Health Services Organization in the Event of Disaster – A Study Guide
Table of Contents

Health Services Organization in the Event of Disaster – A Study Guide ................................................................. 1

Foreword ................................................................................................................................................................. 2
Acknowledgements .................................................................................................................................................. 3
Introduction .......................................................................................................................................................... 3
Pretest .................................................................................................................................................................... 4
Outline of Content .................................................................................................................................................. 7
Course Objectives ................................................................................................................................................ 8
Lesson 1 Introduction .......................................................................................................................................... 10
Lesson 2 Organization of the Health System ..................................................................................................... 11
Lesson 3 Organization of First Level Care at the Disaster Site ......................................................................... 12
Lesson 4 Organization of Rural Health Services for Disaster Situations .......................................................... 14
Lesson 5 Organization of Health Care Facilities for Disaster Situations ......................................................... 16
Lesson 6 Implementing the Disaster Plan in a Health Care Facility .................................................................. 18
Lesson 7 Updating and Evaluating the Hospital Disaster Management Plan ................................................ 20
Health for all by the year 2000............................................................................................................................ 22
Final Exam Package – A .................................................................................................................................... 22
  Final Examination ............................................................................................................................................. 23
  Final Examination – Answer Sheet .................................................................................................................. 30
  Course Evaluation ......................................................................................................................................... 32
Final Exam Package – B .................................................................................................................................... 32
  Final Examination ............................................................................................................................................. 33
  Disaster Development Problem – (B) Earthquake ......................................................................................... 36
  Final Examination – Answer Sheet ................................................................................................................ 40
  Course Evaluation ......................................................................................................................................... 42
Final Exam Answer Key – A ................................................................................................................................. 43
  Answer Key – Health Services Organization ................................................................................................. 43
  Disaster Development Problem – Hurricane ................................................................................................. 43
Final Exam Answer Key – B .................................................................................................................................... 45
  Answer Key – Health Services Organization ................................................................................................. 46
  Disaster Development Problem – Earthquake. ............................................................................................... 46
Health Services Organization in the Event of Disaster – A Study Guide

To be used in conjunction with
Pan American Health Organization
Scientific Publication No. 443

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This Study Guide is one in a series of five prepared by the University of Wisconsin–Extension, Department of Engineering and Applied Science, Disaster Management Center with financial support from the Pan American Health Organization (PAHO).

This self–study series is designed to use scientific publications of the Pan American Health Organization as texts for the study of health–related issues in disaster management. Each module of the series includes a PAHO text, a study guide, pretest, self–assessment tests and a final examination.

This Study Guide was prepared for the Disaster Management Center by Jose Luis Zeballos, Richard Hansen and Don Schramm

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Five self–study courses, based on Pan American Health Organization scientific publications, are now available. They are designed to assist in the development of disaster management plans or the improvement of existing plans. These publications and their companion study courses are entitled:

Scientific Publication No. 407
Emergency Health Management after Natural Disaster

Scientific Publication No. 419
Emergency Vector Control after Natural Disaster

Scientific Publication No. 420
Epidemiologic Surveillance after Natural Disaster

Scientific Publication No. 430
Environmental Health Management after Natural Disaster

Scientific Publication No. 443
Health Services Organization in the Event of Disaster
Foreword

Emergency Management after a Natural Disaster

In the event of a natural disaster, a nation, region, community or individual will return to normal more quickly if there has been advance planning on the use of available resources.

A plan to mobilize a country’s resources for disaster management is a complex undertaking, as illustrated above.

The health sector must cooperate with other groups involved in the overall plan. In addition, they must work within the framework and priorities established by those in higher authority. Within the overall plan is a section dealing specifically with health and subplans for various units of the health sector. (See illustration at right.)

* NGO = Nongovernmental organizations (also called voluntary agencies)
Acknowledgements

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Introduction

How to Get Started

This self–study course will help health personnel meet the needs of people experiencing a sudden natural disaster or other disaster resulting in mass casualties. Designed primarily for health care professionals, paraprofessionals, and those in training, this course may also be of value to governmental personnel and representatives of private voluntary agencies.

The course deals with those areas requiring attention by the health care delivery system. It points out problem areas identified historically in disaster, makes recommendations for preparedness, and offers suggestions for mitigating the impact of disaster on the health and welfare of the population.

The course is based primarily on the Scientific Publication, *Health Services Organization in the Event of a Disaster*, published by the Pan American Health Organization.

The procedure of self–study is:

Complete and score the Pretest. Do not be disappointed if you have a low score. If you have a high score, you probably do not need this course.

Read the Outline of Course Content to get a general idea of what is covered in the course.

Read the Learning Objectives to get a general idea of what you are expected to learn from the course.

Turn to Lesson 1: Introduction

• Review the Study Guide section for a brief description of the lesson and any special suggestions on how to study.

• Again read the Learning Objectives.

• Carry out the Learning Activities listed.

• Complete the Self–Assessment Test at the end of the lesson and score it using the answer key provided. If you have not answered most of the questions correctly, restudy the lesson.

If you score well on the Self–Assessment Test, proceed to Lesson 2.

Continue to study each lesson and complete the Self–Assessment Test until you have finished the course of study.

When you have completed all the Self–Assessment Tests to your satisfaction, you should request the Final Examination Package. This will include the Final Exam and a Disaster Development Problem.
Pretest

Multiple Choice

Circle the correct answer(s):

1. Most rural health centers are set up to perform:
   a. health promotion
   b. disease prevention
   c. first aid
   d. all of the above

2. One function of a hospital's disaster plan committee is to:
   a. give final approval to the proposal submitted by the chairperson
   b. be sure the plan can function autonomously without outside help
   c. arrange for drills and simulation exercises
   d. accommodate the plan to the hospital's budgetary program
   e. assign responsibility for the plan's execution to personnel outside the committee

3. There are several ways to increase the number of beds available in a disaster situation. Which of the following methods are accepted practice:
   a. limit hospitalization to patients in critical or serious conditions
   b. hallways can be used for extra beds
   c. single-bed rooms can be converted into double rooms
   d. all of the above
   e. a and c

4. During disaster conditions, the head nurse has among his/her responsibilities:
   a. placing an orange armband on each member of the emergency department staff
   b. receiving the instruction sheet from a member of the nursing staff
   c. notifying all people in the emergency room that they will be examined in turn
   d. assigning a physician to each of the triage areas
   e. conducting members of the patients' families to a waiting room

5. A disaster notification list comprises:
   a. names of family and close relatives of disaster victims
   b. units, departments, or services of the hospital that will be required to spring into action
   c. a high-level staff at the national medical center, the lead hospital, satellite medical care units and special medical care centers
   d. key administrators in the armed forces, civil defense, police, fire departments, and other emergency units of government
   e. areas likely to be struck by an approaching disaster and medical care units in and around the area

6. A simulation exercise runs participants through a true-to-life disaster occurrence-response situation except that it does so:
   a. within the confines of the hospital
   b. without supplying clear and precise information
   c. only with respect to the disaster occurrence period
   d. by slowing down and highlighting one particular sequence of events
   e. at an accelerated pace

7. The three stages of disaster management are:
   a. early warning, initial response, treatment and maintenance
   b. predisaster preparedness, action during the emergency, postdisaster rehabilitation
c. drills and simulations, action during the emergency, evaluation of the disaster management plan
d. search and rescue, care for victims, rehabilitation and reconstruction
e. initial disaster response, action during the disaster, evaluation of response

8. Which of the following is not one of the five general planning objectives for a health preparedness plan:

a. coordinate the use of resources to avoid duplication of effort
b. carry out training for professional and volunteer staff of the emergency care system
c. increase stocks of medical supplies and equipment
d. orient community action in disaster situations
e. keep a current inventory of all resources in the medical care area

9. Health resources workers who should be involved in disaster planning include:

a. physicians
b. social workers
c. healers
d. all of the above
e. only a and b

10. Triage begins when victims are encountered by:

a. search and rescue personnel
b. local survivors
c. rural hospital personnel
d. base hospital personnel
e. emergency room personnel

11. Which of the following is not among the subjects that should be taught to the general public as part of a predisaster preparedness plan:

a. search and rescue
b. first aid
c. triage and tagging
d. transportation of the injured
e. rehabilitation measures

12. The priority aspect of a rural health care preparedness plan should be:

a. training of medical and paramedical personnel
b. organization and outfitting of facilities
c. training and motivation of communities
d. all of the above
e. a and c

13. Which of the following is not one of the minimal standards of organization and coordination to be observed at a disaster scene:

a. establish a command post
b. assess the disaster’s magnitude
c. select an area for triage and tagging
d. deliver medical care for serious casualties
e. establish communications with health facilities

14. Which of the following is not a principal objective of a disaster plan for a health facility:

a. prepare the staff and institutional resources for optimal performance in an emergency situation of a certain magnitude
b. make the community aware of the importance of the disaster plan, how it is executed and the benefits it provides
c. plan the construction of facilities and train new staff to meet the requirements of a disaster

d. establish security arrangements to be implemented in the event of an accident within the institution

True/False

Indicate T or F:

__ 15. Private health facilities should be excluded from a national system of disaster response.

__ 16. Regionalization should set forth a clear definition of the category, location and degree of sophistication for health institutions.

__ 17. When the switchboard operator is informed of a disaster, but before the disaster plan is put into operation, the first person he/she should call is the director of the hospital.

__ 18. It is important that search and rescue personnel be trained in first aid.

__ 19. The order of evacuation for red, yellow, and green–tagged casualties is the same whether casualties are trapped or buried.

__ 20. The immediate care of disaster victims is usually the only problem facing health personnel.

__ 21. A health care preparedness plan is developed separately from a national disaster preparedness plan.

__ 22. In determining its peak operational capacity, a hospital need not be concerned about facilities for minimally injured and ambulatory patients since they will be treated elsewhere if a disaster occurs.

__ 23. Voluntary agencies are expected to provide assistance in areas not covered by a disaster emergency plan.

__ 24. A hospital planning a drill to evaluate its disaster plan should invite the Red Cross as a participant.

__ 25. Hospital disaster plans should be updated frequently.

__ 26. A hospital should be prepared to handle every aspect of a disaster situation.

__ 27. Unannounced drills are carried out without prior scheduled drills having taken place.

__ 28. Disaster planning includes measures to lift bureaucratic barriers.

__ 29. The recommended procedure is to update a hospital disaster management plan by accounting for changes in staff and resources, and then to evaluate its effectiveness.

