INTRODUCTION TO

EMERGENCY MEDICAL SERVICES

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INSTRUCTOR GUIDE

notes on instruction

Instructing adults may seem easy: an instructor has some knowledge to impart, the students need or want the information. A transfer of some kind takes place and everyone goes away satisfied that something has happened. Or has it?

We all come equipped with limited memories, assorted levels of understanding and various ranges of experience. No matter how much one may wish to grasp everything heard or seen in a given span of time, it cannot be done. What we think we hear someone say is often not what is said; what we think we say is not what others hear. As listening is very different from speaking, learning is very different from teaching. The designers of this course have worked to produce the best possible learning tool for use in the time frame allowed for this course. We have defined the intended learning as a set of objectives for each unit. Instruction should make some specific and definable change in students; they should know or be able to do something at the end of a course which they did not know or could not do at the outset.

These objectives can help you and the students to focus your energies more efficiently on the changes you want to achieve. If we keep the objectives in mind, we will be able to keep the class more effectively on track and make the different parts of the course fit together as intended. Reading the objectives with the students at the beginning of a unit will help focus their attention on the task at hand.

Translating these objectives into a learning situation can be done through a variety of methods. For this course, because of the volume of material, class size, and the short time span, we have selected the following instructional techniques:

formal lecture, interactive lecture, guided discussion, and problem-solving activities (individual or group).

PREPARING FOR EACH SESSION

(1) Study the unit carefully. Become familiar with the learning objectives and the general outline for each session. The objectives are the key to what the student is to accomplish by the end of each unit. Make your own notes. Underline points you wish to emphasize. If necessary check for clarification of key words and concepts. Add examples where appropriate. As you study the outline, your notes, and supplementary materials, consult the schedule to determine the recommended period of time needed for each instructional unit. You may wish to spend more time on one subject than on others, according to the needs of your class. Planning is essential for effective time budgeting.

(2) Make sure that you have all the materials you need and that the meeting room is properly arranged. Have overhead projector and projection screen ready when indicated. A large easel pad and felt tip marker will be needed if no blackboard is available. Extra loose leaf notepaper, pencils,

and pens should be at hand for all course participants during every session. A student name card (to be filled out with a felt tip marker) for each student is recommended. Students can also indicate their department or locality on their name cards.

SETTING CLIMATE FOR THE FIRST CLASS

(1) At the beginning of the first class, introduce yourself, giving your professional affiliation as well as your name. Give a brief statement about the goals of the course.

(2) If class size is 20 or less ask participants to introduce themselves in a similar manner. An icebreaker for starting the class is recommended. Instruct the students to divide into groups of two. Have each student interview the other student for approximately 5 minutes. Have students introduced by their "partners".

(3) Describe the general plan of the course: two days, six teaching hours per day, or whatever schedule has been determined. Teaching techniques will include lecture, group discussions and activities, and media. Explain to students when classes will begin (for example: at nine 'clock each day; lunch hour between twelve and one o'clock or whatever your proposed schedule indicates). Note that the workshop at the end of Day One is optional.

(4) Describe locations of all pertinent physical facilities: lecture room(s), library, lunchroom or restaurants, restrooms, telephones, and parking.

CONDUCTING THE SESSION

(1) Discuss learning objectives and special features of each unit (e.g. group discussion). It is recommended that the instructor read each objective to the class before beginning each unit. Confirm that the students understand the meaning of the stated objective. Determine what students will be able to accomplish at the end of the unit. Provide a transition between each session by ending with a summary and beginning each with a connected overview.

(2) Use your own words and provide examples whenever possible. The Instructor's Guide is a guide, not a script. It is important to present the materials in your own words, and to use examples which will be meaningful to your class group. This will generate greater involvement on the part of the participants.

(3) Encourage students to contribute their experiences, ideas, and questions as time allows. Questions are almost as important as answers, for they indicate that the questioner is actively involved in the learning process. When questions are raised that you are not able to answer, assign the questioner (or a group of students) responsibility for seeking the answer. It is important to remember that adults usually remember information and solutions to problems that they have developed by themselves better than those explained to them by someone else. Each session is a learning experience for you, the instructor, as well as for the others.

