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BY THE COMPTROLLER GENERAL

Report To The Congress

OF THE UNITED STATES

DOD Needs Better Assessment Of Military Hospitals' Capabilities To Care For Wartime Casualties

Over the last two decades military hospital bed capacity has fallen substantially with the Department of Defense's (DOD's) adoption of peacetime hospital replacement standards. DOD is developing a contingency system of civilian hospitals to augment its hospital bed shortfalls. GAO believes that DOD needs a better assessment of the mobilization capabilities of military hospitals as the basis for determining what contingency support should be obtained.

GAO recommends to the Secretary of Defense (1) design alternatives that would improve the mobilization capacity of military hospitals constructed in the future and (2) ways to improve military service plans for use of existing hospitals. As part of its processes for authorizing and appropriating funds for the construction of replacement medical facilities and establishing priorities for those facilities, the Congress should consider the planned hospitals' mobilization roles, their flexibility to expand, the resulting gains or losses in total DOD mobilization capacity, and whether nearby civilian hospitals can be expected to support mobilization needs.



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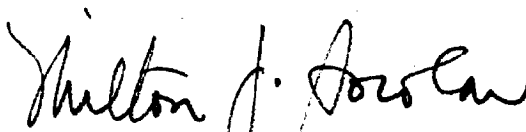
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To the President of the Senate and the
Speaker of the House of Representatives

This report discusses Department of Defense planning efforts to provide medical facilities for American casualties who would be returned to the United States for medical care in the event of a war in an overseas area. The report discusses design alternatives that would improve the mobilization capacity of military hospitals constructed in the future, and it recommends ways to improve planning for the use of existing facilities.

We made this review at the request of the Chairman, House Committee on Appropriations.

We are sending copies of this report to the Director, Office of Management and Budget; the Secretary of Defense; and other interested parties.


Acting Comptroller General
of the United States

D I G E S T

The capacity of military hospitals to care for wartime casualties has fallen by two-thirds since the end of World War II with the adoption of peacetime hospital replacement standards. To support substantial bed shortfalls that could occur under current wartime planning scenarios, the Department of Defense (DOD) has begun developing a contingency system for use of civilian hospitals that is expected to be ready for operation in 1982. However, DOD needs a better assessment of military hospital capabilities to determine how much civilian support will be needed.

COORDINATED PLANNING NEEDED FOR
EFFECTIVE USE OF DOD MEDICAL
FACILITIES IN WARTIME

The latitude provided in DOD guidance on the wartime use of military hospitals in the continental United States (CONUS) permits significant differences in the way the military services determine the extent of care that could be provided in their facilities if a war began. Under DOD guidance the services have adopted different

- transition plans for converting individual hospitals to handle wartime casualties,
- methods to identify capacity of individual hospital facilities to expand to care for wartime workload,
- stockpiling policies for medical materials to meet mobilization expansion requirements,
- types of buildings as wartime assets to augment hospital capacity, and
- policies for retention of closed hospitals as future mobilization facilities.

As a result of these differences, DOD does not have an accurate assessment of the medical

mobilization capacity of CONUS military facilities.

DOD allows the services to plan separately for care of their battlefield casualties both in the theater of operations and in CONUS. Under current wartime planning scenarios, casualties returning to CONUS for medical care will be dispersed to military, civilian, and Veterans Administration hospitals without regard to their specific service affiliation. Although the services have unique medical support system requirements in overseas theaters, no such requirements exist for CONUS hospitals where substantial acute and convalescent bed care requirements are needed. Medical facilities planning criteria for casualties to be returned to CONUS should be consistent among the services to assure that the most effective use would be made of available medical resources.

The performance of CONUS military hospitals in wartime is dependent on the accurate assessment of the availability of facilities, supporting medical personnel, and materiel. Because DOD's ultimate objectives must be to make the best use of its hospitals, service planning processes must accurately identify both potential facility capacity and current capability in terms of medical personnel and materiel. Service planning to date has focused on identifying hospital capacity with limited assessment of supporting capability. (See p. 6.)

ALTERNATIVES FOR IMPROVING
MOBILIZATION CAPACITY OF
FUTURE MILITARY HOSPITALS

DOD could improve the mobilization capacity of military hospitals constructed in the future by requiring that hospital mobilization roles be considered during DOD's construction review and funding approval process and by designing in flexibility for expansion. Recently, DOD has given little consideration to mobilization in configuring new hospitals, and its construction planning has been directed primarily to meeting design requirements for peacetime operations. As large World War II hospitals were replaced with smaller hospitals

constructed to civilian standards, flexibility to expand for mobilization has been diminished. (See p. 26.)

