

PHS
NO. 1071
F-1
1966
REV.

Health Mobilization Series

F-1

Establishing the Packaged Disaster Hospital

**THIS ITEM DOES NOT
CIRCULATE**



Establishing the Packaged Disaster Hospital

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
Public Health Service
Division of Health Mobilization
1966 (Revised)

Public Health Service Publication No. 1071-F-1
(Revised April 1966)

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C., 20402 - Price 25 cents

CONTENTS

INTRODUCTION.....	1
THE PDH PROGRAM.....	3
A. Obtaining a PDH.....	3
B. Storing the PDH.....	3
C. The Utilization Plan.....	4
PREDISASTER PREPARATIONS.....	6
A. The PDH Operating Site.....	6
B. The PDH Staff.....	9
POSTDISASTER RESPONSIBILITIES.....	17
A. Chief of Staff.....	17
B. Hospital Administrator.....	18
C. Director of Nursing.....	19
TRAINING.....	21
A. Courses.....	21
B. Exercises.....	22
C. Training Aids.....	23
SUPPLIES AND EQUIPMENT.....	24
A. Packaging of the PDH Unit.....	24
B. Differences in PDH Units.....	24
C. Transporting the PDH.....	25
D. Unpacking and Distributing PDH Components.....	25
E. Additional Supplies to be Obtained Locally.....	26
PDH SECTIONS.....	28
A. The PDH Control Center.....	28
B. The Clinical Sections.....	28
C. The Administrative Sections.....	35
PDH RECORDS.....	40
A. PDH Forms.....	40
B. Optional Forms.....	47
PUBLICATIONS.....	49
A. Packaged Disaster Hospital.....	49
B. Related Material.....	50

INTRODUCTION

Any massive disaster must almost inevitably be accompanied by acute shortages of hospital space and medical supplies required for the care of disaster victims. At the very time they would be most needed, hospitals could be seriously hampered by damage and certainly by an overwhelming influx of casualties. In the extreme event of a nuclear attack, the hospitals left standing might not be safe for some time because of radioactive fallout.

In an effort to assure continuity of health care under such conditions, the Federal Government has stockpiled medical supplies and equipment to help communities meet their emergency health requirements. This material is contained both in Packaged Disaster Hospital units (PDH's) and in PHS Emergency Medical Supply Depots. PDH's are assembled by the Public Health Service and stored in carefully selected communities in affiliation with a local hospital. A PDH consists of hospital supplies, equipment, and pharmaceuticals packed for long-term storage. In a disaster, it can be used to expand the hospital to which it was assigned or it can be set up as a separate 200-bed hospital in an appropriate preselected building and operated as an adjunct to its assigned hospital. PDH components permit setting up the following hospital sections: receiving and sorting, operating rooms, wards, central sterile supply, pharmacy, laboratory, X-ray, and general stores. Generators and a water tank and pump are provided in case public utilities are disrupted.

Services in the PDH must necessarily be limited primarily to the preservation of life with the most sparing use of supplies and skilled manpower. Many of the services and comforts provided in an existing hospital under normal circumstances must be sacrificed during a disaster operation.

This publication deals primarily with the planning and preparation necessary at the community level to use a PDH following the most severe type of disaster, nuclear attack. It presupposes the necessity for setting up the entire PDH as a separate facility and operating it for an extended period under the direction of the assigned community hospital. The planning which would prepare the community for this ultimate disaster would simultaneously prepare it for the lesser but more likely disasters—flood, hurricane, earthquake, fire, or major accident—which strike many communities each year.

In some natural disaster situations, an area may find that its local supplies of some essential medical items have been exhausted. When this happens, the Public Health Service will grant permission to open the most accessible PDH in order to meet the emergency. The items must be repacked and returned to storage after the disaster need has passed.

Careful planning predisaster is required to ensure the rapid and effective utilization of a PDH or its components. This booklet is intended for the general guidance of communities which now have a PDH and also for the information of those which are considering assuming responsibility for one. It does not attempt to provide specific instructions because circumstances which influence PDH storage and use will vary from one community to another.

THE PACKAGED DISASTER HOSPITAL PROGRAM

A. OBTAINING A PDH

A community which wishes to acquire a Packaged Disaster Hospital applies through its local health or civil defense officials to the State agency responsible for the State emergency health program, stating proposed storage and operating sites and naming the local hospital which would be responsible for the storage and utilization of the unit. If the community meets the criteria of the State plan, the State applies to the Federal Government. If Federal criteria are met, a storage agreement is prepared. The PDH remains subject to Federal procedures of property accountability. The PDH's with a 30-day operating capability are valued at about \$45,000 each.

B. STORING THE PDH

The community hospital agrees to provide safe storage for the PDH. The Series 62000 PDH is contained in about 660 boxes and crates, weighs about 45,000 pounds, and requires about 7500 cubic feet of storage space. Of this 7500 cubic feet, 33 must be refrigerated, 50 must be safe for the storage of flammables, and 1050 must be protected from freezing. The remaining space must simply provide dry shelter and security from theft or tampering. The PDH must be inspected periodically to assure its constant readiness.



Stacks of folded cots plus over 600 crates and boxes comprise a 62000 Series PDH in storage. About 7500 cubic feet of storage space is required.

C. THE UTILIZATION PLAN

There must be a written plan which provides for the safe storage and efficient use of the PDH. Consideration should be given both to using the PDH components to expand the operating capability of the hospital to which it is assigned and also to setting up the PDH as a separate unit in another building should excessive overcrowding or damage to the assigned hospital make this necessary. The Series 62000 PDH contains all the equipment and expendable supplies needed to operate as an independent 200-bed hospital for 30 days without re-supply. Earlier models did not contain that many expendables and these PDH's are now being augmented by Supply Additions.

In a major disaster, the resources of the PDH must be conserved to give life-saving care to non-ambulatory, seriously sick and injured patients. When it is set up, however, the less seriously sick and injured will also arrive seeking treatment. Provisions must be made to treat them in a dispensary or first aid installation, preferably only a short distance from the PDH. In preparing the utilization plan, consideration should be given to locating an out-patient facility nearby so that those who do not require hospitalization can be diverted from the hospital itself. Arrangements should be made to obtain supplies for this service from local sources rather than depleting the PDH supplies for relatively minor needs.

Local health officials, medical society and hospital association executives, hospital administrators, and appropriate local governmental authorities should be informed of the location and mission of each PDH in their area. The citizens of the community should also be made aware of its presence since their interest and support will be needed in recruiting volunteers to augment the PDH staff.

1. Expanding the Existing Hospital

When the PDH is to be activated in or near its assigned hospital to permit the accommodation of more patients within the framework of that hospital's established systems, the PDH components will be utilized as specified in the hospital's own disaster plan. This plan may call for using PDH cots and patient-care supplies to convert lobbies, sunrooms, halls, nurses' quarters, etc., into additional wards and for setting up the PDH equipment to expand the workload capability of the hospital's own laboratory, X-ray service, etc. The following predisaster preparations should be made:

1. Preparing an up-to-date disaster plan for the existing hospital which makes specific provisions for utilizing all components of the PDH.

2. Assigning a large enough disaster staff to the existing hospital to care for the additional patients.
3. Providing necessary orientation and training, both for the permanent hospital staff and the supplemental disaster staff.
4. Arranging for necessary supporting goods and services such as water, fuel, food, laundry, communications, transportation, and traffic control.

2. Establishing a Separate Facility

When the PDH is to be used as a separate facility, predisaster preparations must include:

1. Selecting a building and preparing a floor plan to show where each section of the PDH will be housed.
2. Arranging to transport the PDH to the operating site if it is not stored in the building selected for its use.
3. Preparing a written utilization plan which outlines how the PDH will be set up and operated in a disaster.
4. Assigning personnel to prepare the building postdisaster, to open cases, and to set up equipment.
5. Assigning personnel to staff the hospital postdisaster.
6. Providing necessary orientation and training for all assignees.
7. Arranging for necessary supporting goods and services such as water, fuel, food, laundry, communications, transportation, and traffic control.

3. Other Uses of a PDH

There is always the possibility that in an actual disaster situation the PDH may not be needed as specified in the community's utilization plan and it may be put to alternate uses as the situation dictates. For instance, if the PDH is not required postdisaster in the community where it is stored, both the unit and its assigned staff may be moved to another community. Also, the PDH may be used to provide supplies and equipment to support first aid activities or to serve as a general supply back-up to other community medical care activities. It is important to remember, however, that if large amounts of material are removed from the PDH for first aid or other purposes, the usefulness of the remainder of the unit as a complete hospital is seriously impaired if not altogether destroyed.

PREDISASTER PREPARATIONS

As soon as the community accepts responsibility for a PDH unit, the key positions of chief of staff, hospital administrator, and director of nursing should be assigned so that orderly plans can be made. Alternates to these positions should also be named.

A. THE PDH OPERATING SITE

1. Selection of the Building

Modern one or two-story school buildings are especially well suited as operating sites for PDH's because of their size, floorplans, and available facilities however other kinds of buildings also may be used. Whenever possible, a PDH should be stored at the site where it will be used. If it is necessary to store the unit at another location, this storage site should be within a reasonable transporting distance of the planned operating site and in the general area it is expected to serve. Availability of the selected building exclusively for the activation of the PDH should be confirmed periodically. The following features should be included in the criteria used to select a building:

1. Floorspace of approximately 15,000 usable square feet with as much space as possible on the first floor. Schools with 16 to 25 classrooms usually have this much or more space. Certain areas must support heavy equipment, such as the X-ray unit, and stacked bulk supplies.
2. An entrance easily accessible to ambulances, preferably on a driveway with two open ends to permit easy entrance and exit of vehicles.
3. Doorways, halls, and stairways wide enough to facilitate unpacking the PDH, delivering supplies, and moving patients on litters.
4. Toilets and washrooms to meet the requirements of a total of at least 400 patients and personnel.