__ 30. Following an earthquake, widespread looting and criminal behavior are generally not the norm.

__ 31. During a disaster, the hospital switchboard operator will attempt to continue processing normal calls that do not interfere with emergency procedures.

__ 32. Demarcation of health center service areas is an important factor in the structuring of emergency plans.

__ 33. If there are no red–tagged patients, green–tagged patients with apparently fatal injuries become red–tagged candidates.

__ 34. A mobile hospital is an inexpensive way of adding facilities at times of disasters.

__ 35. A hospital disaster plan should show the location of drains and of sewage and solid waste outlets.

__ 36. Persons entering a hospital under their own power need not pass through the triage area.
37. A performance audit of a hospital’s disaster plan could lead to punitive action if substantial defects are found.

38. A hospital emergency plan should be coordinated with similar plans in other institutions.

39. One objective of holding a drill to evaluate a hospital disaster plan is to minimize the time required to put the hospital on an emergency footing.

40. A hospital disaster plan need not deal with firefighting techniques since that is done by firefighters and not health personnel.

Answer Key

1. d 15. F 29. F
2. c 16. T 30. T
3. e 17. F 31. F
4. a 18. T 32. T
5. b 19. T 33. F
6. e 20. F 34. F
7. b 21. F 35. T
8. c 22. F 36. F
9. d 23. F 37. T
10. a 24. T 38. T
12. c 26. F 40. F
13. d 27. F
14. c 28. T

Outline of Content

Lesson 1 Introduction

Lesson 2 Organization of the Health System
General organization
Classification of medical care centers

Lesson 3 Organization of First Level Care at the Disaster Site
Minimal standards of organization
Role of mobile hospitals
Search and rescue units
Triage and tagging of casualties

Lesson 4 Organization of Rural Health Services for Disaster Situations
Limitations
The community

Lesson 5 Organization of Health Care Facilities for Disaster Situations
General principles
Plans for internal and external disasters
Purpose, objectives, characteristics of the plan
Basic services
Structure of the plan

Lesson 6 Implementing the Disaster Plan in a Health Care Facility
Activating the plan
Communications
Emergency unit or ward
Lesson 7 Updating and Evaluating the Hospital Disaster Management Plan

Purpose of evaluating and updating

Methods

Drills

Simulation exercises

Performance audits

Course Objectives

Lesson 1 Introduction

List four results of sudden natural disasters that may cause health problems for people.

Understand the importance of having a health care disaster plan as an integral part of an overall national disaster preparedness plan.

List the three chronological stages of disaster management activities.

Identify the five general objectives of an emergency plan.

Lesson 2 Organization of the Health System

Recognize that a unified health care disaster plan should include the country’s official health care system; autonomous, semiautonomous, and private health facilities; and voluntary agencies.

Explain why establishment of a network and regionalization of health services is important in times of disaster.

Know the important role of the national emergency committee or the civil defense system in uniting the health system with other ministries or systems, to function effectively in a disaster situation.

Define the five medical care center classifications used in disaster management planning.

Lesson 3 Organization of First Level Care at the Disaster Site

List the two types of care normally provided at the site of a disaster.

Describe five minimal standards of organization required at the disaster site.

Explain the advantages and disadvantages of mobile hospitals.

Define the mission of search and rescue units.

Explain the primary basis for classifying casualties at the disaster site.

Describe the degrees of injury and priorities normally associated with red, yellow, and green triage tags.

Lesson 4 Organization of Rural Health Services for Disaster Situations

List the two major limitations in planning for disaster management of health services in remote communities and rural areas.
Identify the most important predisaster activity that can be carried out in these areas.

List five subjects that should be taught in remote communities and rural areas to prepare people to cope with sudden natural disasters.

Be familiar with small community human resources available for providing health services in disaster situations.

Realize that human behavior following a natural disaster is normally positive and of great value in coping with problems caused by the disaster.

**Lesson 5 Organization of Health Care Facilities for Disaster Situations**

Understand the general principles involved in planning for disaster situations in health care facilities.

List the three principal objectives of a disaster plan developed for a health care facility.

List the five characteristics for such a plan.

Realize that a plan must provide specific actions to be taken during the periods of alert, impact, emergency, rehabilitation, and reconstruction.

Know the six basic services that must be assured if a health facility is to function in carrying out its disaster plan.

Describe the five functions of a disaster plan committee.

List four ways in which the number of available beds can be increased.

Understand the factors a hospital must analyze in defining its operational capacity in times of internal or external disaster.

**Lesson 6 Implementing the Disaster Plan in a Health Care Facility**

Understand the importance of having a clearly defined, detailed procedure when announcing that a disaster plan is in operation.

Appreciate the complexity of alerting units and departments when the disaster plan is being put into immediate operation.

Know how the triage procedure at the health care facility functions.

Describe the roles of the triage, major treatment, and minor treatment areas.

Describe the roles of the switchboard operator, family information center, and director of public information in keeping the community informed.

**Lesson 7 Updating and Evaluating the Hospital Disaster Management Plan**

Give two reasons for updating a hospital plan at least once a year.

Understand the need to evaluate every element of the institution and the activities each is expected to carry out in implementing the plan.

List the two main purposes of an evaluation.

List the types of drills that may be used in evaluating a plan.

List the three principal objectives of drills.

Know the importance of involving external agencies and institutions in a drill evaluating a hospital plan.
Understand the advantages that simulated disasters provide to a plan's evaluation.

Understand the benefits and limitations that performance audits provide to a plan's evaluation.

Lesson 1 Introduction

Study Guide

This lesson provides an overview of the health problems associated with sudden natural disasters and other disasters resulting in mass casualties, the critical importance of advance planning and organization, and the general objectives of a health services disaster management plan.

Learning Objectives

List four results of sudden natural disasters that may cause health problems for people.

Understand the importance of having a health disaster plan as an integral part of an overall national disaster preparedness plan.

List the three chronological stages of disaster management activities.

Identify the five general objectives of an emergency plan.

Learning Activities

Read pages 7–10 in the manual.

Read pages 3–5 in the manual.

Evaluation

Complete the Self-Assessment Test.

Notes

Lesson 1

Self-Assessment Test

Multiple Choice

Circle the correct answer(s):

1. The three stages of disaster management are:
   a. early warning, initial response, treatment, and maintenance
   b. predisaster preparedness, action during the disaster, postdisaster rehabilitation
   c. drills and simulations, action during the disaster, evaluation of the disaster management plan
   d. search and rescue, care for victims, rehabilitation and reconstruction
   e. initial disaster response, action during the disaster, evaluation of response

2. Whether the health sector launches a well-coordinated response during the emergency phase of a natural disaster will mainly depend on:
   a. functional communication systems
   b. availability of personnel
   c. local cooperation and assistance
   d. the organization of medical care
   e. availability of water and sanitation services
3. General health services disaster planning objectives include all of the following except:
   a. increasing stocks of supplies and equipment
   b. maintaining an inventory of resources
   c. carrying out training activities
   d. orienting community action
   e. coordinating the use of resources

True/False

Indicate T or F:

__ 4. The immediate care of disaster victims is usually the only problem facing health personnel.

Answer Key

1. b
2. d
3. a
4. F

Lesson 2 Organization of the Health System

Study Guide

This lesson presents general rules in organizing the health system to cope with sudden natural disasters and other disasters resulting in mass casualties. It stresses involvement of the total health care system, public and private, into a unified national system. This system then becomes a network ranging from the national medical center to medical care posts, with each having its function and responsibilities. Other emphases are the importance of regional flexibility; the need for strong, visible, trained leadership; and the classification of health service institutions within the network.

Learning Objectives

Recognize that a unified health care disaster plan should include the country’s official health care system; autonomous, semi-autonomous, and private health facilities, and voluntary agencies.

Explain why establishment of a network and regionalization of health services is important in times of disaster.

Know the important role of the national emergency committee or the civil defense system in uniting the health system with other ministries or systems, to function effectively in a disaster situation.

Define the five medical care center classifications used in disaster management planning.

Learning Activities

Read pages 7–10 in the manual.

Skim pages 81–91 in the manual (Annex 2). In order to develop a regionally organized file that identifies resources, capabilities and level of autonomy for health care centers nationwide, surveys such as this should be conducted.

Evaluation

Complete the Self-Assessment Test.

Notes

Lesson 2
Self-Assessment Test
Matching

Match the regional medical facility with the category of care that is most closely associated with it.

Regional Medical Facility

__ 1. satellite medical care unit
__ 2. national medical center
__ 3. special medical care center
__ 4. lead hospital
__ 5. medical care post

Category of Care

a. no hospital capacity, rural or suburban
b. treatment limited to specialized areas of medicine
c. highest level hospital
d. hospital capacity with limited resources
e. state or regional care

True/False

Indicate T or F:

__ 6. The organization of health centers for disaster situations should be planned in advance and based primarily on the country's existing normal health and medical care structure and system.
__ 7. The autonomous, semi-autonomous and private health facilities should become part of a national system for dealing with disasters.
__ 8. In case of disaster, the voluntary agencies need not necessarily adapt their activities to plans and assignments developed by the national authorities.
__ 9. The national emergency committee or civil defense system is responsible for uniting various health facilities in disaster planning.
__ 10. Organization for disaster situations largely involves facilities and practices outside of the normal medical care system.
__ 11. Regionalization should set forth a clear definition of the category, location and degree of sophistication for health institutions.
__ 12. Private health facilities should be excluded from a national system of disaster response.

Answer Key

1. d 5. a 9. T
2. c 6. T 10. F
3. b 7. T 11. T
4. e 8. F 12. F

Lesson 3 Organization of First Level Care at the Disaster Site

Study Guide

This unit begins to present specific details on how the health system should be organized to deal with the results of a disaster. It presents information on providing relief and first aid to victims at the disaster site and making decisions on triage and evacuation.

Learning Objectives
List the two types of care normally provided at the site of a disaster.

Describe five minimal standards of organization required at the disaster site.

Explain the advantages and disadvantages of mobile hospitals.

Define the mission of search and rescue units.