In an environment of competing demands for resources to meet peacetime needs, hospitals' expected contributions during mobilization could be an important consideration in establishing priorities. The relative importance of planned hospitals' roles in the event of mobilization, the extent of mobilization expansion flexibility being built into the new hospitals, the gain or loss of mobilization capacity resulting from the planned hospitals' replacements, and whether nearby civilian hospitals can be expected to support mobilization needs are factors that are not now reported to the Congress. Because hospital replacements often result in reduced mobilization capacity, DOD should keep the Congress apprised of the impact on mobilization of hospital replacements and renovations in its 5-year hospital construction plans, including the potential for absorbing mobilization capability losses through civilian and other Federal hospitals. (See p. 27.)

Economic feasibility studies performed by the services before undertaking hospital construction projects have been used primarily to select the most cost-effective means of meeting peacetime military medical care needs. These studies could address the hospitals' wartime mobilization roles and would be an effective instrument for developing information needed by DOD and the Congress to assess the mobilization impact of hospitals included in DOD's 5-year construction plans. (See p. 28.)

Design concept studies performed to determine configuration of new hospitals before construction are oriented to meeting peacetime performance requirements. DOD studies have revealed opportunities to design in flexibility to expand for mobilization within the basic constraints of peacetime construction requirements. However, little has been accomplished in military hospital construction during the last 10 years to facilitate the hospitals' ability to expand for mobilization. (See p. 29.)

DOD design guidelines allow the services to build hospitals that are compatible with civilian standards of privacy. Alternatives that would improve hospital flexibility to expand for wartime casualty care without material impact on peacetime construction parameters are discussed on pages 29 to 32.

RECOMMENDATIONS TO THE CONGRESS

GAO recommends that, as part of its processes of setting priorities for authorizing and appropriating funds for the construction of military hospital replacements, the Congress consider (1) the relative importance of planned hospitals' roles in the event of mobilization, (2) the extent of mobilization expansion flexibility being built into planned hospitals, (3) the gain or loss of mobilization capacity resulting from the planned hospital replacements, and (4) whether nearby civilian hospitals can be expected to support mobilization needs.

RECOMMENDATIONS TO THE SECRETARY OF DOD

GAO recommends that the Secretary develop, as part of DOD's 5-year construction plan submitted to the Congress, information necessary to assess the impact on mobilization of each hospital to be replaced. For hospital replacements not included in DOD's current construction year, information provided should be identified as preliminary pending approval of planning funds for more detailed design development. To improve medical readiness of future military hospitals, GAO recommends that the Secretary provide guidance to the military services regarding several specific aspects of medical facilities planning and design. (See p. 34.)

The Secretary should assess past hospital design concept studies undertaken by DOD and new hospital design concepts being implemented in civilian hospitals to identify hospital construction design practices that would enhance flexibility for mobilization expansion. Design practices found useful for this purpose could be used by the military services for developing future hospitals. (See p. 35.)

GAO also recommends that the Secretary take several specific actions to obtain a more coordinated and accurate assessment of the ability of existing military hospitals to function in the event of mobilization. (See p. 35.)

Because effective planning for the use of military hospital capacity is dependent on an accurate assessment of the facilities available and on availability of medical staff, supplies, and equipment, GAO recommends that the Secretary of DOD require the services to complete planned capability assessments in conjunction with the updating of mobilization plans being completed in 1981. (See p. 36.)

AGENCY COMMENTS

DOD officials advised GAO that they agreed with most of the recommendations in this report.

DOD indicated that information in the 5-year plan is very fluid and that it would prefer to provide mobilization information only on hospitals included in the current year presented to the Congress. GAO believes the Congress should be apprised of all major hospital replacements that may be anticipated by DOD during the 5-year planning period. GAO modified its recommendation to permit DOD to provide preliminary data on the mobilization impact of hospital replacements where detailed design development has not been started.

DOD also indicated that it would prefer to withhold concurrence on one design alternative GAO recommended pending completion of a study it was conducting. (See p. 36.)

Comments DOD provided have been incorporated in appropriate sections of this report and are included in appendix II of the report.