Detailed predisaster planning enabled this PDH to be set up and receive disaster victims within a matter of a few hours.

5. A kitchen in or near the building.
6. Adequate water, heat, lighting, and ventilation. (The PDH contains generators to provide auxiliary power and a 1,500 gallon water storage tank and pump for an alternate water supply should public utilities be disrupted.)
7. Space suitable for setting up an outpatient facility.
8. Space suitable for billeting the PDH staff if this should be necessary.

2. Preparing a Floorplan

An essential part of the community's PDH utilization plan is the preparation of a floorplan, of the selected building showing where each section of the PDH will be located. A receiving and sorting section, wards, operating rooms, laboratory, X-ray, pharmacy, general stores, central sterile supply, a morgue, an administrative center, and, if necessary, a monitoring and decontamination section must be provided for. Specific suggestions on the requirements for the various sections are discussed in *PDH Sections*, page 28. The sample floorplans (figs. 1 and 2) show two schools adapted to PDH use. A copy of the final floorplan should be posted predisaster in a conspicuous place in the building so that it will be available postdisaster to personnel unfamiliar with the building.

The layout of the selected building will naturally influence the location of certain hospital areas. For instance, rooms with sinks and running water should be used for the laboratory, surgical scrubroom, and the preparation room of the central sterile supply section. The food preparation service would logically be located in the existing kitchen-cafeteria area, if there is one, and an office with switchboard or intercom system would become the administration-communications area. Figure 3 lists some suggested minimum space requirements and other criteria for selecting appropriate areas for various hospital sections.

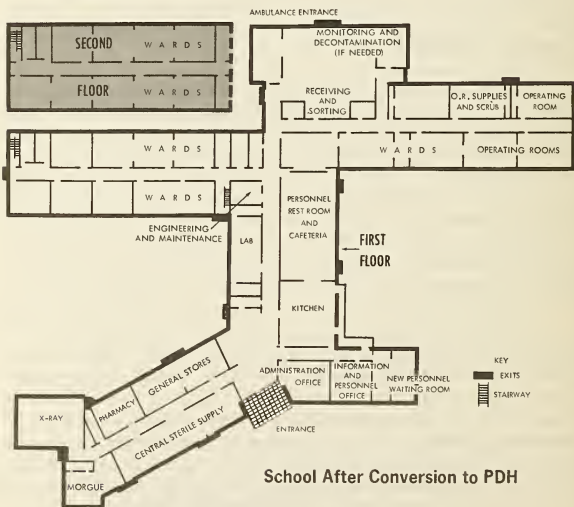
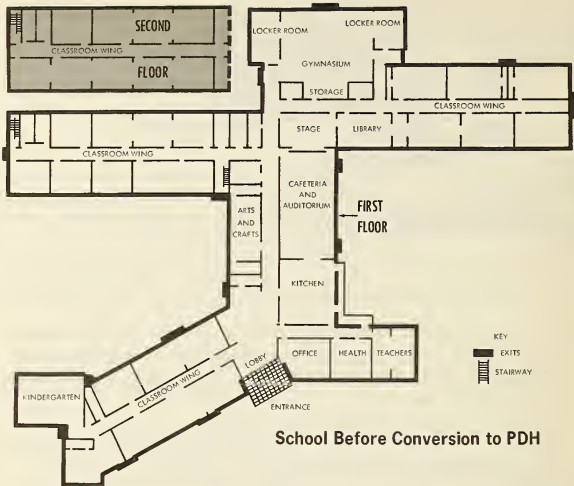


FIGURE 1—Entire School Adopted to PDH Use.

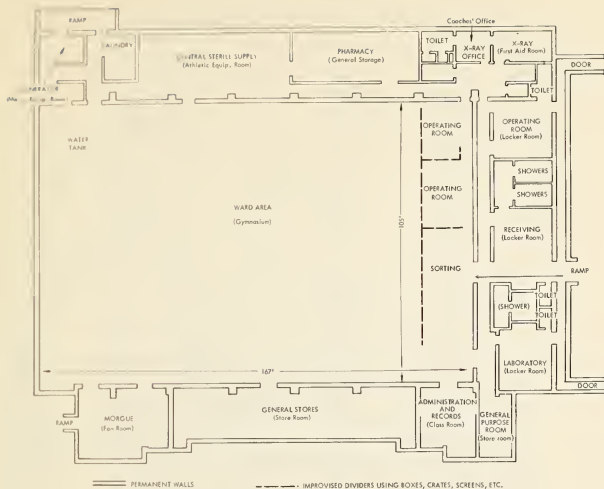


FIGURE 2—Schaal Gymnasium Area Adapted to PDH Use.

B. THE PDH STAFF

As much of the PDH staff as possible should be assigned predisaster. It is recommended that at least one-third of the full staff be preassigned so that the PDH could be set up and limited operations started without delay. Additional personnel would necessarily have to be recruited and assigned postdisaster.

The PDH can be operated with optimum efficiency with a staff such as the one outlined in figure 4. Community circumstances will almost always require adjustments and departures from this pattern. Less skilled personnel may have to be substituted in some positions and individual staff members may have to perform the function of two or more positions. It may be necessary to begin operations with a much smaller staff which would be augmented gradually by personnel from neighboring communities. Physician specialists and other professional personnel will be called on to practice beyond the bounds of their normal specialties while serving on the PDH staff.

The actual disaster situation will frequently require departures from the staffing pattern as it was planned predisaster, but prior planning, staff assignment, and training will do much to assure that enough personnel will report postdisaster to operate the PDH and that they will be prepared to work effectively.

Area	Sq. Ft.	Requirements
MONITORING AND DECONTAMINATION (If needed)	300	Should adjoin entrance to receiving and sorting section. Source of water if possible.
RECEIVING AND SORTING	1,000	Must have wide entrance on driveway.
WARDS	9,000	Should be grouped together with as many as possible on first floor. If shock ward is set up, it should be near receiving and sorting section and operating rooms.
OPERATING ROOMS	800	First floor, away from hospital traffic.
X-RAY	300	First floor, isolated from other sections and with protective shielding if possible.
LABORATORY	200	First floor, with source of water if possible. (Second floor if necessary.)
PHARMACY	800	Additional space, not necessarily adjoining, must be allocated for blood bank activity.
CENTRAL STERILE SUPPLY	700	First floor, near general stores. (Second floor if necessary.)
GENERAL STORES	900	First floor, at least 150 ft. from operating rooms. Source of water and good ventilation are necessary.
PDH CONTROL CENTER AND OTHER ADMINISTRATIVE OFFICES	500	Floor must support stacked bulk supplies.
ENGINEERING AND MAINTENANCE OFFICE	200	Away from heavy traffic, either first or second floor. Must include space for communications and records sections.
MORQUE	300	Central location. Should include space for housekeeping and traffic control-security section chiefs.
TOTAL:	15,000	First floor, away from patient traffic, with exit to driveway. An adjacent building, if available, is preferable.

Figure 3. Recommended Minimum Space and Other Location Requirements for PDH Sections.

Figure 4. Sample PDH Staffing Pattern for 24-Hour, 2-Shift Operation.

Skill Categories	Hospital Sections																					
	PDH CONTROL CENTER	RECEIVING & SORTING	WARDS	OPERATING ROOMS	PHARMACY	LABORATORY	X-RAY	MORQUE	CENTRAL STERILE SUPPLY	COMMUNICATIONS	PERSONNEL	PUBLIC INFORMATION	RECORDS	HOUSEKEEPING	ENGINEERING & MAINTENANCE	GENERAL STORES	TRAFFIC CONTROL & SECURITY	LAUNDRY SERVICE	FOOD SERVICE	TOTALS		
Physicians	2*	2		6																	10	
Dentists and/or Veterinarians				4																		4
Nurses, Professional	2	2	18	8					4													34
Anesthetists (MD or allied medical)				6																		6
Nurses, Practical		2	8	8																		18
Pharmacists					2																	2
Laboratory Technicians						2																2
X-ray Technicians							2															2
Medical Aides**		12	88	6	2	2		2	12													124
Administrators	2																					2
Maintenance Engineers															2							2
Clerks	2	2				2	2				4	2	2	4								22
Helpers and Messengers	2	2				4	2	2	6	4		2	2									32
Service Personnel														24	4							56
TOTALS	10	22†	114	38	8	8	6	4	22	8	2	4	6	24	6	6	8	8	8	12	316	

*In addition to their administrative functions, the chief of staff and his alternate may perform treatments as conditions demand.

**Such skills as nurse aide, ward maid, attendant, orderly, surgical aide, and first aid technician.

†When monitoring and decontamination are necessary, these services may be performed either by the regular staff or by especially designated personnel. In the latter case, necessary positions should be added to this total.

This table is not intended to establish a precise staffing pattern. PDH staffing is discussed in detail on page 9.