(4) Keep the discussion "on track". Although you want to encourage class participation, it is equally important to keep discussion from getting sidetracked into irrelevant issues or becoming unduly prolonged. Ask yourself how important a question or discussion is in relation to the primary objectives of the unit, and to the time available. Cover each main point in this Instructor's Guide but if the group has a special interest in a particular topic you may want to devote more time to it, and tailor your time accordingly in other areas. Or have them discuss it during the Optional Workshop.

(5) Provide clear introductions, transitions, and summaries. These help to make the relationships between primary subject areas clear, and are as important to effective presentation as your core lecture. The Instructor's Guide has, in most instances, provided introductory and transitional material; they deserve attention.

(6) Class intermissions may be taken when appropriate. You will probably want to allow the class a break each hour. Try to take the break at a point that does not interrupt the flow of the lecture.

CLASSROOM ENVIRONMENT

The best of instructors with the best of materials will suffer if the classroom climate is not both physically and psychologically suited to good learning.

Psychologically, the mood must be set by the instructor. The instructor needs to project a genuinely friendly open and receptive tone. The gap that initially exists between students and instructor needs to be bridged. If it is spanned, the students will quickly respond with a willingness to speak up, to share ideas and to get involved in discussions. Only then will shared learning occur.

The room must be physically inviting: well lit, spacious enough, and acoustically apt. The furniture needs to be comfortable and suited to shared learning. If small groups are used, then tables accommodating groups of four or five are needed. The podium or lectern, the projection screen and the chalkboard or easel must be easily visible to all the students. Obstructions like columns and pillars are most distracting.

ADAPTATION IS ESSENTIAL

After all this, one more important point needs to be made. No course will ever perfectly suit a particular group. The instructor plays the key role in bridging the gap between the course objectives and content and a specific group of learners. The instructor and the students need to repeatedly remind themselves that application of the course content to suit each one's individual needs is essential. The common tendency is to reject the material as "irrelevant" or "not suited for use" rather than to take the time to challenge

one's own thinking with new concepts. Learning should always be a mind-stretching experience.

LECTURE

The lecture method is both the easiest and the hardest instructional mode. It seems easiest because it requires few materials - a speaker, words and an audience. But in another sense it is the hardest. Keeping students' attention by helping them understand and remember accurately what was said requires a keen and constant awareness of the listeners' responses. Here are some guidelines on lecturing:

1. Identify clearly defined sub-objectives and relate them to the course objectives.

2. Outline (at least in your mind) your content.

3. Provide clear and recognizable transition ideas or statements from section to section.

4. Give numerous relevant and effective examples to illustrate abstract points.

5. Maintain a conversational tone. Involve the students in a dialogue.

6. Pepper your presentation with questions like "Am I clear?" "Did I make the point?", "Are you with me?", "Do you have any questions?" This will enable you to check how effectively you have communicated.

7. Watch for student's body language: drooping eyelids, wandering eyes, doodling, frowning, quizzical looks, etc. This will assist you in measuring the student's interest or involvement.

8. Get away from the lectern. Roam about. Use aids and gestures effectively and judiciously. "Hard-copy" masters of overhead transparencies (OHTs) are included at the end of the I.G. These can be converted into actual overhead transparencies by using special acetate in most duplication machines (Xerox, IBM, etc.). Remember that these aids are designed to complement, not replace, instruction.

GUIDED DISCUSSION

The first step in planning a discussion is to list the main topics and sub-topics to be covered in a logical order. Instead of deciding how to lecture on each major topic and sub-topic, plans are made to get the students to discuss these same points, and to reach the same conclusions that would be reached if the material were presented in the lecture format. Through this shift in emphasis it is possible to employ the principle of learning by discovery and discussion and, at the same time, to ensure that the important concepts have been thoroughly understood.

Two ways of gaining student participation:

1. A series of questions can be built around a pertinent idea.

2. A discussion can be developed around a practical situation.

In either case, the procedure for developing the questions and points for emphasis will be the same.

The following are general guidelines for leading guided discussions:

1. State the problem. During each lesson the instructor states a specific problem based on the interest shown during the discussion or based on the unit objective. It is helpful to guide and control the discussion by writing on the chalkboard or flipchart the specific problems selected for discussion.
2. Establish major points to be discussed for the major structure of the discussion. A needless and confused discussion can be avoided if a plan is advanced for each session. The instructor must be certain that the session aims are achieved through the discussion of pertinent issues and techniques.