Explain the primary basis for classifying casualties at the disaster site.

Understand the concept of triage and the procedures of classification and tagging of victims.

**Learning Activities**

Read pages 11−17 in the manual.

Refer to the First Aid Training Checklist, page 101 of manual (Annex 6).

Examine the model triage tag on page 102 of the manual (Annex 7).

*Note: The color coding given in Annex 7 is correct. Page 15 and 16 in the manual should be corrected.*

Red = first priority  
Yellow = second priority  
Green = third priority

Read pages 77−80 in the manual (Annex 1). This presents facts and myths about individual and group human behavior likely to be encountered at disaster sites.

**Evaluation**

Complete the Self-Assessment Test.

**Notes**

**Lesson 3**  
**Self-Assessment Test**

**Multiple Choice**

*Circle the correct answer(s):*

1. The first task at the scene of the accident is:
   a. perform triage and tagging of casualties  
   b. identify patients who require immediate attention  
   c. give first aid to victims requiring basic resuscitation  
   d. establish a liaison with hospitals that will receive victims  
   e. determine the magnitude of the disaster

2. Triage begins when victims are encountered by:
   a. search and rescue personnel  
   b. local survivors  
   c. rural hospital personnel  
   d. base hospital personnel  
   e. emergency room personnel

3. An injured person, who was tagged green at the site of disaster because of minor injuries detected, arrives unconscious at the emergency room. He should be tagged with *one only:*
4. The practice of first aid includes:

- a. wounds and hemorrhages
- b. burns
- c. accident prevention
- d. normal births
- e. all of the above
- f. a, b, d

**True/False**

*Indicate T or F:*

- 5. If there are no red–tagged patients, green–tagged patients with apparently fatal injuries become red–tagged candidates. **F**
- 6. Yellow–tagged patients include both fatally injured victims and people with minor injuries. **T**
- 7. The staff of health posts and centers provides first level care when a disaster occurs in a rural area. **T**
- 8. Resources for on–site medical care are mobilized prior to formal implementation of a hospital’s emergency plan. **F**
- 9. Triage is based on the seriousness of injuries. **T**
- 10. An example of a red–tag problem would be a deep abdominal injury. **T**
- 11. Serious fractures of the pelvis and thorax would be tagged yellow. **F**
- 12. First level care refers to relief and first aid offered to victims at the disaster site. **T**

**Answer Key**

1. e 7. T
2. a 8. F
3. c 9. F
4. e 10. T
5. F 11. F
6. T 12. T

**Lesson 4 Organization of Rural Health Services for Disaster Situations**

**Study Guide**

This lesson describes problems and limitations involved in organizing and planning for sudden natural disasters in remote communities. It stresses the importance of preparing local people to deal with their own problems and of organizing the available resources within the community. It also lists some actions that can be taken in disaster–prone areas.

**Learning Objectives**

List two major limitations in planning for disaster management of health services in remote communities and rural areas.
Identify the most important predisaster activity that can be carried out in these areas.

List five subjects that should be taught in remote communities and rural areas to prepare people to cope with sudden natural disasters.

Be familiar with small community human resources available for providing health services in disaster situations.

Realize that human behavior following a natural disaster is normally positive and of great value in coping with problems caused by the disaster.

**Learning Activities**


Review the list of potential human resources in a small community that appears in the chart below.

**Evaluation**

Complete the Self–Assessment Test.

### Human Health Resources

Some or all of the following human health resources may be present in a small community. They should be included in the planning and organization required to prepare for disasters.

- Physicians
- Nurses
- Health workers
- Nursing auxiliaries
- Dentists
- Sanitary inspectors
- Health educators
- Social workers
- Health promoters
- Practical midwives
- Healers
- Practitioners of traditional medicine
- Pharmacists

### Lesson 4

**Self–Assessment Test**

**Multiple Choice**

*Circle the correct answer(s):*

1. Which of the following subjects should be included in any rural health training program for disaster preparedness:

   a. first aid  
   b. search and rescue  
   c. camp organization  
   d. all of the above

2. All of the following are reasons for treatment of disaster casualties in or near the home except:

   a. cost reduction  
   b. travel reduction  
   c. anxiety (trauma) reduction  
   d. reduction in need for training

**True/False**

15
Indicate T or F:

__ 3. In the absence of physicians, other health professionals such as nurses, dentists, dental assistants and paramedics should never perform a physician's task in a disaster situation.

__ 4. For at least six hours following an earthquake, most victims will be dazed, in shock, and unable to cope with even the most elementary tasks.

__ 5. Many problems in responding to disasters are brought about because of misconceptions held by the helping organizations themselves.

__ 6. Disaster management planning in rural areas may be hampered by limited staffing and communication equipment inadequacies.

__ 7. Predisaster training is more important in cities than in isolated communities and rural areas.

__ 8. Buildings in rural areas are subject to earthquake damage because regulations calling for sound construction are lacking.

__ 9. During an emergency, health personnel may rely on support from members of the community.

Answer Key

1. d   6. T
2. d   7. F
3. F   8. F
4. F   9. T
5. T

Lesson 5 Organization of Health Care Facilities for Disaster Situations

Study Guide

Health care facilities and their staffs must function at peak operating efficiency and capacity to cope with mass casualties at times of sudden disasters. This lesson describes the principles and procedures involved in developing a disaster plan to accomplish this.

Learning Objectives

Understand the general principles involved in planning for disaster situations in health care facilities.

List the three principal objectives of a disaster plan developed for a health care facility.

List the five characteristics of such a plan.

Realize that a plan must provide specific actions to be taken during the periods of alert, impact, emergency, rehabilitation, and reconstruction.

Know the six basic services that must be assured if a health facility is to function in carrying out its disaster plan.

Describe the five functions of a disaster plan committee.

List four ways in which the number of available beds can be increased.

Understand the factors a hospital must analyze in defining its operational capacity in times of internal or external disaster.

Learning Activities
Read pages 25–34 in the manual.


Evaluation

Complete the Self−Assessment Test.

Notes

Lesson 5
Self−Assessment Test

Multiple Choice

Circle the correct answer(s):

1. A hospital emergency plan for disaster situations should be:
   a. familiar only to management
   b. well organized and rigidly structured
   c. based on probable demand and resources available
   d. kept simple by paying minimal attention to community opinion
   e. aimed at every aspect of a disaster

2. The ultimate purpose of a disaster plan is:
   a. to prepare institutional resources for optimal performance
   b. to be functional, flexible and easy to implement
   c. to make the community aware of the importance of the plan
   d. to be a part of a regional disaster plan
   e. all of the above

3. What are the most important issues to be addressed in a hospital's disaster emergency plan:
   a. probable demand for services
   b. available resources
   c. hospital location
   d. a and b
   e. b and c

4. Among the basic health facility services that must be assured for any disaster response are:
   a. water and sewage
   b. electricity and gas
   c. transportation and communications
   d. a and b only
   e. a, b, and c

5. One function of a hospital disaster plan committee is to:
   a. give final approval to the proposal submitted by the chairperson
   b. be sure the plan can function autonomously without outside help
   c. arrange for drills and simulation exercises
   d. accommodate the plan to the hospital's budgetary program
   e. assign responsibility for the plan's execution to personnel outside the committee

True/False

Indicate T or F:

__ 6. Disaster planning includes measures to lift bureaucratic barriers.
7. In a disaster, all current patients in hospitals in the affected area should be discharged or transferred to other facilities.

8. Disaster vulnerability of the hospital's physical structure need not be part of a hospital disaster plan.

9. A hospital disaster plan should show the location of drains and of sewage and solid waste outlets.

10. Heliports should be considered in disaster planning.

11. A hospital emergency plan should be coordinated with similar plans in other institutions.

12. During a disaster situation, standard procedures for management of supplies can be suspended to insure prompt utilization.

Answer Key

1. c 7. F
2. e 8. F
3. d 9. T
4. e 10. T
5. c 11. T
6. T 12. T

Lesson 6 Implementing the Disaster Plan in a Health Care Facility

Study Guide

This lesson presents a detailed, complex description of the procedures, sequence, and roles of personnel involved in implementing a disaster plan. It clearly demonstrates the chaos and confusion that would result without such a plan. The student will not be accountable for all of the details, but rather for the concepts they represent. If the student becomes involved in developing a disaster plan, this lesson will serve as a valuable reference.

Learning Objectives

Understand the importance of a clearly defined, detailed procedure for declaration that a disaster plan is in operation.

Appreciate the complexity of alerting units and departments that the disaster plan is being put into immediate operation.

Know how the triage procedure at the health care facility functions.

Describe the roles of the triage, major treatment, and minor treatment areas.

Describe the roles of the switchboard operator, family information center, and director of public information in keeping the community informed.

Learning Activities

Read pages 37–60 in the manual.

Note pages 103 and 104 in the manual (Annex 8,9).

Evaluation

Complete the Self–Assessment Test.

Notes
Lesson 6
Self-Assessment Test

Matching

Match the individual with his or her responsibility under disaster conditions.

Individual

__ 1. supervisor in charge of hospital security
__ 2. switchboard operator
__ 3. chairperson of the hospital disaster committee
__ 4. hospital administrator

Responsibility

a. checks that a person has been assigned to handle the telephone during the disaster
b. sends a supply of patient identification tags to the triage area
c. determines the number of beds available and sees that needed off-duty personnel are mobilized
d. contacts all persons included in the disaster notification list

Hospital disaster plans should have clear notification procedures to follow. Match the individuals, who should be notified, with those who have the responsibility forgiving notification. A letter may be used more than once, or not at all.

To be notified/receive instructions

__ 5. senior resident in the emergency ward
__ 6. emergency ward
__ 7. chairperson of the disaster committee
__ 8. people in the emergency room
__ 9. assistant to the director of the hospital
__ 10. chief of operating rooms
__ 11. the highest local authority
__ 12. parking lot coordinator

Notifiers

a. switchboard operator
b. information center
c. emergency ward informant
d. head nurse
e. security supervisor
f. chairperson of the disaster committee
g. hospital administrator
h. operating room command post

True/False
Indicate T or F:

__ 13. The procedure for establishing a communications system in a hospital is different if a disaster situation occurs on a weekend instead of regular working hours.