1. Activation Personnel

These staff members will have the principal responsibility for setting up the PDH postdisaster. They include the chief of staff, the hospital administrator, the chief of nursing, the chief building engineer, and thirty to forty helpers (who will also have operating assignments after the PDH is set up). These people should be prepared to report to designated points as soon as conditions permit after the disaster to handle the moving, unpacking, and setting up of the PDH supplies and equipment. All section chiefs who have been assigned predisaster should report to supervise and assist with the activation of their sections.

2. Chief of Staff and Hospital Administrator

These two will oversee the activation of the PDH and direct its operation. Should the chief of staff of the local hospital be unable to serve also as the PDH chief of staff, another physician, preferably one with experience in directing a hospital staff, should be designated. He is responsible for clinical or treatment-related sections. The hospital administrator should have managerial experience, preferably in a hospital organization, and is responsible for the predominantly non-medical sections. Because the planning duties of these two positions overlap to some extent or are to be performed jointly, both should work from the following predisaster planning checklist:

1. Become familiar with the community and State plans for civil defense, especially with the emergency health sections of these plans.
2. Become familiar with the supplies and equipment in the PDH.
3. Inspect the building selected for the PDH operating site and prepare a floorplan designating space for each PDH section.
4. Have signs naming all PDH sections prepared so that they will be ready to put up postdisaster before workers begin moving supplies and equipment into the hospital sections.
5. Prepare a detailed plan, based upon the briefer plan presented with the community's application for a PDH, which specifies procedures for setting up and operating the PDH and which outlines proposed organization and staffing.
6. Ascertain the capability of the selected building's utilities, i.e., heating, water, and power, and see that plans are made to supplement them if disaster conditions should make this necessary.
7. Become familiar with the building's present communications facilities and make arrangements for two-way radio equipment and operators to be available postdisaster.

8. Agree with the chief building engineer on a procedure for clearing areas of the building which will be occupied by the hospital. Furniture appropriate for hospital use should be designated so that it will not be removed.
9. Arrange with the proper civil defense officials for necessary supporting goods and services such as transportation, communications, radiation monitoring, water, traffic control, food, and laundry. Specify these arrangements in the final written utilization plan.
10. Plan for the postdisaster procurement of necessary supplies which are not provided in the PDH unit.
11. Plan for postdisaster billeting of PDH staff, should this become necessary.
12. Plan a method of reporting regularly postdisaster to the community emergency health service headquarters to give data on admissions and manpower and support requirements.
13. Recruit a nucleus staff and assign specific people to key positions. This staff should include all activation personnel and should be large enough to get the PDH set up into limited operation.
14. Arrange for and participate in PDH staff training sessions, operating tests, and exercises.

3. Director of Nursing

The director of nursing should be a professional nurse with experience in supervision and nursing service administration. She will work closely with the chief of staff and hospital administrator in directing and coordinating the PDH operation. She is responsible to the chief of staff for all nursing service personnel including professional nurses, practical nurses, and medical aides, and for organizing and supervising nursing services throughout the hospital. Predisaster she should:

1. Become familiar with the community and State plans for civil defense, especially with the emergency health sections of these plans.
2. Become familiar with the supplies and equipment in the PDH.
3. Work closely with the chief of staff and the hospital administrator in the nursing aspects of their plans for setting up the PDH.
4. Develop a nursing service staff organization chart, indicating lines of authority and assigning specific people to supervisory positions when possible.
5. Work with the chief of staff in preparing written policies including standing orders.

6. Develop, with the chief of staff, a plan to assure the availability of essential pharmaceutical items on the wards.
7. Develop a simple plan for giving medications.
8. Plan for ward furniture, taking into consideration furniture available in the selected building and making plans to improvise as necessary. Arrangements should be made for as many nurse's stations as the ward layout requires with plans for necessary furniture for each station.
9. Participate in PDH staff training, operating tests, and exercises.

4. Chief Building Engineer

The chief building engineer of the PDH should preferably be the regularly employed engineer or custodian of the building selected as the operating site so that the PDH planning staff will have the advantage of his familiarity with the layout of the building and with its wiring, heating, water system, etc. He should be responsible for the maintenance of the building postdisaster and for the operation of the necessary utilities. Predisaster he should:

1. Consult with and advise the chief of staff and hospital administrator in their predisaster planning for adapting the building for hospital use. He would be involved especially in supervising the clearing of the building in preparation for setting up the hospital. He should designate items which should be left for hospital use such as chairs, tables, cabinets, etc.
2. If the hospital is stored at the operating site, be responsible for unlocking storage areas.
3. Determine the kinds of personnel needed for hospital maintenance, such as electricians, plumbers, carpenters, etc., and help recruit and assign such personnel.
4. Prepare a plan for setting up the PDH electrical equipment including the special lighting equipment furnished for areas such as the operating rooms. He should be prepared to take care of the hospital's essential lighting and power needs through the use of the generators furnished with the PDH if the community power should be cut off. He should also see that gasoline and fuel oils needed for operation of the generators will be available postdisaster. *Operation of Generators in the Civil Defense Emergency Hospital** (Health Mobilization Series F-5) gives detailed instructions for utilizing the generators.

*This publication was issued prior to the name change from "Civil Defense Emergency Hospital" to "Packaged Disaster Hospital."



The Chief Building Engineer and two helpers of the PDH operating site carefully examine wiring and operating plan for hospital's generator during Packaged Disaster Hospital training exercise.

5. Prepare a plan for using the water storage tank and pump furnished with the PDH if an alternate water supply is necessary. *Water Supply Management in the Packaged Disaster Hospital* (Health Mobilization Series F-6) gives detailed instructions on setting up the tank and pump and treating and testing water.
6. Through consultation with a sanitary engineer, familiarize himself with alternate methods of disposing of wastes in case the community sewage system is inoperable postdisaster.
7. Make arrangements for emergency heating.
8. Participate in PDH staff training, operating tests, and exercises.

5. Helpers

Thirty or forty people should be assigned to perform most of the labor of loading trucks when necessary, moving the unit to the operating site, unpacking, and setting up the PDH. Preferably, they should live in the neighborhood near the building selected as the operating site. Some should have construction and building maintenance skills. Pre-disaster, a foreman should be designated and all helpers should:

1. Become familiar with the PDH in storage and learn the initial duties they will be called on to perform postdisaster.

2. Ascertain what tools are supplied with their PDH unit and arrange to bring their own tools, such as nailpullers, claw hammers, screwdrivers, and wire-cutting pliers when they report to the operating site for activation.

3. Participate in PDH training in order to become familiar with their posts as medical aides, messengers, service personnel, etc., to which they will report after activation is accomplished. They will also take part in PDH operating tests and exercises.

POSTDISASTER RESPONSIBILITIES

As soon as it is safe, the activation personnel and any section chiefs who have been designated predisaster should go at once to their assigned posts and begin to carry out their part of the plan for setting up the PDH. Alternates to key positions will serve the opposite 12-hour shift to assure 24-hour coverage after the hospital has been put in operation.

A. CHIEF OF STAFF

Activation responsibilities

1. Consult with hospital administrator to verify mutual understanding of responsibilities. See that the predisaster plans properly cover existing needs and that they are being carried out.
2. Oversee setting up the clinical sections of the hospital as soon as supplies and equipment are moved into the operating site.
3. Designate a chief for each clinical section which lacks one and assign available personnel to these sections.
4. Inform the hospital administrator of requirements for additional professional manpower so that a request can be made to the community emergency health control center.

Operating responsibilities

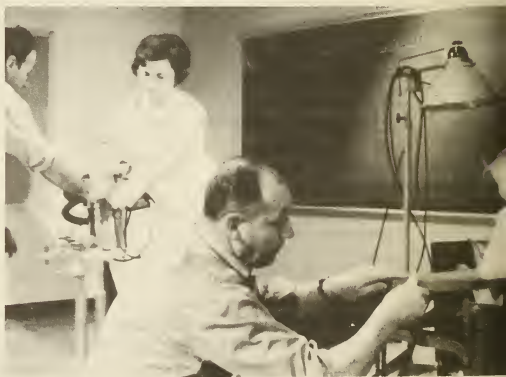
1. Jointly with the administrator, direct and coordinate all PDH operations.
2. Direct all clinical services through the chiefs of the clinical sections.
3. Assign to clinical sections additional physicians, veterinarians, and dentists who volunteer after the PDH has begun operation, reassigning professional medical personnel as the workload requires.
4. Coordinate with the director of nursing the assignment of additional nurse volunteers to clinical sections.

5. Keep apprised of the medical supplies and manpower on hand and of additional needs, informing the administrator so that reports can be made to the community control center.

B. HOSPITAL ADMINISTRATOR

Activation responsibilities

1. Consult with the chief of staff and chief building engineer to verify mutual understanding of responsibilities.
2. Establish the best communications capability possible under disaster conditions—telephone, two-way radio, and/or messengers.
3. Establish contact with the local civil defense or emergency health control center, report that the PDH is being set up, and request that predisaster plans for supporting services be carried out.
4. Oversee preparation of the operating site.
5. Post signs to designate location of all hospital sections before helpers begin to move supplies and equipment into operating positions.
6. Oversee moving in of all supplies and equipment and direct the setting up of the administrative sections.



Under the direction of a preassigned nurse, helpers move in and set up the operating room equipment in PHD activation.

