatment protocols, and manpower/training programs?
- c. Is there a study of the change in care of the behavioral patient since the implementation of the EMS system on an annualized basis?

EXHIBIT G

EVALUATION OF APPLICATIONS SUBMITTED UNDER  
SECTION 1204 - EXPANSION AND IMPROVEMENT OF  
AN EMS SYSTEM

Applications for funds under section 1204 shall be evaluated using criteria and points shown below:

- A. Organization Information - 450 points
- B. Component Information - 1500 points
  - 1. manpower - 75 points
  - 2. training - 150 points
  - 3. communication - 150 points
  - 4. transportation - 150 points
  - 5. facilities - 150 points
  - 6. critical care units - 150 points
  - 7. public safety - 60 points
  - 8. consumer participation - 60 points
  - 9. access to care - 60 points
  - 10. patient transfer - 150 points
  - 11. coordinated patient recordkeeping - 75 points
  - 12. public information and education - 75 points
  - 13. review and evaluation - 60 points
  - 14. disaster planning - 75 points
  - 15. mutual aid - 60 points
- C. Clinical Care Categories - 1050 points
  - 1. trauma - 150 points
  - 2. burn - 150 points
  - 3. spinal cord injury - 150 points
  - 4. poisoning - 150 points
  - 5. acute cardiac - 150 points
  - 6. high-risk infant - 150 points
  - 7. behavioral emergencies - 150 points
- D. Financial Plan for Self-Sufficiency - 500 points
  - 1. Assurances - 75 points
  - 2. Financial Plan - 225 points
  - 3. Endorsements - 200 points

TOTAL SCORE - 3500 points

The Expansion and Improvement Section is intended to provide for the completion of a Basic Life Support capability and progression to an Advanced Life Support program within the entire area of the proposal. It is understood that variable rates of progress and accomplishment will occur in certain parts and with certain components, as well as adaptation of the ALS with the region or area as is appropriate (rural, urban, etc.). However, a goal toward a total coverage with ALS care and addressing all components and patient categories must be considered. Some areas and regions within the proposal will appropriately have already progressed to initiating ALS care activities and can be further fundable under section 1204 for the entire area. Implementation should be ensured early in the grant period as evidenced by previous operation (1203) or from other sources and activities. Some operations ongoing program assessment (secondary operation, planning and readjustments) is acceptable. It is emphasized, however, that section 1204 is for the Expansion and Improvement of a sound comprehensive Advanced Life Support EMS Care system to encompass the entire State/regional area proposal. Further, section 1204 is the period for finalization of the financial structure which will continue to support the regional EMS system upon completion of support under this grant program.

Factors to be considered by applicants and reviewers for each of the major criteria are presented in the following paragraphs.

A. Organization Information - 450 points

1. Scope and Broad Objective of the EMS Program

- a. Has the applicant described an operational proposal to be developed for improved emergency medical care to the acutely ill and injured within the grant period?
- b. Does the plan address the specific needs of patients and provide a strategy for which an effective operational EMS system can be expanded to ALS EMS care program?
- c. Have the general, (emergent, nonemergent) and special (critical) emergency care needs been addressed and are they ready for expansion?
- d. Have the mandatory 15 EMS components been prioritized and staged for appropriately enhancing further improved EMS care in the program area?
- e. Have the various public, private, professional, community and governmental interests been addressed and ready to assist the program within the service area?

- f. Will the anticipated deficiencies be accounted for by mutual aid and backup care resources in adjoining areas?
- g. Has the applicant considered the size of the geographical area to be included (i.e., State, region, county or other unit of local government), the functional components to be included within the system, and the professional services to be provided by the EMS system?
- h. Has the applicant described the overall objective of the proposed application. i.e., the establishment of a total EMS system for a specified area of geography including a description of the political jurisdictions to be included?