__ 14. Duties of the women's volunteer corps include transportation of patients.

__ 15. A doctor, a nurse, a stretcher bearer and a driver should accompany every hospital ambulance during a disaster.

__ 16. Under disaster conditions, a press area is set up in the hospital's administration offices.

__ 17. Hospital administrative staff wear green armbands in a disaster situation.

__ 18. The make-up of the personnel in a hospital triage area varies depending on the type of disaster.

__ 19. After obtaining sufficient information, the switchboard operator may declare the disaster plan in operation.

__ 20. During a disaster, the hospital switchboard operator will attempt to continue processing normal calls that do not interfere with emergency procedures.

__ 21. Each physician assigned to a triage area must have a copy of the disaster instruction sheet for emergency department staff.

Answer Key

1. b  8. c  15. T
2. d  9. a  16. F
3. a  10. a  17. T
4. c  11. f  18. T
5. a  12. e  19. F
6. a  13. T  20. F
7. a  14. T  21. T

Lesson 7 Updating and Evaluating the Hospital Disaster Management Plan

Study Guide

This final lesson stresses the importance of frequent updating and evaluation of a hospital disaster management plan to reflect changes in personnel and resources and correct any failings in performance. The student will not be accountable for all of the detailed information presented but will be expected to understand the principles involved and the various methods available for evaluation and updating of a plan.

Learning Objectives

Give two reasons for updating a hospital plan at least once a year.

Understand the need to evaluate every element of the institution and the activities each is expected to carry out in implementing the plan.

List the two main purposes of an evaluation.

List the types of drills that may be used in evaluating a plan.

List the three principal objectives of drills.

Know the importance of involving external agencies and institutions in a drill evaluating a hospital plan.
Understand the advantages that simulated disasters provide to a plan's evaluation.

Understand the benefits and limitations that performance audits provide to a plan's evaluation.

**Learning Activities**

Read pages 63–73 in the manual.

**Evaluation**

Complete the Self-Assessment Test.

**Notes**

**Lesson 7**

**Self-Assessment Test**

**Multiple Choice**

*Circle the correct answer(s):*

1. The three principal objectives of a drill are to:
   
   a. train staff, develop flexibility in thought and response, and minimize response time
   
   b. define roles, develop flexibility in thought and response, and test participants' abilities to respond promptly and correctly under stress
   
   c. lay the groundwork for preparing a disaster management plan, involve participants in the decision-making process, and test knowledge and efficiency
   
   d. define roles, test knowledge and efficiency, and minimize response time
   
   e. train staff, detect any flaws in the plan, and minimize response time

**True/False**

*Indicate T or F:*

_2. Hospital disaster plans should be updated frequently._

_3. A disaster plan that stood the test of a real disaster need not be evaluated and updated._

_4. An in-service drill tests how well the entire hospital performs as a treatment center for emergency care of mass-casualty victims following a disaster._

_5. If staffing changes have been made, the hospital disaster plan should automatically be updated to reflect these changes._

_6. Evaluation of the disaster plan should not take place while the disaster situation is occurring._

_7. Including institutions (armed forces, the Red Cross, fire departments) in hospital disaster drills will insure coordination._

**Answer Key**

1. e
2. T
3. F
4. T
5. T
6. F
Health for all by the year 2000

In 1977, the World Health Assembly decided that the main social target of the governments and of WHO should be the attainment by all people of the world by the year 2000 of a level of health that would permit them to lead a socially and economically productive life, that is, the goal popularly known as “health for all by the year 2000.”

In 1978 the International Conference on Primary Health Care (Alma–Ata, USSR) declared that, as a central function of the national health system and an integral part of economic and social development, primary health care was the key to achieving that goal. Subsequently, the governments committed themselves – at the global level at the World Health Assembly, and at the regional level at meetings of the PAHO Governing Bodies – to implement the resolutions adopted for attaining health for all. In the Americas the high point of these mandates was reached on 28 September 1981 when the Directing Council of PAHO approved the Plan of Action for implementing the regional strategies for health for all by the year 2000. These strategies had been approved by the Directing Council in 1980 (Resolution XX) and today constitute the basis of PAHO’s policy and programming, and represent in addition the contribution of the Region of the Americas to the global strategies of WHO.

The Plan of Action approved by the Directing Council contains the minimum goals and regional objectives, as well as the actions governments of the Americas and the Organization must take in order to attain health for all. The Plan, continental in nature, is essentially dynamic and is addressed not only to current problems but also to those likely to arise from the application of the strategies and the fulfillment of regional goals and objectives. It also defines priority areas that will serve as a basis, in developing the program and the necessary infrastructure, for national and international action.

The exchange and dissemination of information constitutes one of the priority areas of the Plan of Action. PAHO’s publication program – including periodicals, scientific publications, and official documents – is designed as a means of promoting the ideas contained in the Plan by disseminating data on policies, strategies, international cooperation programs, and progress achieved in collaboration with countries of the Americas in the process of attaining health for all by the year 2000.

Final Exam Package – A

To be used in conjunction with
Pan American Health Organization
Scientific Publication No. 443

PAN AMERICAN HEALTH ORGANIZATION
Pan American Sanitary Bureau, Regional Office of the WORLD HEALTH ORGANIZATION
525 Twenty-third Street, N.W.
Washington, D.C. 20037, U.S.A.

Disaster
Management Center
UNIVERSITY OF WISCONSIN–EXTENSION
Engineering and Applied Science
432 North Lake Street
Madison, Wisconsin 53706
608–262–2061 Telex No: 265452
Final Examination

Multiple Choice

Circle the correct answer(s):

1. The three stages of disaster management are:
   a. early warning, initial response, treatment and maintenance
   b. predisaster preparedness, action during the disaster, postdisaster rehabilitation
   c. drills and simulations, action during the disaster, evaluation of the disaster management plan
   d. search and rescue, care for victims, rehabilitation and reconstruction
   e. initial disaster response, action during the disaster, evaluation of response

2. A plan for disaster situations occurring outside a hospital should include provisions for:
   a. evaluation of the hospital's self-sufficiency
   b. instruction in the use of alarm and sign systems
   c. several complementary medical command posts
   d. directions for locating firefighting equipment
   e. transfer of security forces to life-saving duties

3. Which of the following is not a major objective of a drill to evaluate a hospital's disaster management plan:
   a. to train the staff of the hospital
   b. to detect errors or flaws in the plan
   c. to assure proper coordination with the community
   d. to minimize the time to put the plan into effect

4. A unified health disaster plan should include:
   a. only the public health institutions
   b. only the general hospitals that could handle mass casualties
   c. all health institutions, private as well as public
   d. general and highly specialized hospitals only

5. General health services disaster planning objectives include all of the following except:
   a. developing plans for using alternative resources
   b. maintaining an inventory of resources
   c. carrying out training activities
   d. orienting community action
   e. coordinating the use of resources

6. Which of the following subjects should be included in any rural health training program for disaster preparedness:
   a. first aid
   b. search and rescue
   c. transportation of casualties
   d. camp organization
   e. all of the above

7. Triage should be applied:
   a. as soon as the disaster plan is put into operation
   b. after the emergency ward has been notified that the disaster plan is in operation
   c. when the number of patients far exceeds the medical services' capabilities for treating them
   d. as soon as a physician has been assigned to be in charge of the triage area
   e. once persons suffering from minor injuries have been separated from those with major injuries
8. There are several general principles of any hospital disaster emergency plan. Which of the following is **not** one:

   a. it should be flexible
   b. it should include the opinions of all potential participants
   c. it should be distributed to only administrative staff
   d. it should be objective

9. Triage begins when victims are encountered by:

   a. search and rescue personnel
   b. local medical personnel
   c. rural hospital personnel
   d. base hospital personnel
   e. emergency room personnel

10. A yellow tag injury would be:

    a. third degree burn covering less than 2 percent of the body
    b. major lesions in a patient over 60
    c. dorsal lesions with injury to the spinal column
    d. thoracic perforations
    e. fractured ankle

11. An unconscious person with few vital signs, exposed head trauma, and internal hemorrhage should be classified with: **(only one)**

    a. red tag
    b. yellow tag
    c. green tag
    d. black tag

12. Four persons are authorized to order the disaster plan into operation. Which one of the following is **not** authorized:

    a. director of the hospital
    b. chairperson of the disaster committee
    c. assistant to the head of the emergency ward
    d. assistant to the hospital director
    e. senior resident in the emergency ward

13. Minimal standards of organization for medical care units in a disaster area include all of the following except:

    a. establishing a command post
    b. alerting local officials
    c. assessing the disaster’s magnitude
    d. selecting a triage area
    e. administering first aid

14. Treatment at the scene of the accident should:

    a. proceed according to triage and tagging of casualties
    b. never be attempted unless by a trained physician
    c. be only for red−tagged patients
    d. be only basic life−saving resuscitation
    e. be only for minor injuries requiring simple first aid procedures

15. Most rural health centers are set up to perform:

    a. health promotion
    b. disease prevention
16. The most critical predisaster health activity in a rural environment is:
   a. train the community
   b. store a one-week supply of food
   c. installation of a drug refrigerator
   d. installation of a shortwave radio

17. The objectives for a hospital disaster plan are to:
   a. prepare human and facility resources for optimal work
   b. increase community awareness
   c. prepare for an internal facility accident
   d. a and b
   e. a, b, and c

18. Once the disaster plan is in effect, the chairperson of the hospital disaster committee will:
   a. assign an assistant to handle the disaster telephones
   b. notify the highest local authority where the disaster site is located
   c. send a supply of patient identification tags to the triage area
   d. notify heads of clinical departments that the disaster plan is in effect
   e. assign two nurses to the major treatment area and one to the minor treatment area

True/False

Indicate T or F:

_ 19. A health care preparedness plan is distinct from a national disaster preparedness plan.

_ 20. Mobile hospitals should be self-sufficient units.

_ 21. A disaster plan should provide procedures for evacuation of the hospital.

_ 22. Food shortages resulting from natural disasters are a concern of health personnel.

_ 23. A hospital disaster plan should be structured so that emergency activities can proceed even without basic services, such as water, gas, and communications.

_ 24. When a disaster strikes a rural area, the immediate responsibility for dealing with the situation falls on health centers in the area.

_ 25. All disaster-related incoming telephone calls are channeled into the emergency room.