Preparation of an outline before the session will aid the instructor in developing the discussion around the important points of the lesson. The use of detailed notes is not recommended because this tends to make the proceedings too inflexible and formal. A broad flexible outline, plus a clear mental picture of the various objectives and phases of the discussion will enable the instructor to meet all contingencies.

This instructor guide is a starting point but you must personalize it with pertinent, real world experiences.

With tact and patience, the instructor can direct and stimulate free discussion without doing too much talking. The participants can be guided into an examination of new techniques and methods of improving old ones by the pooling of experience and by discussion based on the general principles and suggestions contained in the training manuals. Mere descriptions of methods are not enough; techniques must be analyzed, discussed, and applied.

If the group shows a tendency to repeat general statements found in a training manual, the instructor should broaden the discussion by questioning the soundness of the manual statements, how they apply to specific case illustrations. The leader proposes questions to draw out relevant facts that might be overlooked otherwise.

Research has shown that adults learn best by doing, not just by listening or watching. They need to assimilate and use the information presented. Interrupt the lecture for planned activities. At intervals dictated by the nature of the material, activities are provided which will help the student "connect" with the subject matter. The activities will increase the student's assimilation of the desired content. They are not a break from the formal presentation; they are an integrated part of the learning process. They should not be omitted.

If time is a constraint, compress the lecture, not the application.

There are many activities that can be used, but they all have one thing in common: they are an attempt to get the students thinking, talking and personalizing the ideas being presented. Whether it is a case study to be analyzed, a problem to be resolved, a course of action to be mapped out or a list of acceptable procedures to be compiled, here are some tips to help the activity along.

1. Allow the students time to get into the activity and to work it through step by step to completion. Nothing is so frustrating as being interrupted in the midst of a good activity.
2. Stick to the activity at hand and try to keep the class from extraneous discussions.
3. If you use small groups, monitor them constantly by circulating in their midst to see that all are involved. As you move about, listen but do not interrupt unless necessary.
4. Require the groups to prepare a brief report on their activity so that the whole class can profit from each group's activity.
5. Be positive and supportive of the student's reports even if it is not what you expected. Correct them only if

there is a glaring error. Often in many of the activities there are no clear-cut, black or white answers. For your use, however, sample solutions are included in this guide.

6. The most effective work group is composed of four or five members.

BRAINSTORMING

This is a free-wheeling process to generate as many possible solutions to a problem without imposing judgements based on stringent criteria. Students are encouraged to spontaneously present ideas relating to the topic, without regard to strict practicability, with the instructor or group leader writing ideas on the chalkboard or flipchart. Students are able to elaborate and generate ideas often because of other students suggestions. Once the students have finished suggesting ideas, the items on the chalkboard or chart are discussed and edited by the class led by the instructor.

Brainstorming can be used to provide answers to questions, solve problems, develop procedures, identify characteristics on a particular subject, and generate individual thinking.

Advantages of this method are that it provides an opportunity for in-depth thinking and gives everyone in the class a chance to participate.

In a brainstorming session the problem must be clearly stated: be specific, brief, and stimulating. The purpose and proce-

dures of brainstorming as a small group method to collect creative ideas should be clear to all group members since even one non-brainstormer can inhibit the process. Each member should understand that the purpose is to stimulate a free flow of ideas from all members without regard to critical threat and without regard to relevance. No contribution is ignored and no flight or fence is barred. Four basic rules are suggested:

1. Criticism is ruled out. Adverse judgement of ideas must be withheld until later.
2. Freewheeling is encouraged. The wilder the idea, the better; it is easier to tame down than to think up.
3. Quantity is desired. The greater the number of ideas, the more the likelihood of winners.
4. Combination and improvement are sought. In addition to contributing ideas of their own, participants should suggest how ideas of others can be turned into better ideas or how two or more ideas can be joined into still another idea.