C o n t e n t s

	<u>Page</u>
DIGEST	i
CHAPTER	
1 INTRODUCTION	1
Insufficient capacity in military hos- pitals to care for returning casualties	1
DOD plans to supplement hospital bed de- ficiency by using civilian hospitals	2
Objectives, scope, and methodology	3
2 COORDINATED PLANNING NEEDED TO ASSURE EFFEC- TIVE USE OF DOD MEDICAL FACILITIES IN WARTIME	6
Medical mobilization planning and guidance	7
Plans for converting DOD hospitals to war- time use need further development	10
Augmenting hospital capacity with other facilities needs reassessment	18
Redirection initiatives	24
3 ALTERNATIVES FOR IMPROVING MEDICAL FACILITIES CONSTRUCTION PROGRAMS TO MEET READINESS REQUIREMENTS	26
Medical readiness should be considered in determining priorities for construction	27
Economic feasibility studies should address hospitals' mobilization roles	28
Flexibility for medical readiness expansion could be designed into peacetime hospitals	29
4 CONCLUSIONS, RECOMMENDATIONS, AND AGENCY COMMENTS	33
Conclusions	33
Recommendations to the Congress	34
Recommendations to DOD	34
Agency comments	36
APPENDIX	
I Letter dated July 31, 1979, from the Chairman, House Appropriations Committee	37
II Letter dated May 1, 1981, from DOD	40

ABBREVIATIONS

CMCHS Civilian-Military Contingency Hospital System
CONUS continental United States
DOD Department of Defense
GAO General Accounting Office
HSC Health Services Command of the Army
JCS Joint Chiefs of Staff
VA Veterans Administration

CHAPTER 1

INTRODUCTION

The Chairman of the House Appropriations Committee requested that we evaluate Department of Defense (DOD) planned use of military hospitals in the event of war. The Committee was concerned about reports that DOD's medical readiness program may not be capable of meeting mobilization needs and requested this report be completed for its use in hearings on DOD's fiscal year 1982 appropriations request.

DOD has historically relied on its own medical resources to care for sick and wounded personnel evacuated from overseas conflicts. Past conflicts generated a need for large quantities and various types and levels of medical services to care for military personnel. However, in the past, sufficient time was available to build up medical support units and other medical care system elements to provide treatment to returning casualties.

Current wartime planning scenarios discuss U.S. involvement in short but intense conventional warfare. Under such scenarios, adequate time may not be available for a gradual and orderly buildup of medical care capability in the theater of operations or in the United States. In a short, intense conflict many casualties could be incurred quickly. This situation would require that many of the military's total active-duty medical personnel resources be committed in the theater of operations to handle early life-saving, patient stabilization, and treatment requirements. The resources remaining in the United States would be quickly strained until they could be augmented by reserve personnel, draftees, and others.

INSUFFICIENT CAPACITY IN MILITARY HOSPITALS TO CARE FOR RETURNING CASUALTIES

The direct care system of the Army, Navy, and Air Force in the United States consists of 124 hospitals and 231 clinics. 1/ In fiscal year 1978 DOD's normal bed capacity 2/ was about 35,000.

1/In addition to the direct care system, dependents of active-duty members, retirees and their dependents, and dependents of deceased members may obtain medical care in the civilian sector under the Civilian Health and Medical Program of the Uniformed Services.

2/Normal bed capacity refers to the space available in existing hospitals where beds could be set up. However, DOD does not have the beds, staff, or equipment needed to make the space usable for patient treatment.

However, fewer than 20,000 beds were actually set up, staffed, and equipped and an average of fewer than 16,000 beds were occupied. In time of war, DOD's policy is to compress peacetime bed spacing criteria by 35 percent to obtain an expanded bed capacity within existing hospitals.

A decrease in both DOD operating beds and wartime expansion capacity has taken place over the past 15 to 20 years due to

--replacement of the open ward hospitals built during World War II with hospitals constructed to civilian standards with one, two, and four patient room configurations and

--a decline in active-duty physicians accompanied by the trend for shorter hospital stays and increased outpatient treatment.

Since the end of World War II, the military hospital bed capacity has fallen sharply. According to military historical records of World War II, in 1943 there were about 200,000 beds available in the continental United States (CONUS) hospitals. This figure is currently reported at 60,000 beds, and CONUS bed capacity is continuing to fall based on current DOD hospital replacement projects in process.

The Veterans Administration (VA) hospital system is much larger than DOD's. In November 1979, VA operated 172 hospitals containing over 85,000 beds. In recent wartime planning exercises, VA agreed to provide DOD with a substantial portion of this capacity primarily for care of serious casualties expected to be discharged and eligible for VA benefits.

Current DOD war planning scenarios result in casualty estimates so large that non-Federal civilian medical resources would be needed even if both DOD and VA capabilities were fully used to treat battlefield casualties. Studies indicate that most casualties would have to be treated in non-DOD facilities.