_ 26. The best evaluation of a hospital disaster plan is one carried out after a simulation exercise.

_ 27. The national emergency committee or civil defense system is responsible for uniting various health facilities in disaster planning.

_ 28. Training sessions should familiarize the staff with types of damage that could result from disaster types common to that particular area.

_ 29. A hospital's disaster plan committee includes community service leaders from the surrounding area.

_ 30. The peak operating capacity of a medical facility can be determined by studying available personnel (by shift), instruments, equipment, and other resources.

_ 31. A plan for a disaster outside a hospital should have provisions for transfer of patients within the hospital.
32. Demarcation of the service area of health centers is an important factor in the structuring of emergency plans.

33. Before a well-formulated plan can be written, it must be practiced and critiqued in separate as well as comprehensive drills.

34. In scheduled, unannounced, and in-service drills, all participants must have full, advance knowledge of their missions and functions.

35. Under the regionalization system, the responsibility for organizing satellite health care units falls on the lead hospital.

36. The major treatment area is for treating patients whose stable conditions may not last much longer than 30 minutes.

37. Planning for an in-service drill to evaluate a hospital’s disaster plan should not involve other agencies and institutions since the drill is an internal evaluation.

38. Hurricane victims will normally wait for outside assistance; there is usually little individual or group initiative.

39. Simulation exercises should involve participants in disaster scenarios that may demand long hours at odd times of the day.

40. The person conducting a performance audit of a hospital’s disaster plan must have formal authority to enforce his or her recommendations.

41. The operating capacity of a hospital need not include facilities for minimal and ambulatory patients.

Disaster Development Problem (A) Hurricane

After reading about the following health services organization in the event of a disaster, you are to make decisions and answer questions relating to it. For each question, record your response on the answer sheet provided (see page 9) before going on to the next question.

Background

This Caribbean island has a population of about 1,000,000, half of whom live in the centrally located capital city. The remainder live in two towns, three small villages, and scattered rural locations.

Good roads connect all the communities except a village in the north, which is reached by a poorly maintained road. There is an international airport in the south and an air strip in the north. Two radio stations, one in the capital city and the other in a centrally located town, are the primary communications methods.

As part of the island’s overall disaster preparedness plan, a nationwide medical care network has been organized and categories of health institutions defined as follows:

Region 1

National medical center (in capital city) – 150 beds
Special medical center (in suburb of capital city) – 50 beds
Mobile hospital unit (based in capital city)

Region 2

Regional base hospital (in centrally located town) – 75 beds
Medical care post (in remote northern village) – 2 beds

Region 3

Regional base hospital (in southern town) – 60 beds
Satellite medical care unit (in southern village) – 5 beds
Problem (A−1)

The organization of the health system network for disaster situations should be based primarily on the country's existing normal health and medical care structure and systems at the regional and local level.

Of the five medical care center classifications, which one classification may have its role changed in an emergency:

Check the appropriate blank on the answer sheet before going on to the next problem.

- national medical center
- regional base hospital
- satellite medical care unit
- special medical care center
- medical care post

Problem (A−2)

The regional base hospital in Region 2 would like to evaluate and update its disaster preparedness plan. In discussing the various evaluation methods, it finds that each has advantages and limitations.

On the answer sheet, match each evaluation method with the appropriate statement. If more than one correct answer exists, any correct answer will be accepted.

Method

1. simulation exercise
2. scheduled drill
3. unannounced drill
4. in−service drill
5. performance audit

Advantages and Limitations

- A major advantage is the ability to speed up the passage of time during this evaluation.
- This type of drill requires prior rehearsals.
- The staff must already be well trained before this type of drill is planned.
- This method helps participants experience the pressure of decision making based on limited or unreliable information.
- This type of drill should be held before attempting either of the other two types.

Problem (A−3)

The Region 2 base hospital decides to hold a scheduled drill. In order to carry out a drill, each individual involved must know his or her responsibilities.

Following are a list of individuals who would be involved in the drill and another list of actions that would be taken.

On the answer sheet, match the number of the individual with the action he or she is expected to take. Numbers may be used more than once or not at all.

Individuals

1. chairperson of disaster committee
2. head physician in emergency unit
3. head nurse in emergency unit
4. hospital administrator
5. triage officer
6. hospital security supervisor
7. telephone operator

**Actions**

- Assign a person to handle the disaster telephone.
- Make sure the shift on duty in the emergency unit is assigned to triage, major treatment, and minor treatment areas.
- Assign nurses to major and minor treatment areas.
- Assign a person to supervise the ambulance teams.
- Notify the operating rooms that the disaster plan is in operation.
- Report to the disaster information center.
- Make sure that the communications system is in operation in all areas of the disaster zone.
- Send supply of patient identification tags to the triage area.
- Perform new triage on casualties treated in the emergency unit.

**Problem (A−4)**

News accounts have reported a tropical storm, building to hurricane level winds, about 500 miles away. Although the storm is expected to pass no closer than 150 miles, the national disaster relief coordinator informs the medical care network of the situation.

With a national disaster relief plan, an organized nationwide medical care network, and health care facility disaster plans that have been regularly evaluated and updated, the island appears prepared to cope with sudden natural disasters.

As the hurricane nears its point of closest expected approach, it suddenly veers west and increases in speed. The minister of health places the network on alert status. Within six hours the hurricane hits the southern half of the island.

Early reports indicate moderate damage and some injuries throughout the island. However, the most severe conditions appear to be in the southern section of the capital city and in the town located in the southern part of the island.

Should the minister of health direct all six health care institutions on the island to put their disaster plans in operation?

*Check “Yes” or “No” on the answer sheet.*

**Problem (A−5)**

The telephone operator at the national medical center receives a call from a police officer reporting mass casualties in his patrol area in the southern part of the capital city. She records the specific information he provides and notifies the chairperson of the disaster committee, who declares the disaster plan in operation.

A triage team is dispatched with the first ambulance sent to the southern part of the city.

Which of the following factors will influence the decisions of the triage team in classification (triage) and identification (tagging) of victims at the site:

*On your answer sheet, record “Yes” for each factor that will influence decisions and “No” for each that will not.*

- Expected benefit from medical care
Problem (A−6)

Disaster victims are arriving by ambulance and on their own. A triage area has been established at the emergency room entrance, a major treatment area in the emergency ward, and a minor treatment area in a classroom near the emergency ward.

Which of the following actions are appropriate and which are not:

On your answer sheet, record "Yes" for each appropriate action and "No" for each inappropriate action.

__ An uninjured family member who brought a disaster victim to the hospital is told to leave, and return later when the situation is under control.

__ A victim who arrived on his own, and has only minor injuries, is sent directly to the minor treatment area, provided care, and sent home.

__ A victim with closed fractures of both legs receives a yellow tag and is sent to the minor treatment area.

__ A patient arrives by ambulance, wearing a yellow tag during the triage at the disaster site; the patient is sent to the minor treatment area because of the decision made during initial triage.

__ Since health professionals in the area are identified by orange arm bands, a nurse who is assisting in care but does not have an arm band is told to leave the area.

Problem (A−7)

The base hospital in Region 3 reports structural damage to the hospital. One ward of 10 beds sustained major wind and water damage. Three nurses were injured. The surgical unit also suffered damage and one of the two operating rooms cannot be used. There is power outage, but the emergency generator is providing power and has a 48–hour fuel supply. The hospital finds that it must cope with both internal and external disasters.

Under these conditions, which of the following actions would be appropriate:

On your answer sheet, enter "Yes" for each appropriate action and "No" for each inappropriate action.

__ Have the triage officer at the external disaster site divert as many yellow tag disaster victims as possible to the satellite medical care unit in Region 3; alert the unit to prepare to receive them.

__ Have the triage officer at the external disaster site divert as many red tag disaster victims as possible to the national medical center; alert the center to prepare to receive them.

__ Discharge as many regular patients as possible.

__ Request that the mobile hospital unit based in the capital city be sent to Region 3.

__ Notify the national disaster relief coordinator of the reduced capacity of the hospital.

__ Focus on managing the internal disaster and accept as few external disaster victims as possible.

__ Direct the hospital's director of public information to delay releasing information on the internal disaster until more facts and details are known.
Final Examination – Answer Sheet

(A−1) Of the five medical care center classifications, check the one classification that may have its role changed in an emergency:

__ national medical center
__ regional base hospital
__ satellite medical care unit
__ special medical care center
__ medical care post

(A−2) Match each evaluation method with the most appropriate statement. If more than one correct answer exists, any correct answer will be acceptable.

Advantages and Limitations

__ a. A major advantage is the ability to speed up the passage of time during this evaluation.
__ b. This type of drill requires prior rehearsals.
__ c. The staff must already be well trained before this type of drill is planned.
__ d. This method helps participants experience the pressure of decision making based on limited or unreliable information.
__ e. This type of drill should be held before attempting either of the other two types.

Method

1. simulation exercise
2. scheduled drill
3. unannounced drill
4. in−service drill
5. performance audit

(A−3) Match the number of the individual with the action he or she is expected to take. Numbers may be used more than once, or not at all.

Action

__ a. Assign a person to handle the disaster telephone.
__ b. Make sure the shift on duty in the emergency unit is assigned to triage, major treatment, and minor treatment areas.
__ c. Assign nurses to major and minor treatment areas.
__ d. Assign a person to supervise the ambulance teams.
__ e. Notify the operating rooms that the disaster plan is in operation.
__ f. Report to the disaster information center.
__ g. Make sure that the communications system is in operation in all areas of the disaster zone.
__ h. Send a supply of patient identification tags to the triage area.
__ i. Perform new triage on casualties treated in the emergency unit.

Individual
1. chairperson of the disaster committee
2. head physician in emergency unit
3. head nurse in emergency unit
4. hospital administrator
5. triage officer
6. hospital security officer
7. telephone operator

(A-4) Should the minister of health direct all six health care institutions on the island to put their disaster plans into operation?

__ Yes
__ No

(A-5) Record “Yes” for each factor that will influence decisions by the triage team and “No” for each that will not.

__ 1. Expected benefit from medical care
__ 2. Need for immediate attention
__ 3. Ability of the team to provide sufficient treatment at the site
__ 4. Chance of survival

(A-6) Record “Yes” for each appropriate action and “No” for each inappropriate action.