7. See that supplies needed but not furnished with the PDH are obtained according to predisaster plans or, if necessary, make new arrangements on the spot.
8. Designate a chief for any administrative section which lacks one and assign available personnel to these sections.
9. Establish and maintain a pool of untrained helpers who can be assigned anywhere in the hospital.
10. See that the security section is set up immediately so that hospital entrances can be guarded and incoming patients, volunteers, and staff can be directed to proper sections.
11. Determine initial shortages in manpower and supplies and needs for supporting services anywhere in the hospital and report this to the community control center.

Operating responsibilities

1. Jointly with the chief of staff direct and coordinate the PDH operation.
2. Direct all administrative services through the chiefs of the administrative sections.
3. Keep apprised of manpower and supplies on hand and needed, of the present and expected workload, and of requirements for supporting services.
4. Maintain close communications with the emergency health staff at the community control center and report the above information to them regularly.
5. Assign to administrative sections additional volunteers who arrive after the PDH has begun operation, reassigning personnel as the workload requires and as special skills of workers become apparent.

C. DIRECTOR OF NURSING

Activation responsibilities

1. Temporarily assume the responsibilities of the chief of staff or hospital administrator if she arrives at the operating site before them.
2. Assist the chief of staff in setting up the clinical sections.
3. Assign available nursing personnel to the clinical sections.

Operating responsibilities

1. Supervise the nursing personnel, coordinating their performance of clinical services with that of other personnel.
2. Keep apprised of nursing manpower availability and needs and of the quantities of supplies needed for patient care, reporting this to the chief of staff or hospital administrator.
3. Assign additional nursing volunteers who arrive after the PDH has begun operations, reassigning personnel as the workload requires and as special skills of workers become apparent.

TRAINING

A. COURSES

Everyone who is assigned to activate a PDH or who will be involved in its operation should receive orientation and training in the general organization of the PDH and in using the PDH supplies and equipment to care for the sick and injured. Some of this training should be given in sessions to be attended by the entire PDH staff and other should be given in separate courses for each personnel category.

1. Physicians and Allied Medical Professions

Physicians and members of the allied medical professions should learn mass casualty care procedures and become familiar with the types and quantities of supplies and equipment furnished in the PDH. Allied medical personnel (dentists, veterinarians, nurses, and pharmacists) should also receive supplemental training in disaster-oriented medical treatment techniques so they can be useful assistants under the supervision of the physicians.

2. Medical Aides

Medical aides will make up the majority of the PDH staff. Some may be lay volunteers with little or no hospital experience and others will have some knowledge of patient care. In any case, this personnel category will require more detailed orientation. In addition to their general introduction to the PDH, they should receive training in first aid and Medical Self-Help, hospital procedures, medical recordkeeping, and the duties performed in the various sections of the PDH such as central sterile supply, the laboratory, wards, etc. They should know what their assigned duties will be post-disaster, but all medical aides should receive approximately the same training so that they can be used interchangeably from section to section of the PDH as conditions require.



Lay volunteers with no hospital experience can be trained pre-disaster as PDH medical aides.

B. EXERCISES

A good way to evaluate the PDH utilization plan and to test the effectiveness of the staff's training is to conduct a PDH exercise. This activity will also serve to familiarize the entire PDH staff with the hospital's operation. Such an exercise can be conducted among the PDH personnel or it may be a part of a community-wide civil defense exercise. It should be coordinated with the periodic disaster exercises conducted by the hospital to which the PDH is assigned. All or some combination of the following activities can be included:

1. Setting up representative portions of the PDH.
2. Staging a simulated disaster in which "casualties" are admitted to the PDH, sorted, and "treated."
3. Practicing the assembly and operation of the mechanical equipment provided in the PDH. (Manuals for guidance in this activity are available, page 49.)

C. TRAINING AIDS

There are a number of training aids available upon request for use in community courses.

1. PDH Familiarization Unit

This unit is a special display of pictures showing the major equipment and a representative sampling of the supplies furnished with the PDH. It is designed to acquaint PDH personnel with the types of equipment furnished and with the general capability of the hospital.

2. PDH Equipment

Arrangements can be made for various items of PDH equipment to be made available for practice sessions when the request is made well in advance of the proposed date. In this way the PDH staff can learn to set up and use the more complicated items. The community's stored PDH is not ordinarily opened for training purposes.

3. PDH Publications

A series of publications has been produced giving detailed instructions on activating and operating various PDH sections as well as assembling the PDH equipment. A complete list is given on pages 49 and 50.

4. Motion Picture

Hospitals for Disaster, a 27½ minute color film, shows a PDH being set up and operated in a simulated disaster. The film explains general PDH policy, location criteria, and community responsibilities. It is suitable for orienting community planners before the decision is made to acquire a PDH, for informing the citizens of a community that they have a PDH, and for orienting the PDH staff.

5. PDH Slides

Sets of 35 mm., 2 x 2 slides which answer questions about the PDH and show some of the pieces of heavy equipment are available for the briefing of groups preparing for a training exercise or demonstration.

6. PDH Training Manuals

A series of manuals and other training aids, for the use of those who are planning training courses for PDH staff members, are in preparation.

SUPPLIES AND EQUIPMENT

A. PACKAGING OF THE PDH UNIT

Master lists of the entire contents, case by case, of each PDH are furnished. One copy of this list is sent to the PDH custodian at the time the unit is delivered for storage. Additional copies are packed in cases #1 and #50 of the Series 54000 through 57000 PDH's and in cases #1, #633, and #690 of the Series 62000 PDH. Each box, crate, or bundle is numbered and the master list indicates by case number the functional section to which each belongs, as well as its contents. An assortment of items has been packed in some of the boxes in order to reduce the total number of boxes. Separate lists of the contents of each mixed case are also furnished. One copy is packed inside the case in an envelope. The other copy, also in an envelope, is fastened to the outside of the case. For ready reference during unpacking, one of the copies can be fastened to the opened case.

B. DIFFERENCES IN PDH UNITS

The Federal Government program of assembling and packaging hospital units and lending them to States for storage at the community level was begun in 1953. In the ensuing years, considerable research has been devoted to the problems which can be expected following a nuclear attack. As a result, the PDH has been raised from its original 3 to 4-day operational capability. The Series 62000 PDH contains enough supplies and equipment to permit it to operate for 30 days without resupply. Also, manufacturers have made advances in some types of equipment and supplies and the Series 62000 PDH consequently contains a number of items not furnished in earlier units. A Supply Addition program is now underway to upgrade the earlier PDH's to the 62000 standard.

C. TRANSPORTING THE PDH

Whenever possible, the PDH should be stored in the building which is to be used as the operating site. When this is not possible, arrangements must be made to load the unit into local trucks and move it to the selected building postdisaster. These predisaster transportation arrangements will also be found valuable should the unit be needed in a distant disaster area.

D. UNPACKING AND DISTRIBUTING PDH COMPONENTS

As each box is brought into the PDH operating site, it should be taken to the hospital section where it will be used, as indicated on the master list. Health Mobilization Series F-15, *Illustrated Catalog and Guide for Distribution of Packaged Disaster Hospital Materials*, will be of aid both in planning and carrying out this operation.

Designated helpers should unpack and set up the large pieces of equipment. Boxes of supplies and smaller equipment should be opened but not unpacked. These boxes should be stacked so that there is easy access to their opened sides. Hospital personnel should be able to get to the contents as they are needed without having to move other boxes.

Crates and boxes should be opened carefully so that neither the container nor its contents are damaged. After they are emptied, the boxes can be used as tables, stands, and storage cabinets. Also, when the need for the PDH has passed, these boxes will be needed to repack equipment and unexpended supplies when the PDH is put back into storage.



Careful unpacking of crates prevents damage to their contents and permits efficient repacking.

E. ADDITIONAL SUPPLIES TO BE OBTAINED LOCALLY

Some supplies necessary for the operation of the PDH are not furnished and arrangements must be made for designated persons to obtain them from local sources and bring them to the operating site as soon as the PDH is activated. The following list of items is given as a checklist. Not all the items are needed in all the PDH's, and planners should refer to the lists of supplies and equipment furnished with their PDH to see which items on this list will be needed. *Assembling Equipment in the Packaged Disaster Hospital* (Health Mobilization Series F-14) also gives more detailed information.

1. Narcotics (to be obtained, under procedures set by the Bureau of Narcotics, from physicians' offices, drugstores, drug supply houses, or veterinary hospitals).
2. Silicone grease for centrifuge.
3. Gasoline (any type) to fuel autoclaves, sterilizer burners, lanterns, and generators.
4. Antifreeze for those generators which are water-cooled.
5. Additional electrical cable for generators.
6. Enough 220-volt electrical cable to connect the large sterilizer to the building power supply.
7. Extension cords, sockets, receptacles, and light bulbs (a supply is included in some PDH's).
8. Storage batteries. Generators in the Series 53000 through 57000 PDH's require 6-volt batteries and if those originally furnished are found to have deteriorated, replacements must be obtained locally. In case of power failure, some of the operating room lights can be operated on batteries which must be obtained locally. *Assembling Equipment in the Packaged Disaster Hospital* (Health Mobilization Series F-14) gives detailed information and specifications.
9. Spray bottles for some models of the suction and pressure apparatus.
10. L.P. gas tank, hose, adapter, regulator, and fittings if needed for the stoves used with some of the sterilizers.
11. Handtools for opening crates and making simple repairs. Hammers and nails, nailpullers, wire-cutting pliers, and prying tools will be especially useful. While the Series 62000 contains some tools, it will speed setting up operations for all helpers, regardless of which PDH they are assigned to, to bring their own tools whenever possible.