DOD PLANS TO SUPPLEMENT HOSPITAL BED DEFICIENCY BY USING CIVILIAN HOSPITALS

Health program planning guidance directs DOD to look to civilian staff and nondefense facilities for capability to meet anticipated wartime requirements. The guidance recognizes that there would be military medical personnel shortages resulting from a major conflict, and that the ability to quickly augment military facilities with reserve personnel or draftees would be limited. To date, most of DOD's planning efforts have concentrated on civilian resources, but the level of civilian support that could be obtained is still uncertain.

Maximus, Inc., a consultant to DOD, completed a report in March 1979, which addressed the potential for using civilian hospitals to augment DOD medical resources in a major conflict. It was the most comprehensive effort that DOD has supported or undertaken in this area. The report recommended that DOD establish a Civilian-Military Contingency Hospital System (CMCHS) to coordinate DOD's use of wartime medical resources. Maximus recommended that CMCHS be implemented by establishing formal contracts and agreements with civilian hospitals in 41 areas of the country with high civilian bed concentrations. 1/

In January 1980, DOD began developing CMCHS and in March 1980 appointed a director. Operation of CMCHS is to be under the three military medical departments with policy guidance from the Assistant Secretary of Defense (Health Affairs). Military medical centers and military installation hospitals in 34 areas of the country would have responsibility for linking services in their areas with participating civilian hospitals. Hospitals participating in CMCHS must be located within a 50-mile radius of the designated military hospital or center and agree to provide a minimum of 50 beds by delaying elective surgery and transferring other hospital workload that is not time critical. The prospects for CMCHS implementation and civilian hospital participation were being tested by one medical center from each service. The outcome of the tests will determine the future direction of CMCHS implementation which is now targeted for completion in 1982.

OBJECTIVES, SCOPE, AND METHODOLOGY

We made our review at the headquarters offices of DOD and the military services and selected military health care facilities. Our primary objective was to evaluate DOD's and the services' policies on the planned use of military hospitals in the event of war and to determine the extent to which DOD considers its wartime contingency mission in the planning of new hospital construction projects.

During the review, emphasis was placed on DOD's efforts to plan for the care of battlefield casualties that would be returned to CONUS under present wartime planning scenarios. We assessed the (1) planned use of several military hospitals located in areas expected to receive large numbers of returning casualties and (2) impact of planned replacements or construction improvements on the hospital mobilization mission. An assessment of DOD planning estimates of returning casualties was not included in our review.

1/DOD's planning efforts for CMCHS are addressed in our report entitled "The Congress Should Mandate Formation of a Military-VA-Civilian Contingency Hospital System" (HRD-80-76, June 26, 1980).

To review the effectiveness of military facilities' readiness plans, we met with representatives of DOD's Office of Assistant Secretary of Health Affairs; Office of the Chairman of the Joint Chiefs of Staff (JCS); Offices of the Surgeons General of the Army, Navy, and Air Force; the Armed Services Medical Regulatory Office; the Army's Health Services Command and Corps of Engineers; and the Navy's Facilities Engineering Command. Documentation of military services and DOD medical readiness planning methodology and facilities requirements and capabilities was obtained and discussed with these representatives.

At the field level we selected one or two military hospitals from each service that were due for major renovation or replacement under DOD's 5-year medical construction program and were located in areas of the United States that would play a substantive role in DOD's medical readiness plan; that is, areas with high concentrations of civilian and military hospital beds. For these hospitals we assessed whether

- local plans and service and DOD readiness planning guidelines were effective in establishing the hospitals' role in meeting medical mobilization requirements,
- readiness was considered in planning for hospital replacements or major renovations, and
- there were alternatives that should be considered in planning for use of existing hospitals or in constructing new hospitals that would improve medical readiness.

In addition, we performed limited work at several military medical facilities located near those we selected for detailed review.

The following DOD medical facilities were included in our review.

Seattle-Tacoma area

Madigan Army Medical Center, Tacoma, Washington.
Bremerton Naval Hospital, Bremerton, Washington.
McChord Air Force Base Clinic, Seattle, Washington. 1/

Denver-Colorado Springs area

Ft. Carson Army Hospital, Colorado Springs, Colorado.
Air Force Academy Hospital, Colorado Springs, Colorado.
Peterson Air Force Clinic, Colorado Springs, Colorado. 1/

1/These facilities were visited because of their proximity to the selected medical hospitals and their prospective wartime roles.

Dallas-Fort Worth area

Carswell Air Force Hospital, Fort Worth, Texas.
Dallas Naval Air Station Clinic, Dallas, Texas. 1/

Philadelphia area

Philadelphia Naval Hospital, Philadelphia, Pennsylvania.
Indiantown Gap Army Hospital (inactive), Annville, Pennsylvania. 1/

1/These facilities were visited because of their proximity to the selected medical hospitals and their prospective wartime roles.