__ 1. An uninjured family member who brought a disaster victim to the hospital is told to leave and return later when the situation is under control.
__ 2. A victim who arrives on his own is sent directly to the minor treatment area, provided care, and sent home.
__ 3. A victim with closed fractures of both legs receives a yellow tag and is sent to the minor treatment area.
__ 4. A patient arrives by ambulance, wearing a yellow tag given during triage at the disaster site; the patient is sent to the minor treatment area because of the decision made during initial triage.
__ 5. Since health professionals in the area are identified with orange arm bands, a nurse who is assisting in care but does not have an arm band is told to leave the area.

(A-7) Enter “Yes” for each appropriate action and “No” for each inappropriate action.

__ 1. Have the triage officer at the external disaster site divert as many yellow tag disaster victims as possible to the satellite medical care unit in Region 3; alert the unit to prepare to receive them.
__ 2. Have the triage officer at the external disaster site divert as many red tag disaster victims as possible to the national medical center; alert the center to prepare to receive them.
__ 3. Discharge as many regular patients as possible.
__ 4. Request that the mobile hospital unit based in the capital city be sent to Region 3.
__ 5. Notify the national health relief coordinator of the reduced capacity of the hospital.
__ 6. Focus on managing the internal disaster and accept as few disaster victims as possible.
__ 7. Direct the hospital's director of public information to delay releasing information on the internal disaster until more facts and details are known.
Course Evaluation

Self Study Course on Health Services Organization

1. What is your present position? ____________________

2. How many years have you spent in disaster-related work? ________________________

3. How many years of formal education do you have?
   __ 0 to 6 years
   __ 7 to 12 years
   __12 to 16 years
   __more than 16 years

4. How was the level of content in this course?
   __ too difficult
   __about right
   __ too easy

5. Was the course material relevant to your work?
   __ yes
   __ no

6. How useful to you were the various components of the course? (Circle)

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<td>Not Useful</td>
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<td>3</td>
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7. How valuable to you was the total course? (Circle)

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<th>Of Some Value</th>
<th>Not Valuable</th>
</tr>
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8. Additional comments ____________________________________________
_______________________________________________________________
_______________________________________________________________

Please return this to:
Disaster Management Center
UW–Extension Engineering
432 North Lake Street
Madison, WI 53706, USA

Thank you for taking a moment to complete this Course Evaluation.

Final Exam Package – B

To be used in conjunction with
Pan American Health Organization
Scientific Publication No. 443

PAN AMERICAN HEALTH ORGANIZATION
Pan American Sanitary Bureau, Regional Office of the
WORLD HEALTH ORGANIZATION
Final Examination

Multiple Choice

Circle the correct answer(s):

1. The three stages of disaster management are:
   a. early warning, initial response, treatment and maintenance
   b. predisaster preparedness, action during the disaster, postdisaster rehabilitation
   c. drills and simulations, action during the disaster, evaluation of the disaster management plan
   d. search and rescue, care for victims, rehabilitation and reconstruction
   e. initial disaster response, action during the disaster, evaluation of response

2. A plan for disaster situations occurring outside a hospital should include provisions for:
   a. evaluation of the hospital's self-sufficiency
   b. instruction in the use of alarm and sign systems
   c. several complementary medical command posts
   d. directions for locating firefighting equipment
   e. transfer of security forces to life-saving duties

3. Which of the following is not a major objective of a drill to evaluate a hospital's disaster management plan:
   a. to train the staff of the hospital
   b. to detect errors or flaws in the plan
   c. to assure proper coordination with the community
   d. to minimize the time to put the plan into effect

4. A unified health disaster plan should include:
   a. only the public health institutions
   b. only the general hospitals that could handle mass casualties
   c. all health institutions, private as well as public
   d. general and highly specialized hospitals only

5. General health services disaster planning objectives include all of the following except:
   a. developing plans for using alternative resources
   b. maintaining an inventory of resources
   c. carrying out training activities
   d. orienting community action
   e. coordinating the use of resources

6. Which of the following subjects should be included in any rural health training program for disaster preparedness:
a. first aid
b. search and rescue
c. transportation of casualties
d. camp organization
e. all of the above

7. Triage should be applied:
   a. as soon as the disaster plan is put into operation
   b. after the emergency ward has been notified that the disaster plan is in operation
   c. when the number of patients far exceeds the medical services’ capabilities for treating them
   d. as soon as a physician has been assigned to be in charge of the triage area
   e. once persons suffering from minor injuries have been separated from those with major injuries

8. There are several general principles of any hospital disaster emergency plan. Which of the following is not one:
   a. it should be flexible
   b. it should include the opinions of all potential participants
   c. it should be distributed to only administrative staff
   d. it should be objective

9. Triage begins when victims are encountered by:
   a. search and rescue personnel
   b. local medical personnel
   c. rural hospital personnel
   d. base hospital personnel
   e. emergency room personnel

10. A yellow tag injury would be:
    a. third degree burn covering less than 2 percent of the body
    b. major lesions in a patient over 60
    c. dorsal lesions with injury to the spinal column
    d. thoracic perforations
    e. fractured ankle

11. An unconscious person with few vital signs, exposed head trauma, and internal hemorrhage should be classified with: (only one)
    a. red tag
    b. yellow tag
    c. green tag
    d. black tag

12. Four persons are authorized to order the disaster plan into operation. Which one of the following is not authorized:
    a. director of the hospital
    b. chairperson of the disaster committee
    c. assistant to the head of the emergency ward
    d. assistant to the hospital director
    e. senior resident in the emergency ward

13. Minimal standards of organization for medical care units in a disaster area include all of the following except:
    a. establishing a command post
    b. alerting local officials
    c. assessing the disaster’s magnitude
14. Treatment at the scene of the accident should:
   a. proceed according to triage and tagging of casualties
   b. never be attempted unless by a trained physician
   c. be only for red-tagged patients
   d. be only basic life-saving resuscitation
   e. be only for minor injuries requiring simple first aid procedures

15. Most rural health centers are set up to perform:
   a. health promotion
   b. disease prevention
   c. first aid
   d. all of the above

16. The most critical predisaster health activity in a rural environment is:
   a. train the community
   b. store a one-week supply of food
   c. installation of a drug refrigerator
   d. installation of a shortwave radio

17. The objectives for a hospital disaster plan are to:
   a. prepare human and facility resources for optimal work
   b. increase community awareness
   c. prepare for an internal facility accident
   d. a and b
   e. a, b, and c

18. Once the disaster plan is in effect, the chairperson of the hospital disaster committee will:
   a. assign an assistant to handle the disaster telephones
   b. notify the highest local authority where the disaster site is located
   c. send a supply of patient identification tags to the triage area
   d. notify heads of clinical departments that the disaster plan is in effect
   e. assign two nurses to the major treatment area and one to the minor treatment area

True/False

Indicate T or F:

_ 19. A health care preparedness plan is distinct from a national disaster preparedness plan.

_ 20. Mobile hospitals should be self-sufficient units.

_ 21. A disaster plan should provide procedures for evacuation of the hospital.

_ 22. Food shortages resulting from natural disasters are a concern of health personnel.

_ 23. A hospital disaster plan should be structured so that emergency activities can proceed even without basic services, such as water, gas, and communications.

_ 24. When a disaster strikes a rural area, the immediate responsibility for dealing with the situation falls on health centers in the area.

_ 25. All disaster-related incoming telephone calls are channeled into the emergency room.

_ 26. The best evaluation of a hospital disaster plan is one carried out after a simulation exercise.
27. The national emergency committee or civil defense system is responsible for uniting various health facilities in disaster planning.

28. Training sessions should familiarize the staff with types of damage that could result from disaster types common to that particular area.

29. A hospital's disaster plan committee includes community service leaders from the surrounding area.

30. The peak operating capacity of a medical facility can be determined by studying available personnel (by shift), instruments, equipment, and other resources.

31. A plan for a disaster outside a hospital should have provisions for transfer of patients within the hospital.

32. Demarcation of the service area of health centers is an important factor in the structuring of emergency plans.

33. Before a well−formulated plan can be written, it must be practiced and critiqued in separate as well as comprehensive drills.

34. In scheduled, unannounced, and in−service drills, all participants must have full, advance knowledge of their missions and functions.

35. Under the regionalization system, the responsibility for organizing satellite health care units falls on the lead hospital.

36. The major treatment area is for treating patients whose stable conditions may not last much longer than 30 minutes.

37. Planning for an in−service drill to evaluate a hospital's disaster plan should not involve other agencies and institutions since the drill is an internal evaluation.

38. Hurricane victims will normally wait for outside assistance; there is usually little individual or group initiative.

39. Simulation exercises should involve participants in disaster scenarios that may demand long hours at odd times of the day.

40. The person conducting a performance audit of a hospital's disaster plan must have formal authority to enforce his or her recommendations.

41. The operating capacity of a hospital need not include facilities for minimal and ambulatory patients.

Disaster Development Problem – (B) Earthquake

After reading about the following health services organization in the event of a disaster, you are to make decisions and answer questions relating to it. For each question, record your response on the answer sheet provided (see page 9) before going on to the next question.

Background

This Central American region has a population of about 3,000,000, half of whom live in the centrally located capital city. The remainder live in two towns, three small villages and scattered rural locations.

Good roads connect all the communities except a village in the north, which is reached by a poorly maintained road. There is an international airport in the south and an air strip in the north. Two radio stations, one in the capital city and the other in a centrally located town, are the primary communications methods.

As part of the overall disaster preparedness plan, a nationwide medical care network has been organized and categories of health institutions defined as follows:
Region 1

National medical center (in capital city) – 450 beds
Special medical center (in suburb of capital city) – 150 beds
Mobile hospital unit (based in capital city)

Region 2

Regional base hospital (in centrally located town) – 120 beds
Medical care post (in remote northern village) – 6–8 beds

Region 3

Regional base hospital (in southern town) – 100 beds
Satellite medical care unit (in southern village) – 5 beds

Problem (B–1)

The organization of the health system network for disaster situations should be based primarily on the country’s existing normal health and medical care structure and systems at the regional and local level.

Of the five classifications of medical care centers, which one classification may have its role changed in an emergency:

Check the appropriate blank on the answer sheet before going on to the next problem.