12. Bags for weights on the Balkan frame are furnished, but they must be filled with buckshot, sand, or even rocks, when the equipment is assembled.
13. Radiological monitoring equipment (calibrated and ready for use) and dosimeters.
14. Commercial solvent (nonvolatile and nontoxic, such as trichloroethylene) and detergents for the initial removal of the preservative coating in which instruments are stored.
15. Detergent used in the preparation subsection of the central sterile supply section; heavy brown wrapping paper and sensitized tape or twine and tags for making sterile packs.
16. Rubber glove dusting powder (a supply is included in the Series 62000 PDH).
17. Housekeeping supplies such as brooms, mops, cleaning preparations, insecticides, etc. (a supply is included in some PDH's).
18. Disassembled sawhorses. Set up postdisaster, these make good litter supports if additional ones are needed.

PDH SECTIONS

A. THE PDH CONTROL CENTER

Office space must be provided for the administrator, chief of staff, and director of nursing, preferably in the same room. From this center, all phases of the PDH operation can be directed and coordinated. This office should be located where the best communications capability (switchboard or building intercom system) exists. If the necessary office furniture and supplies are not already in the office, they should be found elsewhere in the building or brought to the building from local sources. The communications section should be in or close to this office.

B. THE CLINICAL SECTIONS

1. Monitoring and Decontamination

When the PDH is operated in a postdisaster situation when radiation or radioactive fallout continues to be a danger, a monitoring and decontamination area should be set up. Water for washing should be available. Predisaster arrangements must be made with the local civil defense authorities for equipment and operators. Patients should be screened in this section before being taken to the receiving and sorting section.

Decontamination consists of removing outer clothing, washing exposed skin surfaces, and, if necessary, cutting off hair. Contaminated clothing and hair should be put in boxes labeled "contaminated material" and placed in an area away from patients and PDH personnel, preferably outside.

The patient's condition determines how thoroughly decontamination should be effected. Life-saving treatment should not be delayed in favor of decontamination and nothing should be done which will worsen the condition of a seriously ill or injured patient.

2. Receiving and Sorting

This section should have a wide entrance which is easily accessible to ambulances and other vehicles. Patients are examined here by the most experienced physicians available, sorted, and classified according to their condition and priority for treatment. They are then routed to the appropriate hospital section. Usually a clinical record and jacket and an index and information card are initiated in this section. At this time the patient's personal effects can be placed in bags or envelopes, labeled, and sent to the records section for secure storage. In some circumstances it may be preferable to do this after the patient arrives at the ward.

A suggested patient flow chart is shown in figure 5.

3. Wards

Ward areas are set up at the direction of the chief of staff, in consultation with the director of nursing, as the predominant categories of sick and injured patients become apparent. It may be necessary to designate areas for surgical, medical, burn, shock, fracture, psychiatric, and communicable-disease patients. An observation or holding ward may be established where patients with poor prognoses can be given palliative treatment. After the initial heavy influx of patients passes and the PDH has settled into more routine operation it may be desirable to designate separate wards for men, women, and children. *Nurses' Ward Management Guide for the Packaged Disaster Hospital* (Health Mobilization Series F-12) gives detailed information on setting up and managing this section.

Wards are set up as the predominant categories of sick and injured patients became apparent; for example, burn, surgical, medical, fracture, shock, psychiatric, etc.



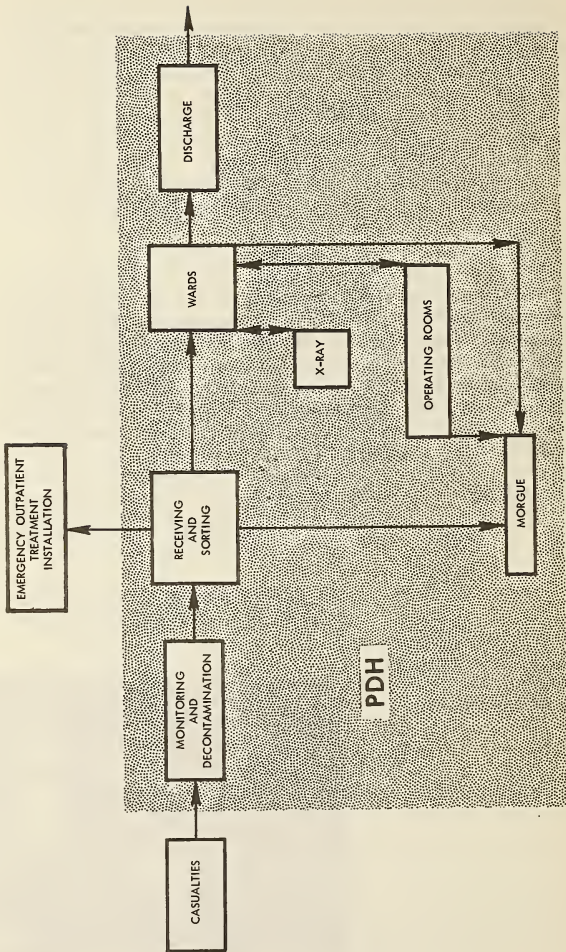


FIGURE 5 — Patient Flow Chart.



A PDH contains sufficient supplies and equipment to set up three complete operating room areas.

4. Operating Rooms

The PDH contains sufficient equipment to set up three operating room areas, however if the surgery schedule is very heavy it may be desirable to arrange for one 2-table operating room in order to make the best use of available personnel. A sample floorplan for such an arrangement is shown in figure 6. The operating rooms should be located near a room with running water which can be designated as a surgical scrubroom.

As a precaution against the danger of explosion and fire, the operating rooms should be some distance from the central sterile supply section so that ether will not be in use near open-flame sterilizers.

Each set of operating room equipment includes a lightweight folding operating table, anesthesia equipment, a surgical lamp, instrument stands, and basic surgical instruments. These instruments should be sent to central sterile supply for cleaning and sterilizing as soon as they are unpacked. Additional instruments are packed with supplies assigned to the central sterile supply section. The anesthesia equipment is of the closed-circuit, gas-oxygen-ether type. Oxygen and nitrous oxide cylinders are supplied with each PDH. Cones and masks are supplied so that ether can also be administered by the open-drop method without anesthesia apparatus.

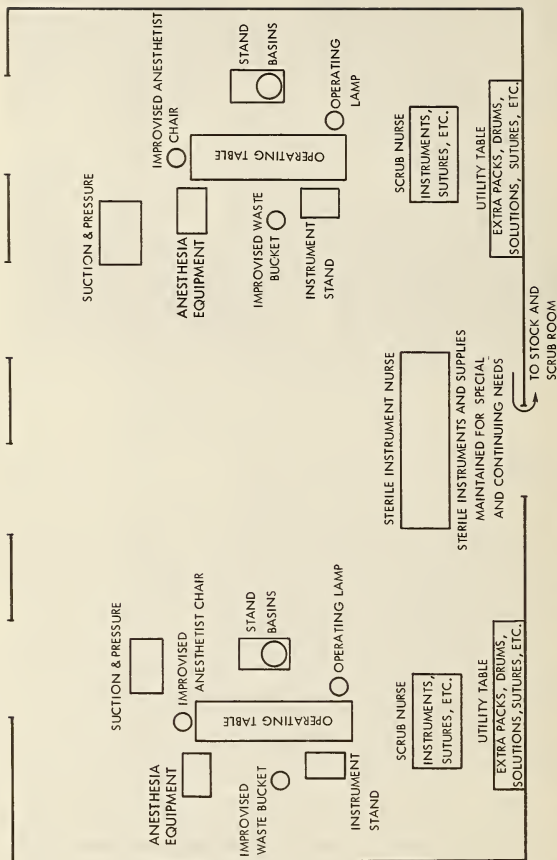


Figure 6—Sample Floor Plan for Two-Table Operating Room.

5. X-ray

Because of the radiation hazard, the X-ray section should be located in an outside corner room with masonry partitions or walls separating it from other rooms. If this is not possible, it should be at least 25 feet from areas where there will be either patients or hospital personnel. *X-ray Section of the Civil Defense Emergency Hospital** (Health Mobilization Series F-2) gives detailed information on setting up and operating this section.

The equipment includes a 15-milliampere X-ray unit and a developing unit which processes radiographic paper in 60 seconds. The X-ray unit also has a fluoroscopic screen. Power can be furnished by generator (provided with the PDH) or by commercial 115-volt current. The unit is designed primarily to permit the examination of fractures and dislocations and the detection of foreign bodies. *When the X-ray unit is in use, the radiographic paper should be isolated from it to prevent fogging.* This paper has a shelf life of about one year at room temperature, but if stored under continuous refrigeration it is usable up to five or six years.

6. Laboratory

If at all possible, the laboratory should be located in a room with a sink and running water. The PDH laboratory supplies and equipment permit essential diagnostic tests. *Laboratory Section of the Civil Defense Emergency Hospital** (Health Mobilization Series F-5) gives instructions on setting up the section, assigning personnel, processing requests and reports, and other operational procedures. It also gives step-by-step laboratory methods for handling specimens and conducting these tests:

1. Urinalysis: acetone, albumin, bilirubin, glucose, pH, specific gravity, microscopic examination, and reports on other physical characteristics.
2. Blood analysis: Hematology—A-B-O grouping, Rh typing, cross-matching, hematocrit, leukocyte (white cell) count, differential leukocyte count. Blood chemistry—total protein, glucose, bilirubin. Bacteriology—stained smear examinations (methylene blue and acid-fast stains).