CHAPTER 2

COORDINATED PLANNING NEEDED TO ASSURE EFFECTIVE

USE OF DOD MEDICAL FACILITIES IN WARTIME

The latitude provided in DOD guidance on the use of CONUS military hospitals in the event of mobilization has resulted in significant differences in the way services determine the extent of care that could be provided in their facilities if a war began. Under DOD guidance the services have adopted different

- transition plans for converting hospitals to handle war-time casualties,
- methods to identify capacity of individual hospital facilities to expand to care for wartime workload,
- stockpiling policies for medical materiel to meet mobilization expansion requirements,
- types of buildings as wartime assets to augment wartime hospital capacity, and
- policies for retention of closed hospitals as future mobilization facilities.

As a result of these differences, DOD does not have an accurate assessment of the medical mobilization capacity of CONUS military facilities.

The number and types of facilities considered acceptable for medical mobilization use and the intensity of medical readiness planning by each service have been affected by (1) high casualty levels being projected for the Army as contrasted with the other services and (2) differing service expectations of the capacity of CMCHS and VA hospitals to absorb the substantial military hospital bed shortfalls being projected. In some instances, reported hospital bed expansion capacity is inaccurate because of an unrealistic assessment of the effort needed to make potential facilities available for hospital use. In other instances, potential hospital facilities were not identified or reported because of different service philosophies on the use of their facilities. Without an accurate assessment of the capacity of military medical facilities, DOD cannot effectively determine the extent of support needed from CMCHS and VA.

The performance of CONUS military hospitals in wartime is dependent on an accurate assessment of the availability of facilities and supporting medical personnel and materiel. Because DOD's ultimate objectives must be to make the best expanded use of

its hospitals, service planning processes must accurately identify both potential facility capacity and current capability in terms of staff and materiel limitations. Service planning to date has focused on identifying hospital capacity with limited assessments of supporting capability.

MEDICAL MOBILIZATION
PLANNING AND GUIDANCE

DOD allows the services to plan separately for care of their battlefield casualties both in the theater of operations and in CONUS. Although the services have unique medical support system requirements in overseas theaters, no such unique requirements exist for CONUS hospitals where substantial acute and convalescent bed care requirements are expected.

Under current wartime planning scenarios, casualties returning to CONUS for medical care are to be dispersed to military, civilian, and VA hospitals without regard to specific service affiliation. Medical facility planning criteria for casualties returned to CONUS should be consistent among the services to assure that the most effective use would be made of available medical resources.

DOD guidance on the use of CONUS medical facilities is becoming dated in terms of current medical readiness approaches being used by DOD planners. In 1964 DOD issued a directive--which is still in effect--establishing a program which would reduce DOD new construction requirements to the greatest extent practical and provide other facilities in a minimum time period in the event of military mobilization. The directive provided guidance for the services to plan for using commercial facilities--such as schools, hotels, and motels--and former military facilities not under DOD control. For medical readiness planning, the Army has planned since the early 1960s to augment CONUS hospital capability with hotels and other facilities, but the Navy and Air Force do not consider this approach a viable alternative.

In September 1968, DOD instructed the services to provide for optimum military readiness within the framework of hospitals constructed to meet peacetime requirements. The services were to plan for contingencies to permit increased medical facility capability to meet expanded emergency requirements by including:

- Placement of existing hospital beds, where feasible, in reduced space and using other suitable space.
- Curtailment of elective surgical and medical care.
- Curtailment of care for other than active-duty military personnel, as a temporary measure.

--Erection of suitable non-permanent-type structures as augmentations to existing military hospitals.

--Incorporation, where practical, in teaching hospitals and hospitals at training centers, of building features and facilities that can support expansion requirements.

The services have adopted different approaches to implementing these requirements.

Recent DOD guidance to the military services on the use of CONUS medical facilities in wartime has been general. In a 1979 letter, the Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics advised the Secretaries of the Military Departments and the Chairman, JCS, that service plans would be based on the policy that DOD should treat as a minimum in its facilities all casualties that can be returned to duty within 2 months and casualties requiring specialized treatment not available from other sources. The guidance provided that wartime hospitalization requirements in excess of programmed capability will be acquired from non-DOD sources. The guidance did not define the non-DOD sources to be selected.

Current DOD estimates show that over 50 percent of the returning casualties to CONUS would require more than 2 months of hospital care. Under DOD guidance this could be planned to come from CMCHS, other Federal hospital systems, or DOD staffing of commercial hotels and other non-DOD facilities. The services have reacted differently in planning for the prospect of dependence on civilian sector support.