___ national medical center
___ regional base hospital
___ satellite medical care unit
___ special medical care center
___ medical care post

Problem (B–2)

The regional base hospital in Region 2 would like to evaluate and update its disaster preparedness plan. In discussing the various evaluation methods, it finds that each has advantages and limitations.

On the answer sheet, match each evaluation method with the most appropriate statement. If more than one correct answer exists, any correct answer will be accepted.

Method

1. simulation exercise
2. scheduled drill
3. unannounced drill
4. in–service drill
5. performance audit

Advantages and Limitations

___ A major advantage is the ability to speed up the passage of time during this evaluation.
___ This type of drill requires prior rehearsals.
___ The staff must already be well trained before this type of drill is planned.
___ This method helps participants experience the pressure of decision making based on limited or unreliable information.
___ This type of drill should be held before attempting either of the other two types.

Problem (B–3)
The Region 2 base hospital decides to hold a scheduled drill. In order to carry out a drill, each individual involved must know his or her responsibilities.

Following are a list of individuals who would be involved in the drill and another list of actions that would be taken.

*On the answer sheet, match the number of the individual with the action he or she is expected to take. Numbers may be used more than once or not at all.*

**Individuals**

1. chairperson of disaster committee
2. head physician in emergency unit
3. head nurse in emergency unit
4. hospital administrator
5. triage officer
6. hospital security supervisor
7. telephone operator

**Actions**

- Assign a person to handle the disaster telephone.
- Make sure the shift on duty in the emergency unit is assigned to triage, major treatment, and minor treatment areas.
- Assign nurses to major and minor treatment areas.
- Assign a person to supervise the ambulance teams.
- Notify the operating rooms that the disaster plan is in operation.
- Report to the disaster information center.
- Make sure that the communications system is in operation in all areas of the disaster zone.
- Send supply of patient identification tags to the triage area.
- Perform new triage on casualties treated in the emergency unit.

**Problem (B–4)**

Earth tremors have been reported 100 miles to the south. Although a fault runs through the region, the tremors are along a different fault. Although there appears to be no immediate concern, the national disaster relief coordinator informs the medical care network of the situation.

With a national disaster relief plan, an organized nationwide medical care network, and health care facility disaster plans that have been regularly evaluated and updated, the region appears prepared to cope with sudden natural disasters.

With no advance warning an earthquake measuring 5.6 on the Richter scale strikes the southern half of the region.

Early reports indicate moderate damage and some injuries in various locations. However, the most severe conditions appear to be in the southern section of the capital city and in the town located in the southern part of the region.

Should the minister of health direct all six health care institutions on the island to put their disaster plans in operation?

*Check one option on the answer sheet.*
Problem (B−5)

The telephone operator at the national medical center receives a call from a police officer reporting mass casualties in his patrol area in the southern part of the capital city. She records the specific information he provides and notifies the chairperson of the disaster committee, who declares the disaster plan in operation.

A triage team is dispatched with the first ambulance sent to the southern part of the city.

Which of the following factors will influence the decisions of the triage team in classification (triage) and identification (tagging) of the victims at the site?

On your answer sheet, record "Yes" for each factor that will influence decisions and "No" for each that will not.

__ Expected benefit from medical care
__ Need for immediate attention
__ Ability of the team to provide sufficient treatment at the site
__ Chance of survival

Problem (B−6)

Disaster victims are arriving by ambulance and on their own. A triage area has been established at the emergency room entrance, a major treatment area in the emergency ward, and a minor treatment area in a classroom near the emergency ward.

Which of the following actions are appropriate and which are not:

On your answer sheet, record "Yes" for each appropriate action and "No" for each inappropriate action.

__ An uninjured family member who brought a disaster victim to the hospital is told to leave, and return later when the situation is under control.
__ A victim who arrived on his own, and has only minor injuries, is sent directly to the minor treatment area, provided care, and sent home.
__ A victim with closed fractures of both legs receives a yellow tag and is sent to the minor treatment area.
__ A patient arrives by ambulance, wearing a yellow tag during the triage at the disaster site; the patient is sent to the minor treatment area because of the decision made during initial triage.
__ Since health professionals in the area are identified by orange arm bands, a nurse who is assisting in care but does not have an arm band is told to leave the area.

Problem (B−7)

The base hospital in Region 3 reports structural damage to the hospital. One ward of 10 beds sustained major damage. Three nurses were injured. The Surgical Unit also suffered damage and one of the two operating rooms cannot be used. There is a power outage, but the emergency generator is providing power and has a 48–hour fuel supply. The hospital finds that it must cope with both internal and external disasters.

Under these conditions, which of the following actions would be appropriate:

On your answer sheet, enter "Yes" for each appropriate action and "No" for each inappropriate action.

__ Have the triage officer at the external disaster site divert as many yellow tag disaster victims as possible to the satellite medical care unit in Region 3; alert the unit to prepare to receive them.
__ Have the triage officer at the external disaster site divert as many red tag disaster victims as possible to the national medical center; alert the center to prepare to receive them.
Discharge as many regular patients as possible.

Request that the mobile hospital unit based in the capital city be sent to Region 3.

Notify the national disaster relief coordinator of the reduced capacity of the hospital.

Focus on managing the internal disaster and accept as few external disaster victims as possible.

Direct the hospital's director of public information to delay releasing information on the internal disaster until more facts and details are known.

Final Examination – Answer Sheet

(B–1) Of the five medical care center classifications, check the one classification that may have its role changed in an emergency:

- national medical center
- regional base hospital
- satellite medical care unit
- special medical care center
- medical care post

(B–2) Match each evaluation method with the most appropriate statement. If more than one correct answer exists, any correct answer will be acceptable.

Advantages and Limitations

- a. A major advantage is the ability to speed up the passage of time during this evaluation.
- b. This type of drill requires prior rehearsals.
- c. The staff must already be well-trained before this type of drill is planned.
- d. This method helps participants experience the pressure of decision making based on limited or unreliable information.
- e. This type of drill should be held before attempting either of the other two types.

Method

1. simulation exercise
2. scheduled drill
3. unannounced drill
4. in-service drill
5. performance audit

(B–3) Match the number of the individual with the action he or she is expected to take. Numbers may be used more than once, or not at all.

Action

- a. Assign a person to handle the disaster telephone.
- b. Make sure the shift on duty in the emergency unit is assigned to triage, major treatment, and minor treatment areas.
- c. Assign nurses to major and minor treatment areas.
- d. Assign a person to supervise the ambulance teams.
e. Notify the operating rooms that the disaster plan is in operation.

f. Report to the disaster information center.

g. Make sure that the communications system is in operation in all areas of the disaster zone.

h. Send a supply of patient identification tags to the triage area.
i. Perform new triage on casualties treated in the emergency unit.

Individual

1. chairperson of the disaster committee
2. head physician in emergency unit
3. head nurse in emergency unit
4. hospital administrator
5. triage officer
6. hospital security officer
7. telephone operator

(B−4) Should the minister of health direct all six health care institutions on the island to put their disaster plans into operation?

Yes
No

(B−5) Record “Yes” for each factor that will influence decisions by the triage team and “No” for each that will not.

1. expected benefit from medical care
2. need for immediate attention
3. ability of the team to provide sufficient treatment at the site
4. chance of survival

(B−6) Record “Yes” for each appropriate action and “No” for each inappropriate action.

1. An uninjured family member who brought a disaster victim to the hospital is told to leave and return later when the situation is under control.
2. A victim who arrives on his own is sent directly to the minor treatment area, provided care, and sent home.
3. A victim with closed fractures of both legs receives a yellow tag and is sent to the minor treatment area.
4. A patient arrives by ambulance, wearing a yellow tag given during triage at the disaster site; the patient is sent to the minor treatment area because of the decision made during initial triage.
5. Since health professionals in the area are identified with orange arm bands, a nurse who is assisting in care but does not have an arm band is told to leave the area.

(B−7) Enter “yes” for each appropriate action and “no” for each inappropriate action.

1. Have the triage officer at the external disaster site divert as many yellow tag disaster victims as possible to the satellite medical care unit in Region 3; alert the unit to prepare to receive them.
2. Have the triage officer at the external disaster site divert as many red tag disaster victims as possible to the national medical center; alert the center to prepare to receive them.
3. Discharge as many regular patients as possible.
4. Request that the mobile hospital unit based in the capital city be sent to Region 3.
5. Notify the national health relief coordinator of the reduced capacity of the hospital.
6. Focus on managing the internal disaster and accept as few disaster victims as possible.
7. Direct the hospital's director of public information to delay releasing information on the internal disaster until more facts and details are known.

Course Evaluation

Self Study Course on Health Services Organization

1. What is your present position? _____________________________

2. How many years have you spent in disaster–related work? __________________

3. How many years of formal education do you have?
   __ 0 to 6 years
   __ 7 to 12 years
   __ 12 to 16 years
   __ more than 16 years

4. How was the level of content in this course?
   __ too difficult
   __ about right
   __ too easy

5. Was the course material relevant to your work?
   __ yes
   __ no

6. How useful to you were the various components of the course? (Circle)

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<th>Component</th>
<th>Very Useful</th>
<th>OK</th>
<th>Not Useful</th>
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<tr>
<td>Study Guide</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Textbook (PAHO Sci. Pub. #443)</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Self–Assessment Tests</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
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</table>

7. How valuable to you was the total course? (Circle)

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<th>Value</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>Very Valuable</td>
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<tr>
<td>Not Valuable</td>
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</tr>
</tbody>
</table>

8. Additional comments ________________________________________________

___________________________________________________________

___________________________________________________________

Please return this to:
Disaster Management Center
UW–Extension Engineering
432 North Lake Street
Madison, WI 53706, USA

Thank you for taking a moment to complete this Course Evaluation.
Final Exam Answer Key – A

To be used in conjunction with
Pan American Health Organization
Scientific Publication No. 443

PAN AMERICAN HEALTH ORGANIZATION
Pan American Sanitary Bureau, Regional Office of the
WORLD HEALTH ORGANIZATION
525 Twenty-third Street, N.W.
Washington, D.C. 20037, U.S.A.