Blood bank activities

If the laboratory itself is to be used for the drawing of blood, it should be located so that it is accessible from an outside entrance so that donors can come and go without entering the treatment areas. It may be preferable to set up this activity outside the main PDH building, possibly near the public information section where donors can be recruited.

*This publication was issued prior to the name change from "Civil Defense Emergency Hospital" to "Packaged Disaster Hospital."

7. Pharmacy

This section should be reasonably accessible to those clinical sections which it will be supplying with pharmaceutical items. It may be found convenient to locate it near the general stores and central sterile supply sections in case any of these three supplying sections are operated under joint supervision.

PDH supplies include at least one medication in each essential therapeutic category: anesthetics, analgesics, sedatives, anti-infectives, antiseptics, stimulants, antispasmodics, antihistamics, ophthalmic medications, and large-volume intravenous solutions including resuscitative fluids. Most of these pharmaceuticals are supplied ready for use but some techniques must be applied in the pharmacy before certain drugs can be used.

The Pharmacy Section of the Packaged Disaster Hospital (Health Mobilization Series F-13) provides detailed information on setting up and operating the pharmacy section. *Therapeutic Guide for Pharmaceuticals in the Packaged Disaster Hospital* (Health Mobilization Series C-3) lists all the drugs contained in the PDH with information as to category, action, uses, cautions, side effects, dosage, and similar preparations which can be used instead of the listed drugs.

8. Central Sterile Supply

The central sterile supply section is responsible for cleaning and preparing all PDH supplies for sterilization, sterilizing them, and dispensing them to treatment areas. The preparation area of this section must have a supply of water, preferably a sink with running water if at all possible.

Because surgery cannot begin until sterile supplies are available, this section should be one of the first functional areas to be set up. Three types of sterilizers are furnished, depending upon the PDH Series: 40-quart pressure cooker-type autoclaves, open boiling water sterilizers, and electrical or gasoline-heated pressure-type hospital sterilizers. Although sterilizers may be used in other sections, most sterilization will be done in this section.

Central Sterile Supply Section of the Packaged Disaster Hospital (Health Mobilization Series F-3) gives detailed information on setting up and operating this section, including step-by-step instructions on sterilization procedures.

9. Morgue

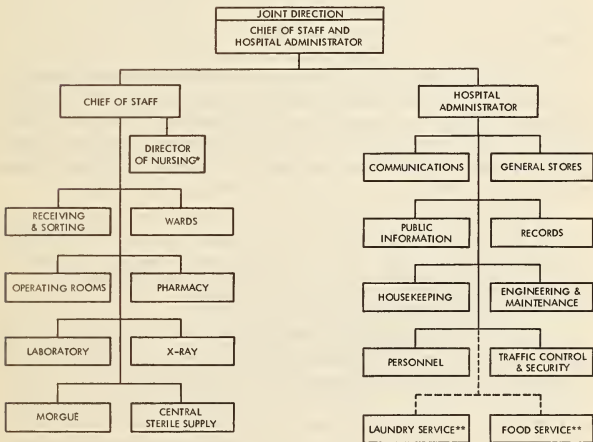
The morgue can be located in an out-of-the-way area of the building. Provisions for special security and for post-mortems in instances of deaths from unknown causes may be necessary.

C. THE ADMINISTRATIVE SECTIONS

1. Communications

The presence of a switchboard and/or the central control panel for an intercom or public address system will often determine where to set up this section. If the selected building does not have such equipment, this section should be located near the control center in an area suitable for installing two-way radio equipment.

This section is responsible for providing communications between the PDH control center and external agencies such as the community emergency health control center, the civil defense emergency operating center, and other hospitals. It is also responsible for maintaining internal communications between the PDH control center and all PDH sections.



* Supervision of nursing personnel and medical aides.

** These services will most often be provided by civil defense supporting services and would not be an integral part of the PDH organization.

FIGURE 7—Suggested Organization of a PDH.

For external communications, existing telephones should be used when possible, but two-way radio should always be available for emergency use. Messengers should be used for external communication only when absolutely necessary.

For internal communication, existing intercom or public address systems should be employed when possible. Walkie-talkie radios should be provided to back up such systems or to provide quick communication where there is no such equipment. Messengers should always be provided to augment or, when necessary, supplant electrical internal communications systems and to serve the control center. Messenger communications among other hospital sections should be performed as needed by personnel of those sections in addition to their other duties.

Necessary radio equipment and operators should be arranged for predisaster, in cooperation with civil defense communications officials. Specific equipment and operators may be designated predisaster to serve the PDH.

2. General Stores

Most of the bulk supplies which do not go to the pharmacy or central sterile supply sections are delivered to this section when the PDH is activated. Case lots of supplies and equipment are stored here and dispensed in small quantities as requested by the hospital sections. Such supplies include utensils, basins, packaged dressings, towels, soap, linens, and other items which may be dispensed without being sterilized.

The success of the entire PDH is dependent upon the efficiency with which this section handles the great quantity and variety of items for which it is responsible. Like the central sterile supply section, the stores section should be set up at once so that other hospital sections can obtain the supplies they need to begin operation.

The general stores section may be operated as a separate section under the supervision of the hospital administrator or a supply officer or it may be operated in conjunction with the central sterile supply section or the pharmacy section. This decision should be made, predisaster, by the PDH chief of staff. *The General Stores Section of the Packaged Disaster Hospital* (Health Mobilization Series F-17) gives detailed information on setting up and operating this section.

If the section is operated separately it can be located in almost any room with sufficient floorspace and which is reasonably accessible to the sections which require supplies. It should be a room with shelves and tables, or these must be improvised from packing cases and boxes. If an existing large storeroom in the selected building can be cleared, this would probably be the most suitable space.

3. Records

This section should be located reasonably close to the PDH control center. Disaster conditions will not permit extensive recordkeeping but some records are vital to patient treatment.

Essential record forms are furnished with the PDH and others may be prepared locally according to decisions by the predisaster planning staff. These forms are listed and discussed in PDH Records, page 40.

The records section will keep control center copies of the index and information card, the completed clinical records of discharged patients, and patients' personal effects sent from the wards or from the receiving and sorting section.

4. Public Information

A room or area easily accessible to the public and out of the way of the main flow of patient traffic should be set aside for this section. It may be in the main PDH building near an entrance not used by patients or in a nearby building. A regular system of obtaining copies of patient records must be established so that current information on the identity and condition of patients can be made available to those who inquire. This is important in a disaster because people trying to find relatives and friends in the hospital could otherwise occupy too much of the time of medical personnel and hamper the flow of patients. Signs directing the public to this section should be prepared and posted at other entrances to the hospital.

5. Personnel

This section may be located near or in the same room with the public information section. Volunteers who wish to help in the PDH and who have no predisaster assignment can be directed to this section. If they can be used, they can be assigned to an appropriate PDH section from here. Good communications with the PDH control center is important so that current manpower needs will be known at all times and assignments can be made effectively.

6. Engineering and Maintenance

The chief building engineer will probably be in charge of this section. He should have a desk in a convenient location from which he can direct the activities of his section personnel and communicate with the PDH control center, and where messages can be left for him when he is working elsewhere in the building.

The work of this section includes the operation and repair of the building's heating plant, the air conditioning system, and other mechanical equipment; any necessary repairs to the plumbing and wiring systems and essential repairs to the building itself. Personnel from this section set up, operate, and maintain all emergency utility equipment such as the PDH generators and the water pump and storage tank. *Operation of Generators in the Civil Defense Emergency Hospital** (Health Mobilization Series F-5) and *Water Supply Management in the Packaged Disaster Hospital* (Health Mobilization Series F-6) give specifications on the equipment and instructions for its use.

7. Traffic Control and Security

This section is responsible for guarding entrances and directing internal traffic. The general public must be restricted from treatment and ward areas and personnel of this section should direct inquiries and volunteers to the public information and personnel sections. They will also direct vehicular and pedestrian traffic in the immediate vicinity of the PDH building. The chief of this section should have a desk in a convenient location from which he can direct the activities of his section personnel and communicate with the PDH control center, and where he can be reached quickly in an emergency.

8. Housekeeping

This section is responsible for keeping the interior of the building and its furnishings clean, moving furniture as necessary, and removing wastes and trash from the building.

One room with three desks should be adequate for the chiefs of Sections 6, 7, and 8. Placing them in one central location would simplify internal communications, especially if messengers must be used.

9. Laundry

The operating site will rarely contain a laundry facility and arrangements will usually have to be made with some existing laundry as close as possible to the building. These arrangements should be made predisaster. Plans for volunteers to augment the regular laundry staff may have to be made.

*This publication was issued prior to the name change from "Civil Defense Emergency Hospital" to "Packaged Disaster Hospital."

10. Food Service

A modern school building selected as the operating site will almost always have a kitchen and cafeteria which will be adequate for the patients and staff of the PDH. Many other buildings also have some kind of food preparation facilities. If possible, the kitchen staff regularly employed in the building should be recruited for the hospital operation. This staff may have to be augmented by volunteers. Most such facilities would probably have sufficient food supplies on hand for several days but sources of resupply should be determined predisaster.