The leader begins the brainstorming session by explaining the ground rules that every idea is acceptable, no matter how absurd or silly it may seem. No evaluation either verbal or nonverbal, is permitted during the creative brainstorming period. Freewheeling ideas are encouraged--the more and the wilder the better. More coherent ideas normally follow.

The leader or recorder lists each idea on a pad as quickly as possible, exactly as given, without editing.

The session usually begins with an initial spurt of ideas then slows down. If silence is allowed by the leader, new ideas are usually forthcoming. Once the list of ideas is completed the instructor leads the class in putting the ideas together to arrive at some conclusion(s).

SUMMARY

These few remarks are intended as a quick review of educational methodology. They are not a substitute for teaching experience or familiarity with the content area of emergency medical services.

HISTORICAL PERSPECTIVE
NOTES FOR THE INSTRUCTOR

This unit is composed of a twelve minute slide tape and a question/answer period. Prior to the commencement of this class insure that the slide projector, screen, and slide/tape synchronizer have been positioned and set up properly. Encourage students to move their positions if they are unable to see the screen clearly.

The question and answer period should provide the class with a chance to more fully develop some of the terms and concepts presented in the slide/tape. Review the content in this unit before class to insure your familiarity with it. In addition stress that the two major historical events that have caused EMS to develop are wars (as an impetus to innovation in medicine) and federal enabling legislation.

HISTORICAL PERSPECTIVE

In this unit you will receive a brief orientation on the history of pre-hospital Emergency Medical Services (EMS).

At the end of this unit you should be able to:

1. List the two recurring factors that have contributed to the growth of Emergency Medical Services.
2. Describe some of the legislative activities that facilitated Emergency Medical Services systems development

In this unit we will do the following:

1. Learn about military contributions to the EMS concept.
2. Examine recent activities, including legislation, that have resulted in the growth of EMS in the United States.

NOTETAKING OUTLINE

1. Early medical activities

2. The 1960's

3. The 1970's

4. Today

HISTORICAL PERSPECTIVES
BACKGROUND READING FOR THE STUDENT

General Comments:

The United States' involvement with EMS seems to have been assisted at many stages by two recurring factors: 1) Advances in military medicine, and 2) The timely introduction and passage of enabling legislation.

Early Medical Activities:

In 1775, the Continental Congress established a medical service for the Army by creating a Hospital Department. As the name Hospital Department implies, the service was designed to take care of injured soldiers by developing a system of rear area hospitals. Little effort was directed towards removing the wounded from battlefields in any organized manner. Nor was the new department structured so that military physicians were encouraged to go onto the battlefield.

A French surgeon, Larrey, serving with Napoleon's army designed a litter which made it easier to transport wounded soldiers off the fields of war. Added to this technological advance was the beginning of the Red Cross and the services that this organization provided during wartime. Finally, in 1862 Jonathan Letterman was appointed Medical Director of the Army of the Potomac. Letterman promptly devised a system of close medical support which was used throughout the Civil War. His system consisted of field hospitals coupled with a unique idea: an Ambulance Corps which would evacuate wounded from the battlefield. World War I saw the further refinement of Letterman's system.

By the 1930's several civilian ambulance corps had begun operation. Variously known as lifesaving crews, first aid squads, etc., these agencies (many of them volunteer) began to fill the void in on-scene medical service. Usually, they provided little or no actual medical care. Rather, they were characterized by rapid transport and minimal treatment. Nonetheless, they saved many lives.

As the nation geared up for World War II, many of the civilian ambulance corps had evolved into hospital based systems. These programs were taken over by fire departments, volunteer groups, and funeral homes. As with other wars, much was learned about traumatic injuries during the Second World War. One need identified was the need for the development of a faster means of evacuation of the wounded from battlefields to field hospitals. That need was met in 1951, when the first army helicopter detachment with the primary mission of casualty evacuation became operational in Korea. Back in the states however, ground ambulance was still the sole means to get to a hospital. And

minimal treatment was still all that was rendered by ambulance personnel.

The 1960's:

We Americans began to look at what the rest of the world was doing to reduce deaths in civilian populations. To our surprise, we found that the Russians were staffing their ambulances with physicians. And in 1966 the first modern portable defibrillator (used to electrically shock a cardiac victim) was placed into service in Belfast, Ireland. The Belfast Mobile Coronary Care Unit was manned with nurses and doctors. Yet, in the U.S. by 1966 approximately 50% of all ambulance services were provided by morticians, largely because they had vehicles designed to transport a victim laying down. Unfortunately, the victim often remained in this position permanently due to lack of proper medical care.