2. Description of Program Area

a. Geographic Characteristics

- (1) Does the application describe the appropriate EMS system area including natural barriers, such as mountains, streams, lakes, that may affect the implementation of a total advanced EMS system?
- (2) Are the "natural" catchment, referral and treatment patterns for the general and specific EMS patient discussed? Do these operations include the whole region?

b. Governmental Characteristics

- (1) Have the appropriate operations roles of the State, regional, and local health and other essential governmental authorities been defined?
- (2) Are the appropriate government health agencies and other support organizations ready to help the program?

c. Population Characteristics

- (1) What type of people live in the service area?
- (2) What is the distribution by age, occupational status, income and education?
- (3) What are the general and special emergency patient populations (demography and epidemiology characteristics) that exist in this planning area?

- (4) Is the health delivery area affected by seasonal tourism recreation areas? How do these factors affect patient loads and resources available?

d. Transportation Characteristics

- (1) What modes of transportation are available in the area, i.e., air, rail, waterway, or trucking lines?
- (2) Do people have access to mass transit or do they rely on automobiles?
- (3) Are these transportation services available or adaptable for the EMS patients within the area?

e. Legislative Characteristics

- (1) What local, regional, and State legislation and health authorities exist that directly affects the standards of emergency care, equipment and personnel in the service area?
- (2) Is there discussion of existing legislation, such as medical practice acts, ordinances, good samaritan laws, licensing and certification requirements as applicable to ALS for ambulances, equipment and personnel?
- (3) Are there existing requirements for health reports (e.g., ambulances, hospital discharge, special incidence, violent death, gun shot, etc.)?
- (4) Will the required minimal operations data and evaluations programs be initiated during the grant period?

f. Health Delivery Systems Characteristics

- (1) Has the previous EMS operations provided the necessary development of the health delivery system for expansion and is it prepared for further advanced life support operations during the expansion period?
- (2) How is the operations program going to impact these resources and supplement the existing area deficiencies?

- (3) Does the State/region/local EMS or health units have any experience with previous areawide health or EMS delivery planning and/or operations, and are these being extended and incorporated in the total EMS program?

g. Definition of Priorities

- (1) Do the priorities of this application agree with current full system priorities for needs and funding?
- (2) Does the application develop priorities based upon program needs?
- (3) Has consideration been given to the time constraints of meeting these needs?
- (4) Are the needs adequately interfaced with other local areawide plans, statewide plans?
- (5) Do the priorities selected for funding include consideration of the availability of multiple sources of funds and magnitude of funds?

h. Implementation Schedule

The implementation schedule required under this section of the application may be limited to the time of implementation of the expansion or improvement plan and need not necessarily repeat the implementation schedule associated with a full system.

- (1) Is the implementation schedule phased to the specific objectives of the overall plan?
- (2) Can the implementation schedule be used to monitor program accomplishment by participating organizations?
- (3) Does the schedule satisfy program needs and achievement of specific objectives?
- (4) Does it show participation of major organizational units involved in the plan?
- (5) Does the implementation schedule provide adequate activities for program management assessment?
- (6) Are the activities sufficiently spread to prevent program overload in any single time period?

i. Budget Schedule

The budget schedule presented for section 1204 can be limited to the budget schedule associated with the expansion and improvement plan.

- (1) Does the applicant develop a definitive budget schedule?
- (2) Is the budget schedule balanced to program objectives?
- (3) Is there an adequate community share of the total system cost?
- (4) Is the budget presentation complete and comprehensive?
- (5) Does the budget sufficiently time phase to the objectives?
- (6) Does the budget contain descriptions of all of the funding sources to be utilized?
- (7) Is the budget presented for the entire project period so that a time phased budget schedule can be developed?

j. Organization and Qualifications

- (1) Does the applicant set forth a proposed organization plan?
- (2) Does the organization represent directly or indirectly EMS action groups, funding sources, professional societies, political jurisdictions, etc.?
- (3) Does the organizational plan denote an understanding of the interfaces of the total system as it relates to political units within the service area?
- (4) Is this a new or existing management group?
- (5) Does the organizational structure and identification of key personnel provide and facilitate for decision-making, project implementation and evaluation?
- (6) Does the management group relate to various participating sectors of the community?