Preliminary arrangements for this service should be made predisaster. If the building does not already contain a feeding facility, arrangements must be made with a local restaurant or catering service to prepare and deliver food for the PDH or arrangements must be made with the civil defense welfare service for setting up an emergency feeding activity nearby to meet PDH needs.

PDH RECORDS

The following forms are furnished for use in the PDH:

- Disaster Hospital Clinical Record
- Disaster Hospital Clinical Record Jacket
- Index and Information Card
- Radiographic Request and Report Form
- Laboratory Urinalysis Request and Report Form
- Laboratory Hematology Request and Report Form
- Laboratory Miscellaneous Test or Examination Form

The use of two optional forms is suggested—a Disaster Hospital Supply Request Form and a Hospital Disposition Log. Some communities may decide to use additional forms such as operating room records and birth records. The design and reproduction of such optional forms should be arranged for locally.

It is highly desirable that each PDH adopt a system of serial numbering for patient records. Assigning an individual number to each patient will lessen identification problems and expedite treatment.

If the PDH is used to expand a permanent hospital and if the disaster plan for that hospital provides for the use of an emergency record system, the forms specified in the hospital disaster plan should be used instead of those supplied with the PDH.

A. PDH FORMS

1. Disaster Hospital Clinical Record

The Disaster Hospital Clinical Record (fig. 8) provides space to record diagnosis and treatment information during the patient's entire time in the hospital. It is initiated in the receiving and sorting section and placed at that time in the Disaster Hospital Clinical Record Jacket (fig. 11) with any other records, such as an emergency medical tag made out by first aid or rescue workers, which are with the patient when he is admitted. If the patient is not able to identify himself, an effort should be made to find identifying papers or cards on his person or to find someone admitted at the same time who may know him.

Form Approved
Budget Bureau No. 97-8006-1

DISASTER HOSPITAL CLINICAL RECORD

Last name _____ First _____ Middle _____
Sex _____ Age _____

Home address _____

Received at (Name or symbol and location of hospital) _____
Date _____

Number of admission _____

Diagnosis on admission, additional diagnoses, operations, etc., with dates. _____

Disposition _____
Date _____

Signature _____ M. D.

Received at (Name or symbol and location of hospital) _____

Diagnosis on admission, additional diagnoses, operations, etc., with dates. _____

18-70801

(Front)

Received at (Name or symbol and location of hospital) _____

Date _____

Diagnosis on admission, additional diagnoses, operations, etc., with dates. _____

Disposition _____
Date _____

Signature _____ M. D.

Received at (Name or symbol and location of hospital) _____

Date _____

Diagnosis on admission, additional diagnoses, operations, etc., with dates. _____

Disposition _____
Date _____

Signature _____ M. D.

INSTRUCTIONS

Used as a brief consecutive clinical record for all patients admitted to an emergency hospital.

Initiated at the first hospital to which patient is admitted; transferred with the patient to succeeding hospitals. When the patient is moved from one hospital to another, this record is enclosed in the emergency hospital medical record jacket along with other medical records; jacket is attached to patient during transport. This record closed upon discharge from hospital.

If one card is inadequate, continue record on a second card, or a third, etc., marking the cards as first card, second card, etc. Each additional card or other record must bear satisfactory identification of the individual.

When this record is closed, it and all other pertinent medical records will be disposed of as directed by the State civil defense authority.

U. S. GOVERNMENT PRINTING OFFICE 18-70808-1

(Back)

FIGURE 8—Disaster Hospital Clinical Record.

The clinical record stays with the patient and is continued as long as he is in the hospital. It goes with him if he is transferred to another medical facility. It should be retained as a permanent case record by the facility from which the patient is ultimately discharged.

Emergency Medical Tags

These tags, which are not furnished with the PDH, should be made out by the first aid teams or rescue workers who give initial treatment to the patient before he is brought to the PDH. Two sample tags are shown. Figure 9 is a tag which has been stockpiled in some communities. Figure 10, considerably simpler, provides the basic information which would be needed by the physician in the PDH receiving and sorting section in order to diagnose the patient's condition and decide on treatment. If printed tags have not been provided by the community predisaster, plain shipping tags which can be tied to the patient's wrist or ankle can be used. Tags should not be attached to clothing, such as a jacket, which might become separated from the patient during treatment.



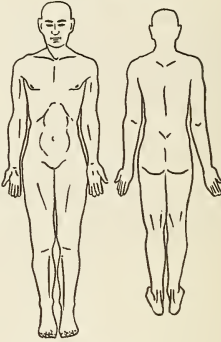
<div style="text-align: center; margin-bottom: 10px;">  </div> <p>EMERGENCY MEDICAL TAG Serial No. _____</p> <hr/> <p>Name and home address of casualty _____</p> <hr/> <p style="text-align: center;">Sex: _____ Age: _____</p> <p>Location when injured (describe exact location) _____</p> <hr/> <p>Found at (describe exact location) _____</p> <p style="text-align: center;">Tagged: Date _____ Hour _____</p> <p>Type of injury and treatment (by first-aid worker) _____</p> <hr/> <p style="text-align: center;">Name of first-aid worker _____</p> <hr/> <p>Diagnosis and treatment at first-aid station _____</p> <hr/> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Sedation</td> <td style="width: 33%;">Dose:</td> <td style="width: 33%;">Hour:</td> </tr> <tr> <td>Morphine</td> <td>Dose:</td> <td>Hour:</td> </tr> <tr> <td>Disposition</td> <td>Date:</td> <td>Hour:</td> </tr> </table> <hr/> <p>Symbol of station _____ Signature—M. D. _____</p>	Sedation	Dose:	Hour:	Morphine	Dose:	Hour:	Disposition	Date:	Hour:	<div style="text-align: center; margin-bottom: 10px;">  </div> <p style="text-align: center;">SUPPLEMENTAL RECORD</p> <div style="text-align: center;">  </div>
Sedation	Dose:	Hour:								
Morphine	Dose:	Hour:								
Disposition	Date:	Hour:								

Figure 9—Emergency Medical Tag.

EMERGENCY MEDICAL TAG Date _____ Time _____

Name _____

Treatment _____

Indicate Whether Physician, Other Allied Health Worker
or Lay Person Rendered Treatment: _____

FIGURE 10—Emergency Medical Tag.

2. Disaster Hospital Clinical Record Jacket

The Disaster Hospital Clinical Record Jacket (fig. 11) is tied to the patient in receiving and sorting. The clinical record and other tags and records are placed in it. Most of the information required on the jacket will be self-evident. Some will be given on the emergency medical tag or will be known by other victims brought from the same area or by a friend or relative who may have brought the patient to the hospital.

"Principal diagnosis" will be given on the clinical record. "Special attention needed in transit" is for the guidance of the ambulance driver or medical personnel if the patient is moved to another medical facility. At the time of such a move, the patient's destination and the date should be entered on the back of the jacket where space is provided to record transfers from one hospital to another in chronological order. The item, "Final Disposition" should be filled in upon discharge or death of the patient.

NOTE Must be securely attached to patient. To contain individual medical records pertaining to this patient.

LAST NAME FIRST NAME INITIAL

HOME ADDRESS

HOSPITAL

PRINCIPAL DIAGNOSIS (brief)

ORDERS FOR IMMEDIATE TREATMENT <input type="checkbox"/> SURGERY <input type="checkbox"/> TRANSFUSION <input type="checkbox"/> SHOCK <input type="checkbox"/> TOURNIQUET	ADMIT TO: DATE ADMITTED: A. M. P. M.
--	---

SPECIAL ATTENTION NEEDED IN TRANSIT, OR OTHER REMARKS

FINAL DISPOSITION

DATE:

(Front)

NOTE Raise lower flap before placing papers inside; then fold it down over contents to prevent them from slipping out. Fold outer flap over opening in additional protection.

TRANSPORTATION MEMORANDA
(In order that the movement of patient from one hospital to another may be recorded chronologically all transportation units transporting patients from one hospital to another should make appropriate entries in the spaces provided below.)

PATIENT WAS TRANSPORTED			
FROM (HOSPITAL UNIT)	TO (HOSPITAL UNIT)	BY (TRANSPORTATION ORGANIZATION)	DATE

(Back)

FIGURE 11 — Disaster Hospital Clinical Record Jacket.

3. Index and Information Card

The Index and Information Card (fig. 12) comes as a set so that an original and two copies can be made. Items 1 through 13 should be filled out in the receiving and sorting section. If the patient is unconscious, an attempt should be made to find a wallet or personal cards and papers in his possession. Also, other patients may be able to answer most of the questions. "Source of admission" should indicate if the patient was transferred from another medical facility and by what means he was transported. The back of the card gives space for supplemental information and chronological follow-up notes.

All three copies of this card go to the PDH control center. The original is filed in the records section. One copy is sent to the PDH public information section and the other copy is sent to the community emergency health control center for use in compiling lists and other reports.

As copies of the daily Hospital Disposition Log are distributed, each office holding a copy of the card completes items 14 and 15, "Disposition of case" and "Date and hour of disposition," on the patient's card.