Research by the National Academy of Sciences/National Research Council culminated in a 1966 report, "Accidental Death and Disability: The Neglected Disease of Modern Society", which focused nationwide attention on the magnitude of our trauma problem. The report identified trauma as the fourth major cause of death in the U.S., and major cause of prolonged disability. In 1965, the report noted, 52 million injuries killed 107,000, disabled over 10 million, and permanently impaired 400,000 Americans. The report called for greater public awareness of trauma; training of ambulance, emergency department, and intensive care unit personnel; the development of a source for funds to study trauma; and for better casualty care during natural disasters. Help was not far off.

Congress passed the Highway Safety Act of 1966 in order to reduce the staggering toll of highway deaths. The Act's Standard 11, titled Emergency Medical Services, attempted to motivate States to initiate plans and programs related to pre-hospital EMS transportation. The newly-created National Highway Traffic Safety Administration (NHTSA) of DOT was assigned to the task of implementing Standard 11. NHTSA did it's homework. Then, it established a structured curriculum for a new breed of ambulance attendant, the Emergency Medical Technician Ambulance (EMT). The EMT would be trained by physicians and lay instructors in simple, yet life-sustaining skills, during a course of instruction that would take a minimum of 81 hours to complete. Attention was also given to improving the types of equipment and ambulances that the EMT would use.

The 1970's:

As America's military involvement in Vietnam continued to escalate so did the expectations of returning GIs. They couldn't understand why the military was able to give top-notch medical care in Vietnam when it wasn't available at home. The media

made much of the belief that you were safer in the "boonies" of Vietnam than you were on an American highway. The television "Emergency" caught our fancy. It also showed that in a few communities high-quality care was indeed possible.

The major military project that showed what we had learned about pre-hospital emergency care in Vietnam was the Military Assistance to Safety and Traffic (MAST). Begun in 1970, in San Antonio, Texas, the project used medical evacuation (medevac) helicopters to transport severely injured patients to hospitals.

Recognizing the need for a systems approach to EMS, Congress enacted the "Emergency Medical Services Systems Act of 1973" (Public Law 93-154). The Act provided grant monies to EMS regions if 15 EMS system components were addressed. The components included manpower, mutual aid, and disaster planning. The act was extended in 1976, and again in 1979. Also in 1973, NHTSA announced the development of it's Advanced Training Program for Emergency Medical Technicians. Personnel who completed the program were known as paramedics, or EMT-Paramedics. Their training prepared them to perform sophisticated medical skills, such as endotracheal intubation, under the voice direction of a physician. These skills were known as advanced life support (ALS) techniques.

Today:

Much has occurred in the past few years: trauma centers have been designated, EMS Councils have flourished, poison control centers were initiated. And many intermediate levels of training have sprung up...Intravenous Therapy Technicians, Cardiac Rescue Technicians, Shock/Trauma Technicians, etc. all are terms for EMTs who have completed some advanced training but not the full EMT-Paramedic program. It is estimated that there are now approximately 280,000 EMTs and 25,000 paramedics in the United States.

Current trends seem to indicate that EMS personnel are no longer considered the "fair-haired boys" of the public service agencies. EMTs and paramedics are having some of the same problems as firefighters and police officers: public esteem has leveled off, assaults are up, and salaries are down. Nonetheless, most EMS personnel are confident that they can provide their community with the high quality medical care that it deserves.

NOTE:

Further discussion of the Emergency Medical Services Systems Act of 1973 is contained in Unit 2, Systems Design. Additional information on the National Highway Traffic Safety Administration program is provided in Unit 3, Resources.

SYSTEM DESIGN
NOTES FOR THE INSTRUCTOR

In this unit you will:

1. Use an OHT to discuss the definition of EMS.

2. Use OHTs to list the 15 components of an EMS system. Particularly stress the components that deal with public safety agencies, disaster linkages, and mutual aid.