- (7) Does the management organization operate and control any component(s) of the operational EMS system?
- (8) Does the key management staff have experience in project implementation?

k. Other Factors

- (1) What percent of the geographic area proposed is rural?
- (2) Does the application adequately address the topic of linkages of the EMS system with other portions of the total health care delivery system?

B. Objective and Implementation Approach for Components - 1500 points

In this subsection, the applicant is required to describe the general, broad and specific objectives to be accomplished by the proposed programs as they apply to each of the 15 mandatory components of a total EMS system. The paragraphs that follow list factors for reviewers consideration in reviewing each of the 15 mandatory components as they are appropriate to the EMS needs of each region and State. Reviewers may award the specified number of points for each of the 15 mandatory components based upon the completeness and comprehensiveness of the presentation.

Is the expansion or improvement requested consistent with the total EMS system plan? Are the individual 15 mandatory components implemented or planned sufficiently to justify the request for expansion or improvement? Will the requested expansion or improvement make a significant change in emergency medical service system delivery? Can the local community support the cost associated with this application for expansion or improvement after completion of the grant period? Is the request a logical next step for the applicant in the development of a total EMS system? Is this expansion or improvement compatible with the status of EMS delivery in adjacent areas, regions and States?

Has the appropriate operations role been addressed in this application? Will these roles provide sufficient information and direction to an effective operational EMS program at the State, at the regional, and at the local levels? Have these various roles for ongoing planning and anticipated operations been coordinated with other levels and will they support improved patient care? Have the specific planning and operations objectives and methodologies for each objective been developed as part of the overall operations application?

Are these objectives developed consistently for each of the mandatory 15 components of the EMS system? It is understood that areas must be provided for within or by the adjoining regions. Therefore, provisions for ongoing consultation with medical advisory groups as well as specialty agencies must be established.

The grant application should not only include what was done in the last grant year within each component area but should also include an analysis and indication of change within the items previously required in 1202 and 1203.

1. Manpower (75 points)

- a. Does the application show a reassessment of the types of manpower included within the system?
- b. Does it include physicians, emergency and specialty nurses, emergency and critical care nurses, EMS-Ambulance and EMT-Paramedic; Central Dispatchers, and Telephonic Screeners, First Aid respirators, Physician Project Directors, and EMS System Coordinators?
- c. Is there a description of the manpower coverage to be provided in an ALS system 24-hours a day, 7 days a week, for all portions of the geographic area?
- d. Is the manpower component fully explored, i.e., manpower associated with each of the EMS system elements, including identification of kinds of personnel to be used by each element?
- e. Are sources of manpower identified in terms of existing, planned and potential sources? Is manpower identified with area of specialty?
- f. Does the applicant make note of the utilization of veteran personnel as a resource?
- g. Does the manpower plan include provision for career development, promotion within a logical career ladder?
- h. Does the manpower plan include provision for career development, promotion within a logical career ladder?

2. Training (150 points)

- a. Has the effectiveness of EMS personnel in performing skills according to regional protocols (e.g., the number of times EMT-Paramedics apply their skills according to approved protocols in the field and/or during transport) been documented?

- b. Is there a study of skill decay, failure to follow protocols and/or clinical mistakes?
  - c. Has the effectiveness of training programs in providing the necessary course content to meet the needs of EMS personnel been documented?
  - d. Has there been an analysis of the methods utilized to control outputs of the training programs (meeting local and national projections and replacement)?
3. Communications (150 points)

#### Access

- a. Does the application show effectiveness and magnitude of 911 or other access uniform number in decreasing response time?
- b. Can the applicant show an analysis of the utilization of common access number for fire vs. police vs. EMS in both metropolitan and rural areas?
- c. Has the utilization of special access programs (e.g., auditory handicapped, crisis intervention, poison, non-English) in improved care and/or prevention?
- d. Are there studies of the cost effectiveness and/or clinical payoff? Is it in terms of lives saved; or decreased access time in relation to the communication system?