--The Army has many times the number of casualties projected for the other services, and its plans maximize potential expanded military hospital and auxiliary facility bed capability, thus reducing support that would be needed from the civilian hospitals.

--The Navy and Air Force plans are based primarily on the normal hospital operating capacity with heavy reliance on the prospect that civilian hospitals will make up their shortfalls in wartime hospital beds.

The following table illustrates the differences in criteria adopted by the individual services in determining medical readiness capability of their facilities.

Differences in Policies Used to Plan for
CONUS Medical Facility Readiness

<u>Policy</u>	<u>DOD</u>	<u>Army</u>	<u>Navy</u>	<u>Air Force</u>
Assessment of hospital expansion capacity:				
Condition of space	DOD directives and instructions since 1958 have required planning and reporting only space that can be readily converted to ward space.	Basically complies with DOD policy. Expansion involves construction reconfiguration.	Revised plan will provide little expansion beyond existing operating space. No construction planned.	Expansion limited to space converted within 15 days. No construction planned.
Sizing of space	DOD directives and instructions since 1958 required planning and reporting expansion capacity by the number of beds that can be placed in the hospital based on 72 square feet per bed.	Basically complies with DOD policy.	Expansion limited by availability of equipment.	Expansion limited by availability of equipment.
Equipping of space	No DOD guidance on retaining equipment for expanded capacity.	Provides for stockage of beds and other equipment to support mobilization.	No policy on level of beds to be maintained. No program for stockpiling beds for mobilization.	Retain only enough beds to operate at constructed capacity. Does not permit stockpiling of beds for mobilization.
Augmenting hospital capacity by:				
Use of troop barracks	No DOD directive.	Large percentage of mobilization beds will be in barracks.	No planned use of barracks.	No planned use of barracks.
Use of hotels	1964 DOD directive established program to use existing nonindustrial (commercial) facilities to reduce requirement for construction in wartime.	Hotels have been designated for use as medical facilities.	No planned use of commercial facilities.	No planned use of commercial facilities.
Retention of closed hospitals	1964 DOD directive allows retention for mobilization requirements.	Substantial numbers of mobilization beds will be in inactive hospitals.	Maintains no inactive hospitals. (note a)	Maintains no inactive hospitals.

^a/The Navy has retained reclaim rights to one former Navy hospital in the event of war; however, it is not so indicated in its existing medical mobilization plan.

PLANS FOR CONVERTING DOD HOSPITALS TO
WARTIME USE NEED FURTHER DEVELOPMENT

DOD plans for converting CONUS hospitals from peacetime to wartime operating configurations need further development to assure orderly transition and full attainment of DOD hospital expansion capability following mobilization. Differing service approaches to implementing DOD compressed bed spacing criteria, stockpiling medical readiness materials, and the failure to consider physical deterioration and configuration limitations can result in less than optimum use of military hospitals during mobilization. In many cases, hospital transition plans do not consider these and other important operating factors in preparing to expand to meet possible wartime requirements.

Transition plans must consider
basic operating constraints

The basic operation of military hospitals in transition to meet expanded emergency requirements of projected wartime scenarios would be aggravated by the early transfer--within 30 days--of many active-duty physicians and staff to the theater of operation. Conversion plans for the hospitals we visited did not adequately provide for

- preparing new physicians and staff for assuming hospital stewardship under short notice emergency conditions,
- phasing out the peacetime patient workload to non-DOD hospitals, and
- coordinating patient loads with other military hospitals in the area.

Individual plans for transition hospitals to meet wartime patient loads are oriented primarily to setting up acute and convalescent beds, and 80 percent of this total would be needed within the first 60 days after mobilization has begun. During this period, many military hospitals could be expected to expand the number of beds two to threefold while experiencing a substantial turnover in medical personnel.

To illustrate, the Navy's medical capabilities plan states that a major war would necessitate deployment of a large number of medical department personnel to the combat theater and other overseas areas and that CONUS treatment facilities would begin to decrease the inpatient census to only active-duty personnel in order to free additional medical personnel for deployment. It indicates that the deployment of CONUS medical personnel could result in a major staff reduction at CONUS medical facilities until restaffing occurs in later phases of mobilization. There

were no specific plans to facilitate the transition to new staffing at the Navy hospitals we visited.

The services are now beginning to identify medical personnel at individual hospitals that would be subject to overseas call in the event of mobilization, and new efforts are being undertaken to identify specialty capabilities that could be staffed at individual hospitals. Army mobilization plans designate some reserve units to support military hospitals and when feasible these units may perform their annual training at the hospital. When such efforts are complete, the services should be in a position to task individual hospitals with preparing staffing transition plans that would provide for familiarizing designated replacement staff with the hospital's mobilization mission and the transition processes that are planned.