3. Assist the students in making a community features analysis of their own community. This consists in part of explaining terms. In addition you should encourage them to find out any data that they are unable to complete in class when they return to their own jurisdiction. Allow appro. 20 minutes for this activity.

4. Spend about 10-15 minutes discussing how these features impact on the community's ability to deal with a disaster. Special emphasis should be placed on the need for planning by an integrated emergency management team.

SYSTEMS DESIGN

In this unit, you will be introduced to a broad definition of EMS, and to considerations that are important in order to have an effective EMS System. At the end of the unit you should be able to:

1. Recognize the role of groups, including your own, in providing Emergency Medical Services support
2. know the 15 components of an EMS system;
3. describe the features of your specific community which should be considered in EMS planning and operations

In this unit, we will do the following:

1. Discuss the definition of EMS;
2. Learn about 15 components of a well-planned EMS System;
3. Make a community features analysis;
4. Discuss the implications of these features

NOTETAKING OUTLINE

A. EMS Definition

B. EMS Systems Components

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

EMS SYSTEM DESIGN
BACKGROUND READING FOR THE STUDENT

A. EMS DEFINITION: Emergency Medical Services consists of facilities, personnel and equipment for the provision of emergency medical care.

B. EMS SYSTEM COMPONENTS: Your attention is directed to the article, "Emergency Medical Services System Development: A National Initiative," authored by Dr. David Boyd. Note that the article refers to the 15 components of an EMS program. The fifteen components as they are listed in Public Law 93-154, Emergency Medical Services Systems Act of 1973, are that an EMS System shall:

1. (PROVISION OF MANPOWER)..."include an adequate number of health professionals, allied health professionals, and other health personnel with appropriate training and experience;"

2. (TRAINING OF PERSONNEL)..."provide for its personnel appropriate training (including clinical training) and continuing education programs which (I) are coordinated with other programs in the systems's service area which provide similar training and education, and (II) emphasize recruitment and necessary training of veterans of the Armed Forces with military training and experience in health care fields and of appropriate public safety personnel..."

3. (COMMUNICATIONS)..."join the personnel, facilities, and equipment of the system by a central communications system so that requests for emergency health care services will be handled by a communications facility which (I) utilizes emergency medical telephonic screening (II) utilizes...the universal emergency telephone number 911 and, (III) will have direct communication connections... with the personnel, facilities and equipment of the system..."

4. (TRANSPORTATION)..."include an adequate number of necessary ground, air and water vehicles and other transportation facilities to meet the individual characteristics of the system's service area--(I) which vehicles and facilities meet appropriate standards relating to location, design, performance and equipment, and (II) the operators and other personnel...meet appropriate training and experience requirements..."

5. (FACILITIES)..."include an adequate number of easily accessible Emergency Medical Services facilities which are collectively capable of providing services on a continuous basis....have appropriate nonduplicative and categorized capabilities,...meet appropriate standards relating to capacity, location, personnel, and equipment, and which are coordinated with other health care facilities of the system."

6. (CRITICAL CARE UNITS)..."provide access (including appropriate transportation) to specialized critical medical care units in the system's service area, or, if there are no such units...provide access to such units in neighboring areas if access to such units is feasible in terms of time and distance."

7. (USE OF PUBLIC SAFETY AGENCIES)..."provide for the effective utilization of the appropriate personnel, facilities, and equipment of each public safety agency providing emergency services in the system's service area."

8. (CONSUMER PARTICIPATION)..."be organized in a manner that provides persons who reside in the system's service area and who have no professional training or financial interest in the provision of health care with an adequate opportunity to participate in the making of policy for the system."

9. (ACCESSIBILITY TO CARE)..."provide, without prior inquiry as to ability to pay, necessary emergency medical services to all patients requiring such services."

10. (TRANSFER OF PATIENTS)..."provide for transfer of patients to facilities and programs which offer such followup care and rehabilitation as is necessary to effect the maximum recovery of the patient."

11. (STANDARD MEDICAL RECORDKEEPING)..."provide for a standardized patient recordkeeping system...records shall cover the treatment of the patient from initial entry into the system through his discharge from it, and shall be consistent with ensuing patient records used in follow-up care and rehabilitation of the patient."