1. Last name	First name	Middle name	2. Bldg-room	
3. Address			4. E.M. tag No.	
5. Date of birth	6. Age	7. Sex	8. Race	9. Religion
10. Person to be notified (Name, address, telephone No.)				
11. Source of admission		12. Date admitted		AM PM
13. Admitted for (Check one or more)		<input type="checkbox"/> Shock	<input type="checkbox"/> Hemorrhage	
<input type="checkbox"/> Mech. trauma	<input type="checkbox"/> Burns	<input type="checkbox"/> Radia. sick.	<input type="checkbox"/> Other	
14. Disposition of case		<input type="checkbox"/> Home	<input type="checkbox"/> Transfer to other hospital	<input type="checkbox"/> Died <input type="checkbox"/> Other
(Insert destination - name of hospital, or home and street and city address.)				
15. Date and hour of disposition		AM	PM	
Index and information card			Hospital	

FIGURE 12—Index and Information Card.

4. Radiographic Report Form

This form (fig. 13) is filled out in duplicate by the medical personnel requesting the test. Both copies are sent to the X-ray section with the patient. The X-ray section completes the report, keeps a copy and returns the original to the requesting section. This copy should be put in the patient's record jacket. Each section which requests X-ray service should keep a log of such requests and check them off as the completed form is delivered.

PATIENT'S LAST NAME - FIRST NAME - MIDDLE NAME		REGISTER NO.	WARD NO.
AGE	SEX (Check one)	<input type="checkbox"/> BEDSIDE, WHEELCHAIR, OR STRETCHER <input type="checkbox"/> BED PATIENT <input type="checkbox"/> AMBULATORY	
EXAMINATION REQUESTED			
REQUESTED BY		DATE OF REQUEST	
<small>(Above space for mechanical imprinting, if used)</small> PERTINENT CLINICAL HISTORY, OPERATIONS, PHYSICAL FINDINGS, AND PROVISIONAL DIAGNOSIS			
FILM NO.		DATE OF REPORT	
RADIOGRAPHIC REPORT			
SIGNATURE: (Specify location of laboratory if not part of requesting facility)			
NAME OF HOSPITAL OR OTHER MEDICAL FACILITY		Standard Form 510A (Rev. Aug. 1954) Promulgated by Bureau of the Budget Circular A-32 (Rev.) RADIOGRAPHIC REPORT 510-205	

Figure 13—Radiographic Report Form.

5. Laboratory Report Forms

(Urinalysis, Hematology, Miscellaneous Test or Examination)

These three forms (fig. 14) are filled out in duplicate by the medical personnel requesting the test. Both copies are sent to the laboratory. When the tests are completed, the laboratory enters the results on the form, keeps the copy, and returns the original to the requesting section. Each section which requests laboratory tests should keep a log of such requests and check them off when the completed test reports are delivered. The test report should be put in the patient's record jacket.

REGISTER OR UNIT NO.		WARD NO.	<input type="checkbox"/> BED PATIENT
			<input type="checkbox"/> AMBULATORY
REQUESTED BY AND DATE		DATE COLLECTED	
CLINICAL DATA			
PATIENT'S LAST NAME—FIRST NAME—MIDDLE NAME			
W.B.C.		R.B.C.	
DIFFERENTIAL COUNT		HEMATOCRIT	
NEUTROPHILES		HEMOGLOBIN	
BLASTS		BLEEDING TIME	
MYELOCYTES		COAGULATION TIME	
BANDS		BLOOD MORPHOLOGY; REMARKS	
LYMPHOCYTES			
MONOCYTES			
EOSINOPHILES			
BASOPHILES			
PLATELETS			
SEDIMENTATION RATE			
C.S.R.			
Standard Form 314-B—Rev. June 1959, Bureau of the Budget Circular A-32		GPO: 1961-99007E	HEMATOLOGY

REGISTER OR UNIT NO.		WARD NO.	<input type="checkbox"/> BED PATIENT
			<input type="checkbox"/> AMBULATORY
REQUESTED BY AND DATE		DATE AND TIME COLLECTED	
CLINICAL DATA			
PATIENT'S LAST NAME—FIRST NAME—MIDDLE NAME			
SPECIMEN AND SOURCE		EXAMINATION REQUESTED	
RESULT			
Standard Form 314-M—Rev. June 1959, Bureau of the Budget Circular A-32		GPO: 1961-56900-6	MISCELLANEOUS

REGISTER OR UNIT NO.		WARD NO.	<input type="checkbox"/> BED PATIENT
			<input type="checkbox"/> AMBULATORY
REQUESTED BY		DATE OF REQUEST	
DATE, TIME, AND METHOD OF COLLECTION			
PATIENT'S LAST NAME—FIRST NAME—MIDDLE NAME			
COLOR APPEARANCE		MICROSCOPIC REMARKS	
REACTION			
SPECIFIC GRAVITY			
ALBUMIN			
SUGAR			
ACETONE			
BILE			
Standard Form 314-A—Rev. June 1959, Bureau of the Budget Circular A-32		GPO: 1961-99005E	URINALYSIS

FIGURE 14—Laboratory Report Forms (Hematology, Miscellaneous or Examination, Urinalysis).

B. OPTIONAL FORMS

1. Disaster Hospital Supply Request Form

A suggested form is shown in figure 15. If the community does not reproduce such a form for storage with the PDH, requisitions can be made out in triplicate on pads of plain paper with the same general format as this sample.

This form is used to requisition supplies and equipment from central sterile supply, general stores, and the pharmacy. The requesting section keeps one copy as a record of what was ordered and when. The original and the other copy are sent to the supplying section which files the original and returns the copy to the requesting section with the supplies ordered.

DISASTER HOSPITAL SUPPLY REQUEST FORM		
FROM _____ SECTION		Date _____
ROOM _____		Time _____
TO: (check one) <input type="checkbox"/> STERILE SUPPLY <input type="checkbox"/> PHARMACY		
<input type="checkbox"/> STORES		
QUANTITY	ITEM NEEDED	IDENTIFYING NO.
DISPOSITION OF REQUEST:		
<input type="checkbox"/> ISSUED <input type="checkbox"/> NOT AVAILABLE <input type="checkbox"/> OUT OF STOCK		
REORDER _____		
INSTRUCTIONS: Prepare in triplicate. Send two copies to Sterile Supply, Pharmacy or Stores. Retain one copy.		

FIGURE 15—Disaster Hospital Supply Request Form.

PUBLICATIONS

The Division of Health Mobilization has prepared a number of publications for the guidance of emergency health preparedness planners. Publications in the Health Mobilization Series are divided into ten subject categories, which are listed on the inside back cover of this book. Titles which deal with the Packaged Disaster Hospital or which are of directly related interest are listed below. These publications are available, upon request, from your State Health Department, Civil Defense office, or the Division of Health Mobilization, Public Health Service, Washington, D.C., 20201.

A. PACKAGED DISASTER HOSPITAL

Establishing the Packaged Disaster Hospital (Revised 1966) PHSP No. 1071-F-1.

*X-ray Section of the Civil Defense Emergency Hospital** (1964) PHSP No. 1071-F-2.

Central Sterile Supply Section of the Packaged Disaster Hospital (1966) PHSP No. 1071-F-3.

*Laboratory Section of the Civil Defense Emergency Hospital** (1964) PHSP No. 1071-F-4.

*Operation of Generators in the Civil Defense Emergency Hospital** (1964) PHSP No. 1071-F-5.

Water Supply Management in the Packaged Disaster Hospital (1965) PHSP No. 1071-F-6.

*Storage Structures Erected for Pre-positioned Civil Defense Emergency Hospitals** (1964) PHSP No. 1071-F-7.

Packaged Disaster Hospital Custodian's Handbook (Revised 1965) PHSP No. 1071-F-10.

*This publication was issued prior to the name change from "Civil Defense Emergency Hospital" to "Packaged Disaster Hospital."

Nurses' Ward Management Guide for the Packaged Disaster Hospital (1965) PHS No. 1071-F-12.

Pharmacy Section of the Packaged Disaster Hospital (1966) PHSP No. 1071-F-13.

Assembling Equipment in the Packaged Disaster Hospital (1966) PHSP No. 1071-F-14.

Illustrated Catalog and Guide for Distribution of Packaged Disaster Hospital Materials (1965) PHSP No. 1071-F-15.

Check List for Developing a Packaged Disaster Hospital Utilization Plan (1966) PHSP No. 1071-F-16.

General Stores Section of the Packaged Disaster Hospital (1966) PHSP No. 1071-F-17.

B. RELATED MATERIAL

Emergency Health Preparedness Publications Catalog (1966) PHSP No. 1071-A-1.

Community Emergency Health Preparedness (1964) PHSP No. 1071-A-2.

Health Materiel and Facilities Planning Guide for Emergency Management (1965) PHSP No. 1071-A-4.

Therapeutic Guide for Pharmaceuticals in the Packaged Disaster Hospital (1965) PHSP No. 1071-C-1.

Hospital Planning for Nuclear Disaster (1965) PHSP No. 1071-G-1.

Community Emergency Health Manpower Planning (1964) PHSP No. 1071-I-1.



Publications in the Health Mobilization Series are keyed by the following subject categories:

A—Emergency Health Service Planning

B—Environmental Health

C—Medical Care and Treatment

D—Training

E—Health Resources Evaluation

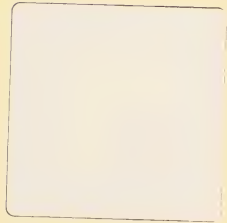
F—Packaged Disaster Hospitals

G—Health Facilities

H—Supplies and Equipment

I—Health Manpower

J—Public Water Supply



**U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE**
Public Health Service

PHS Publication No. 1071-F-1
Revised April 1966