The hospitals we visited had not made specific plans for phasing out peacetime patient loads in the event of mobilization. The divestment process would include all non-active duty and elective surgery patients which constitute the majority of the inpatient load at CONUS military hospitals--about 16,000 occupied beds in 1978. Mobilization planners at hospitals we reviewed believed that they could be prepared to discharge or place patients in convalescent care within 30 days or earlier following mobilization if civilian hospitals or other facilities could be found. DOD officials told us that DOD hospitals are (1) required by the Joint Commission on Accreditation of Hospitals to include in their Emergency Preparedness Plan, provisions for identification and transfer of patients in the event of emergency situations and (2) in compliance with this Joint Commission standard.

Planners generally assumed that the normal peacetime referral process would suffice for outplacement and had not contacted civilian hospitals to determine if they could cooperate in handling large patient transfers on short notice that would occur during mobilization. Without firm commitments from hospitals, successful transfers are uncertain, particularly in CMCHS areas where civilian hospitals will be committed to care for casualties returning from the theater of operations. Little communication had occurred between military hospitals of the services operating in the same geographical areas on common medical readiness objectives and problems. This is, in part, attributable to DOD guidance which permits each military service to plan independently for the care of its own expected casualties rather than addressing the administration of casualty care through mutual sharing of facilities in selected areas.

To illustrate, in the Seattle-Tacoma area of Washington, there are three military facilities that would provide significant amounts of medical care in wartime--Madigan Army Medical Center, Bremerton Naval Hospital, and McChord Air Force Base Aeromedical

Staging Facility. During mobilization both Bremerton and Madigan would be transferring large numbers of peacetime patients to local civilian hospitals, an activity they have not coordinated. Also, a 250-bed aeromedical staging facility at McChord would be activated to receive, house, feed, and provide minimum interim care for casualties returning from the theater of operations en route to designated hospitals. Although McChord had developed a plan for its air staging facility operation, McChord officials had not discussed it with Madigan officials, who are tasked by McChord's plan with providing medical support for patients who are unable to travel to their designated hospitals and for those who require intensive care not available from McChord. Madigan is also tasked by the McChord plan to provide special laboratory and X-ray services for McChord. The Madigan mobilization planner said that he had not coordinated with McChord regarding medical mobilization. After our review was completed, memorandums of agreement between Madigan and McChord were being negotiated and were expected to be completed in 1981.

Physical deterioration and configuration
would reduce mobilization capacity

About 20 percent of the military services' reported CONUS bed capacity is in hospitals built over 30 years ago. Expanding these facilities to provide acute and convalescent care to returning casualties as the services currently plan could overtax the operating capacity of many of these hospitals. Also, the configurations of some older hospitals have been modified to meet peacetime requirements with detrimental impacts on their expansion capacities. To the extent that they have not considered these factors in their mobilization plans, the services have overstated the capacity of military hospitals to meet wartime requirements.

At Carswell Air Force Hospital medical readiness planners reported the hospital's maximum expanded and current operating capacities--392 and 130 beds, respectively--for inclusion in the Air Force War Mobilization Plan. The actual capacity to meet mobilization requirements lies somewhere in between, according to hospital planners who estimate the current capacity at 265 beds. This estimate would be subject to change based on such physical limitations as inadequate materiel storage areas, undependable utilities, limitations in ancillary support, and the hospital's ability to reclaim, for inpatient care, areas modified for other uses.

The Ft. Carson Army Hospital is an aging two-story cantonment-style hospital built during World War II, and it is now operating at an average inpatient level of 120. It does not meet facility standards set for modern day hospitals, and because of its age and deterioration, funds for construction of its replacement will be requested in 1982. Nevertheless, the hospital's mobilization role

as discussed in its mobilization plan anticipates bed expansion to over 20 times its peacetime inpatient workload, and Army officials advise that they will retain the replaced hospital as a mobilization asset. The sprawling design of the current Ft. Carson facility includes 35 buildings and about 6 miles of ramps and corridors which greatly impedes operating efficiency.

In addition to problems created by the hospital's layout, other major physical deficiencies, including deteriorated electrical and heating plant systems, raise serious questions about the hospital's dependability if it is substantially expanded. A January 1980 Army proposal for a new Ft. Carson hospital included a \$4.5 million estimate to repair the old hospital complex--\$2.5 million to renovate the existing utility system and \$2 million to correct electrical deficiencies. This request was not included in DOD's final military construction budget.