#### Central Dispatch

- a. Has the effectiveness (time and efficiency) and appropriate deployment of ambulance services been shown?
- b. What are the returns in terms of cost benefits, EMS encounters, and lives saved to more effective dispatch and resource management, e.g., trauma, coronary care, poison, behavioral? Do they have such studies?

#### Medical Control

- a. Do they know how often medical control direction is given for specific ALS treatments to patients initially, prehospital, and secondarily, interhospital?

- b. How many times is ventricular fibrillation reported during the prehospital phase? How often is it converted during that phase of care? What are the results?
  - c. How often is traumatic shock reported and responded to, and what are the results of resuscitation?
  - d. How often is coma and/or respiratory distress reported and improved because of EMS activities?
  - e. What is the cost and clinical effectiveness of medical, control resources for ALS/BLS and rural/urban services?
4. Transportation (150 points)
- a. Can they show the effectiveness of the transportation care component in relation to improvement of patient status upon arrival at the designated primary and/or secondary treatment facility?
5. Facilities (150 points)
- a. Do they have studies that include variables of time, teams, and treatments that demonstrate EMS impact on the patients physiological and anatomical status after advanced treatment center admission?
  - b. Do they have compliance studies that include patient impact analysis in all critical patient groups to support the categorization program?
6. Critical Care Units (150 points)
- a. Have they evaluated the effectiveness of the appropriate patient referral to a specified critical care level by compliance studies?
  - b. What does an analysis of the effectiveness shown by changes in death and disability within clinical specialized centers providing advanced care for special EMS patients reveal?
  - c. Have they discussed the critical patient reporting and its conformance to national and State reporting requirements?

7. Public Safety (60 points)
  - a. What analysis and testing of cooperative operating procedures demonstrating appropriate coordination and mutual aid plans for day by day operations has been done?
8. Consumer Participation ( 60 points)
  - a. Is there provision for consumer participation in the determination of system policy in the development of an ALS capability and continued operation of the EMS system?
9. Access to Care (60 points)
  - a. What are the monitoring methods for grievances and what are the number of grievances submitted by users according to the regional EMS written procedure?
10. Patient Transfer (150 points)
  - a. Can they show effectiveness of interhospital transfer, treatment and triage agreements as they impact upon the quality of patient care distribution, death and disability?
  - b. Do they have compliance studies of care for the critical patients along protocols in terms of referring team support and regional response team efforts?
11. Coordinated Patient Recordkeeping (75 points)
  - a. Have they developed data to show: effectiveness of medical care from a patient record data base; feedback on BLS system operations and/or improved patient care; coordinated recordkeeping data from a total systems approach to EMS; coordinated recordkeeping data from health and hospital reporting systems; appropriate analysis of coordinated record data from each of the critical care groups?
12. Public Information and Education (75 points)
  - a. Can they show effectiveness of a PI & E program on EMS utilization?
  - b. Do they show which promotional programs have been most useful in developing support for the EMS system?