Disaster
Management Center
UNIVERSITY OF WISCONSIN–EXTENSION
Engineering and Applied Science
432 North Lake Street
Madison, Wisconsin 53706
608–262–2061 Telex No: 265452

Answer Key – Health Services Organization

1. b 12. a 22. T 32. T
2. a 13. b 23. F 33. F
3. c 14. d 24. T 34. T
4. c 15. d 25. F 35. T
5. a 16. a 26. F 36. F
6. e 17. e 27. T 37. F
7. c 18. b 28. T 38. F
9. a 20. T 30. T 40. F
11. c

Disaster Development Problem – Hurricane

Note: Page numbers cited refer to Pan American Health Organization Scientific Publication No. 443, Health Services Organization in the Event of Disaster

(A–1) Correct answer:

Special medical care center

Special medical care centers – facilities with hospital capacity but with action limited to a particular specialty or specialties. In an emergency situation, such facilities would be used as satellite medical care units or as evacuation centers for patients under observation, or for post–operative patients who have no complications or where conditions can be treated in the facility in question, relieving pressure on the regional hospitals. (pages 9–10)

(A–2) Correct answers:

a. – 1 (page 69)
b. – 2 (page 85)
c. – 3 or 4  (page 66)
d. – 1  (page 69–70)
e. – 2  (page 66)

(A–3) Correct answers:

a. – 4  (page 42)
b. – 1  (page 41)
c. – 3  (page 39)
d. – 5  (page 44)
e. – 7  (page 38)
f. – 4  (page 42)
g. – 1  (page 42)
h. – 6  (page 40)
i. – 2  (page 39)

(A–4) Correct Answer: No

One of the five general principles of hospital emergency planning for disaster situations is that the plan should be put into effect only when necessary. Some areas may be able to cope with normal operating procedures. (page 26)

An emergency or disaster occurs when the resources for dealing with the situation are inadequate for immediate action. (page 27) Each institution, at this point in time, is probably better qualified to make a decision on implementation.

Regionalization of health services should be a feature of the health infrastructure in its national strategy. In times of disaster, regionalization allows for better use of resources. (page 8) So, if the decision is not left to the institution, it should probably be made at the regional level.

(A–5) Correct Answers:

1. Yes
2. Yes
3. No
4. Yes

Decisions as to which cases can wait for treatment, which should be taken to more appropriate medical units, and which have no chance of surviving must be made at the scene of the disaster. The grouping is based on the benefit that the casualties can expect to derive from medical care, not on the seriousness of the injuries. (page 14)

Treatment at the scene should be limited to basic resuscitation procedures needed to save lives. (page 14) Even if the team has the ability to provide treatment, its primary purpose is triage and tagging.

(A–6) Correct Answers:

1. No. The uninjured family member should be directed to the family information center. This is the place where members of the family and friends of disaster victims are to wait for information on the latter’s conditions. (page 50)

2. No. Experience has shown that many people involved in a disaster head for the hospital on their own, independently of the ambulance service. Since it can hardly be assumed that all these persons will have suffered only minor injuries, these patients should also pass through the triage area. (page 43)

3. Yes. In classification of casualties by the triage officer, the "delayed" classification includes cases in which a delay in treatment after initial emergency care involves very little risk, for example: closed fractures of long bones. (page 45)

4. No. Even though a patient was assigned a yellow tag by a qualified professional at the disaster site, the victim’s condition may have changed during transportation to the hospital. The physician should perform a
new triage. (pages 39–40)

5. Yes. All staff should wear an orange arm band. Any staff members not wearing the proper arm band will be asked to leave the area. (page 48)

(A–7) Correct Answers:

1. Yes. Although a satellite medical care unit has limited human and material resources, it does have hospital capacity. If carefully selected by the triage officer at the site, many victims with injuries categorized by yellow tags could receive appropriate care at the unit.

2. No. In a regional structure, the officials in one region should not unilaterally take actions affecting use of resources in another region. The decision might be correct, but it should be made through the national health relief coordinator.

3. Yes. The following procedure is one of four that help to increase the number of available beds: any patient in a condition to be discharged will be authorized to leave the hospital. (page 34)

4. No. In the event of a very serious disaster that has damaged the physical plant of a hospital or has inflicted injuries exceeding the medical care capability of available hospitals, the use of mobile hospitals may be justified as referral or treatment facilities, or simply as first aid centers. (page 12)

   In this instance the hospital has reduced surgical and bed capacity which a mobile hospital would not replace. Experience has shown that mobile hospitals are not particularly effective because of their high cost of moving and installing, their inadequate degree of autonomy in terms of material and human resources, and their complexity. (page 12)

5. Yes. In order to coordinate the most effective use of health resources, the national health relief coordinator must know that the hospital’s capacity to provide care has been reduced.

6. No. When developing their disaster emergency plans, hospitals should consider the alternative of remaining in operation even if they have suffered structural damage as a result of a disaster. (page 12) A well–organized plan should be able to deal at the same time with both internal and external disasters.

7. No. The director of public relations should be issuing bulletins approximately every 15 minutes. (page 57)

   A key to effective disaster management is to keep the public fully informed.

**Final Exam Answer Key – B**

To be used in conjunction with
Pan American Health Organization
Scientific Publication No. 443

PAN AMERICAN HEALTH ORGANIZATION
Pan American Sanitary Bureau, Regional Office of the
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525 Twenty–third Street, N.W.
Washington, D.C. 20037, U.S.A.

Disaster
Management Center
UNIVERSITY OF WISCONSIN–EXTENSION
Engineering and Applied Science
432 North Lake Street
Madison, Wisconsin 53706
608–262–2061 Telex No: 265452
Answer Key – Health Services Organization

1. b  12. a  22. T  32. T  
2. a  13. b  23. F  33. F  
3. c  14. d  24. T  34. T  
4. c  15. d  25. F  35. T  
5. a  16. a  26. F  36. F  
6. e  17. e  27. T  37. F  
7. c  18. b  28. T  38. F  
9. a  20. T  30. T  40. F  
11. c

Disaster Development Problem – Earthquake

Note: Page numbers cited refer to Pan American Health Organization Scientific Publication No. 443, Health Services Organization in the Event of Disaster

(B−1) Correct answer:

Special medical care center

Special medical care centers – facilities with hospital capacity but with action limited to a particular specialty or specialties. In an emergency situation, such facilities would be used as satellite medical care units or as evacuation centers for patients under observation, or for post-operative patients who have no complications or where conditions can be treated in the facility in question, relieving pressure on the regional hospitals. (pages 9−10)

(B−2) Correct answers:

a. – 1  (page 69)  
b. – 2  (page 65)  
c. – 3 or 4  (page 66)  
d. – 1  (page 69−70)  
e. – 2  (page 66)

(B−3) Correct answers:

a. – 4  (page 42)  
b. – 1  (page 41)  
c. – 3  (page 39)  
d. – 5  (page 44)  
e. – 7  (page 38)  
f. – 4  (page 42)  
g. – 1  (page 42)  
h. – 6  (page 40)  
i. – 2  (page 39)

(B−4) Correct Answer: No

One of the five general principles of hospital emergency planning for disaster situations is that the plan should be put into effect only when necessary. Some areas may be able to cope with normal operating procedures. (page 26)

An emergency or disaster occurs when the resources for dealing with the situation are inadequate for immediate action. (page 27) Each institution, at this point in time, is probably better qualified to make a
Regionalization of health services should be a feature of the health infrastructure in its national strategy. In times of disaster, regionalization allows for better use of resources. (page 8) So, if the decision is not left to the institution, it should probably be made at the regional level.

(B−5) Correct Answers:

1. Yes
2. Yes
3. No
4. Yes

Decisions as to which cases can wait for treatment, which should be taken to more appropriate medical units, and which have no chance of surviving must be made at the scene of the disaster. The grouping is based on the benefit that the casualties can expect to derive from medical care, not on the seriousness of the injuries. (page 14)

Treatment at the scene should be limited to basic resuscitation procedures needed to save lives. (page 14) Even if the team has the ability to provide treatment, its primary purpose is triage and tagging.

(B−6) Correct Answers:

1. No. The uninjured family member should be directed to the family information center. This is the place where members of the family and friends of disaster victims are to wait for information on the latter’s conditions. (page 50)

2. No. Experience has shown that many people involved in a disaster head for the hospital on their own, independently of the ambulance service. Since it can hardly be assumed that all these persons will have suffered only minor injuries, these patients should also pass through the triage area. (page 43)

3. Yes. In classification of casualties by the triage officer, the “delayed” classification includes cases in which a delay in treatment after initial emergency care involves very little risk, for example: closed fractures of long bones. (page 45)

4. No. Even though a patient was assigned a yellow tag by a qualified professional at the disaster site, the victim’s condition may have changed during transportation to the hospital. The physician should perform a new triage. (pages 39–40)

5. Yes. All staff should wear an orange arm band. Any staff members not wearing the proper arm band will be asked to leave the area. (page 48)

(B−7) Correct Answers:

1. Yes. Although a satellite medical care unit has limited human and material resources, it does have hospital capacity. If carefully selected by the triage officer at the site, many victims with injuries categorized by yellow tags could receive appropriate care at the unit.

2. No. In a regional structure, the officials in one region should not unilaterally take actions affecting use of resources in another region. The decision might be correct, but it should be made through the national health relief coordinator.

3. Yes. The following procedure is one of four that help to increase the number of available beds: any patient in a condition to be discharged will be authorized to leave the hospital. (page 34)

4. No. In the event of a very serious disaster that has damaged the physical plant of a hospital or has inflicted injuries exceeding the medical care capability of available hospitals, the use of mobile hospitals may be justified as referral or treatment facilities, or simply as first aid centers. (page 12)

In this instance the hospital has reduced surgical and bed capacity which a mobile hospital would not replace. Experience has shown that mobile hospitals are not particularly effective because of their high cost of moving and installing, their inadequate degree of autonomy in terms of material and human resources, and their
5. Yes. In order to coordinate the most effective use of health resources, the national health relief coordinator must know that the hospital's capacity to provide care has been reduced.

6. No. When developing their disaster emergency plans, hospitals should consider the alternative of remaining in operation even if they have suffered structural damage as a result of a disaster. (page 12) A well-organized plan should be able to deal at the same time with both internal and external disasters.

7. No, The director of public relations should be issuing bulletins approximately every 15 minutes. (page 57)

A key to effective disaster management is to keep the public fully informed.