12. (CONSUMER INFORMATION AND EDUCATION)..."provide programs of public education and information in the system's service area...programs stress the general dissemination of information regarding appropriate methods of medical self-help and first aid and regarding the availability of first aid training programs..."

13. (INDEPENDENT REVIEW AND EVALUATION)..."provide for (I) periodic, comprehensive, and independent review and evaluation of the extent and quality of the emergency health care services provided in the system's service area, and (II) submission to the Secretary [D.H.H.S.] of the reports of each such review and evaluation."

14. (DISASTER LINKAGE)..."have a plan to assure that the system will be capable of providing emergency medical services...during mass casualties, natural disasters or national emergencies."

15. (MUTUAL AID AGREEMENTS)..."provide for the establishment of appropriate arrangements with emergency medical services systems...serving neighboring areas for the provision of emergency medical services on a reciprocal basis..."

C. COMMUNITY FEATURES - Unique aspects of each student's community impact on their EMS system. The following eight community features have been identified as having particular pertinence to EMS system design:

1. PHYSICAL CHARACTERISTICS - This feature includes specific aspects of a community's topography to include rivers, mountains, and other terrain landmarks.

2. DEMOGRAPHICS - This feature includes unique characteristics of a community's population such as specific groupings of people with special needs: minority groups who only speak a foreign language, elderly care centers with a need for cardiac emergency assistance, etc. This feature also includes population densities with associated seasonal variations.

3. MEDICAL NEEDS/DEMANDS - This feature includes the total ambulance call volume for all pre-hospital EMS providers. In addition it may include incident data by category: cardiac "runs", trauma, burns, etc.

4. PRE-HOSPITAL PROVIDERS - This feature includes all personnel who provide pre-hospital emergency medical care: fire service/EMS providers, citizens who provide CPR or first aid, volunteer and career EMS agencies, Third Services, public safety (police/sheriff) departments, proprietary ambulance services, etc.

5. HOSPITAL SERVICES - This feature is concerned with emergency department capabilities as well as the capabilities of other hospital departments: Intensive Care Units, Critical Care Units, operating facilities, burn units, etc.

6. EMERGENCY COMMUNICATIONS - This feature includes EMS dispatch, fire/rescue and police communications systems, 911, telemetry, disaster communications capabilites such as reserve electrical generators, radio-telephones, HAM radio systems, etc.

7. POLITICAL/ORGANIZATIONAL - This feature includes those local and regional agencies involved in EMS. For example: EMS Councils, disaster planning sub-committees, jurisdictional resource management groups, budgeting and review committees, etc.

8. SPECIAL FEATURES - This includes any features not previously covered which impact on a community's EMS system. Examples include community colleges (possible training sites), and mental health facilities (both for transport of psychiatric emergencies and for training of EMS personnel).

The Emergency Program Manager should periodically review the community features data with the EMS manager to insure that the special needs of the community are addressed during a disaster.

ACTIVITY 1

Listed below are eight categories of community features. The list should not be considered complete for all communities. Analyze Metropolis by listing briefly the type of features found there. Each space does not necessarily have to be completed if the feature does not apply to Metropolis.

Community features

1. Physical characteristics

   terrain_____

   water_____

   mountains_____

   special hazards_____

   transport facilities_____

2. Demographics

   population size_____

   densities_____

   age distribution_____

   growth rates_____

   land-use characteristics_____

   rural-urban patterns_____

3. Medical needs/demands

   ambulance demand_____

   heart attacks_____

   motor vehicle accidents_____

4. Prehospital providers

   first responders_____

volunteer services_____

basic life support (EMT) personnel_____

_____

paramedic-trained (or ALS-trained) personnel_____

_____

5. Hospital services

24-hour facilities_____

full-time emergency departments_____

trauma center_____

burn facilities_____

blood/X-ray/pharmacy_____

ancillary services_____

6. Emergency communications

radio-telemetry capabilities_____

centralized dispatch systems_____

police/fire communication systems_____

mutual aid system_____

disaster communications_____

interhospital communication system_____

7. Political/organizational

EMS Council_____

medical/professional societies_____

HSA, EMS budgets_____

disaster planning committees_____

8. Special features

community colleges_____

medical/health education programs_____