- c. Have they determined how people learn what programs are most effective, i.e., TV, pamphlets, mailings, etc., in selling EMS activities?
  - d. Can they determine what specific changes in behavior related to EMS can be noted from a PI & E program?
13. Review and Evaluation (60 points)
- a. Are there plans and/or results for clinical output, impact and baseline studies of clinical patient target groups which will show system effectiveness, i.e., death/disability?
14. Disaster Planning (75 points)
- a. Is there an evaluation methodology that is relevant to the effectiveness of the medical disaster system response in a real-life disaster situation that will demonstrate system capabilities by discussing answers to the following queries: (1) How many lives were saved because of the way the system functions? (2) Would the total number of lives saved have changed if there had been no medical disaster response system? (3) How could the system have operated more effectively? (4) Would additional lives have been saved had the system operated in a different manner?
  - b. What kinds of documentation are there for the types and amount of support and assistance to be received from other emergency services, including the following: (1) communications; (2) ambulance response time; (3) operating room schedule?
  - c. Is there a system's training/disaster drill situation planned which may be applied to realistic simulated conditions?
  - d. Is there a discussion of the problem with the development of the EMS and disaster response plan on a regional basis, including suggestions for effectively developing and implementing worldwide medical disaster system response exercises?
  - e. For those regions which have experienced real-life disasters, what effects resulted from having had disaster plans in place? (1) were the disaster plans adequate or above adequate? (2) did the decisionmakers who functioned during the disaster period recognize and utilize existing protocols? What effect did the disaster plans or response have on public reaction?

15. Mutual Aid (60 points)

- a. Do they have letters showing support, including funding, by appropriate local agencies for patient care services being provided in geographic areas having overlapping patient flow patterns.

C. Clinical Care Objectives and Implementations - 1050 points

The applicant must substantiate the need for expansion and improvement through analysis of current care being given in the seven clinical areas and the development of an advanced operation plan for each area. The analysis should not only include what was done in the last grant year but also include an analysis of the items previously required in 1202 and 1203.

1. Trauma (150 points)

- a. Do they have studies utilizing injury severity methodologies on tracer patient groups?
- b. Are there subgroup analysis of tracer patients in terms of clinical and/or system effects as listed below?
  - (1) age/sex, etc.
  - (2) anatomic profiles
  - (3) surgical complications ratios
  - (4) morbidity indices
  - (5) autopsy profiles
- c. Has an analysis of cost relationships (cost/benefits) been presented for both systems and patient costs?

2. Burn (150 points)

- a. Are there subgroup analysis studies of tracer patients in terms of clinical and/or system effects as listed below?
  - (1) age/sex, etc.
  - (2) complication ratios
  - (3) morbidity indices
  - (4) autopsy profiles

3. Spinal Cord Injury (150 points)

- a. Do they have studies assessing number of patients with time elapse between injury and admission to spinal cord injury center within 6 hours, within 24 hours, and/or more than 24 hours?

b. Are there subgroup analysis of tracer patients in terms of clinical and/or systems effect as listed below?

- (1) age/sex, etc.
- (2) complication ratios
- (3) morbidity indices
- (4) autopsy profiles

c. Has an analysis of cost relationships (cost/benefits) been presented or both systems and patient costs?

4. Poisoning (150 points)

a. Are there subgroup analysis studies of tracer patients in terms of clinical and/or system effects as listed below?

- (1) age/sex, etc.
- (2) complication ratios
- (3) morbidity indices
- (4) autopsy profiles

b. Has an analysis of cost relationships (cost/benefits) been presented for systems and patient costs?

5. Acute Cardiac (150 points)

a. Has there been a study of the number and results of prehospital recorded ventricular fibrillation patients to which paramedics or mobile intensive care units have responded?

b. Have they compared the number of prehospital, recorded ventricular fibrillation patients above, with the number that were successfully converted in the field, admitted to the hospital, discharged from the hospital, alive 6 months/1 year following discharge from the hospital?

c. Have their studies shown relationship of time to the initiation of CPR by citizens, first responders, EMS personnel, and paramedics to survival?

d. Are there subgroup analysis studies of tracer patients in terms of clinical and/or system effects as listed below?

- (1) age/sex, etc.
- (2) complication ratios
- (3) morbidity indices
- (4) autopsy profiles



- e. Has an analysis of cost relationships (cost/benefit) been presented for systems and patient costs?

6. High-Risk Infant ( 150 points)

- a. Have they done an analysis of the relationship of birth weight and age to neonatal deaths in infants born out of the center?
- b. Are there subgroup analysis studies of complication ratios and other studies of tracer patients in terms of clinical or systems effects?
- c. Has an analysis of cost relationships (cost/benefits) been presented for system and patient costs?

7. Behavioral Emergencies (150 points)

- a. Have evaluation studies of performance of EMS personnel based upon intervention training been completed?
- b. Are there subgroup analysis studies and other studies of tracer patients in terms of clinical or system effects as listed below?

- (1) age/sex, etc.
- (2) complication ratios
- (3) morbidity indices
- (4) autopsy profiles

D. Financial Plan for Self-Sufficiency - 500 points

Below are the factors for reviewers consideration in reviewing the financial plan section of the 1204 application. During the 1204(1) year, applicants must project financial support of their regional system. Applications for the 1204(2) must include evidence of achieving substantial progress within their plan. The financial plan for self-sufficiency includes the plan, budget(s) and endorsements.

1. Assurances - (75 points)

- a. Are the assurances to the total system still current to the specific expansion or improvement requested in this application?
- b. Does the application contain documentation of acceptance by local participating political organizations and health institutions to become participants in the total system?

- c. Are these assurances sufficient to have a high probability of continuation after completion of Federal support?
  - d. Are assurances provided with regard to utilization of nonhealth organizations, facilities, equipment and staff.
  - e. Are assurances provided by nonpublic participants for involvements in the system to include resources and staff?
  - f. Have interagency contracts and agreements been developed with adjacent areas in other organizations linked to the system?
  - g. Have assurances been provided by professional organizations and health care institutions that will participate in the system?
2. Financial Plan - 225 points

- a. Does the application contain a financial plan?
- b. Does the plan present a reasonably complete projection for continuation of the regional EMS system, and its management entity, after the completion of the 1204(2) funding years?
- c. Does the plan project the funds necessary to maintain and operate each of the 15 system components commensurate with the EMS community resources?
- d. Does the plan present adequate detail for expenditures in support of the major operational components?
- e. Does the plan provide a comparison of the projected system requirement and the current level of expenditures?
- f. (In 1204(2) applications only) Does the plan note any changes in the current from the information provided in the 1204(1) request?
- g. (In 1204(2) application only) What major shifts or changes have been made in the current plan from that presented in the 1204(1) application?
- h. For each major source of expected funds presented in the plan is there one or more sources identified?

- i. (In 1204(2) applications only) Has there been a change in the sources and/or levels of funding projected for each of the major system components since the 1204(1) application was submitted?
  - j. Is the plan presented in such a manner or display that it can be used by the applicant and/or the EMS program to monitor progress?
3. Endorsements - 200 points
- a. For each source of funds identified in the plan, is there an accompanying endorsement by an authorized official of the funding organization?
  - b. For the governmental units that encompass the regional system, is there an endorsement of the financial plan by at least those units which include a majority of the regional population, and does the endorsement express support to implement the plan by an appropriate official?
  - c. Is there a State endorsement of the plan?
  - d. Is the State identified as a source of funds to continue the system?
  - e. Is there a State endorsement to provide funds to support the regional system's management entity?
  - f. (In 1204(2) applications only) Have the sources of funds continued their endorsement(s) of the plan?
  - g. (In 1204(2) applications only) Have the sources of funds continued their endorsement(s) at the same level as presented in the 1204(1) application?
  - h. (In 1204(2) applications only) What tangible progress has been demonstrated to assume the endorsement of committing funds?
  - i. (In 1204(2) applications only) Have there been any changes in the endorsements by the governmental units included within the EMS regional system area?



U.S. DEPARTMENT OF HEALTH,  
EDUCATION, AND WELFARE

Public Health Service  
Health Services Administration  
Bureau of Medical Services  
Division of Emergency Medical Services  
6525 Belcrest Road  
West Hyattsville, Md. 20782



POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF H.E.  
HEW - 396

DHEW (HSA) PUBLICATION NO. 79-2002  
(Formerly (HSA 75-2013)  
Revised August 1979