During mobilization, the Health Services Command of the Army (HSC) 1/ places responsibility for accomplishing any needed renovation of Army facilities on post facility engineers within the time periods specified in the mobilization plan. Ft. Carson engineers believed that the facility could be expanded quickly to only 275 operationally ready beds. They indicated that expansion beyond this would require extensive facility repair that had not been planned for. Substantially more than 275 beds are expected to be required within 30 days after mobilization has begun.

Ft. Carson included in its mobilization plan space for 600 beds in six buildings reported to be former hospital wards. We found that these facilities were actually former barracks buildings that were reconfigured for administrative office space and could not be readily reconverted to hospital use. They lacked ramps or elevators needed to move patients between floors and would require extensive renovation--including removal of partitions, installation of utilities, and other changes to convert them for medical use. We discussed this with the Ft. Carson hospital mobilization officer who told us that he would reduce the number of beds reported as potential ward beds by 600 and would begin reassessing other areas in the hospital designated for mobilization.

Madigan Army Medical Center is also a cantonment-type hospital erected during World War II at Ft. Lewis, Washington, and has many problems similar to those identified at the Ft. Carson hospital. Plans call for the expansion of the Madigan hospital to include increasing the number of beds in 16 wards, converting 3 wards that do not now contain beds, and maintaining the current number of beds already in 4 wards.

1/HSC is primarily responsible for the operation of Army medical facilities in CONUS.

We found that hospital ward space had been surveyed only to determine available square footage and that conversion plans had not been prepared for required alterations. A Madigan planning official said that expansion of wards currently used as hospital wards would be accomplished simply by adding beds and that the wards converted from other uses, such as office space, would require more work. Conversion plans had not been prepared for this purpose, and Ft. Lewis engineering personnel were not aware of the required changes.

The Madigan hospital survey of available bed space did not fully consider using outpatient clinics suitable for conversion to inpatient care. Madigan's plan identified only pediatrics and adolescent clinics for possible conversion to inpatient care areas in the event of mobilization. Mobilization planning officials told us that they determined which clinics would be needed by using information in prior plans and that they had not received professional medical guidance in this matter.

Madigan hospital's Chief of Professional Services believed that, under mobilization conditions, wards now dedicated to family medicine would no longer be needed and could be converted to care for battlefield casualties. The Chief of the Department of Nursing questioned the need for the rheumatology and other specialized clinics in wartime, and she believed these should be considered for conversion to inpatient areas. Both officials told us that they had not been involved in the planning for expanded bed capability. Following our review, Madigan officials completed a reassessment of its planned use of the hospital in which they identified space for an additional 500 beds above the number reported in the mobilization plan. They determined that the additional space could be obtained by relocating administrative offices and by combining clinic areas and converting the vacated space to hospital wards.

The Philadelphia Naval Hospital consists of a 13-story main facility built in 1935 and various single story temporary buildings added during World War II. The Navy's 1976 mobilization plan identified the hospital's expanded capacity at about 1,100 beds, the level at which it operated during World War II. By 1980 the Navy had reduced the hospital's operating capacity to 136 beds, and closed patient care areas in the upper eight floors of the main facility and the adjacent buildings. Navy officials estimate the hospital's expanded capacity at 500 beds comprised of both opened and closed bed care space in the main hospital. Almost 400 beds were still available.

Difficulty could result if the hospital was tasked with operating at its expanded capacity in the event of mobilization. Physical deterioration over the years has resulted in several unsafe conditions reported by the Navy Department and the Joint Commission on the Accreditation of Hospitals. An economic analysis

by the Navy's Bureau of Medicine concluded that the hospital should be closed to inpatient care. The Bureau's subsequent reevaluation of this analysis found the continuation of inpatient care to be marginally cost effective. One of the deciding factors to keep the hospital open was the need to meet the health care needs of personnel assigned to a recently established Navy Ship-Life extension program at the Philadelphia Naval Yard. A smaller replacement hospital is planned for construction.

Although repair programs have been initiated to correct some of the hospital's construction deficiencies, many problems remain as illustrated below.

--The 13-story hospital tower is served by four elevators in two bays. The elevators break down frequently. One bay was recently opened following a 1-year closure for overhaul. The other bay was closed in October 1980 for similar upgrading.

--Numerous fire and safety code violations 1/ exist, some of which were corrected under a project begun in mid-1979. The contract for another project which would add fire exits to the second floor operating room suite and provide a 2-hour fire-rated enclosure for the third floor operating room suite is expected to be awarded in fiscal year 1981.

--The plumbing throughout the building is deteriorated and a correction project is planned. Award of the contract is expected in fiscal year 1981.

--A complete replacement of windows and doors throughout the hospital is planned, and the contract award is expected in fiscal year 1981.

The projects funded or proposed for fiscal years 1978 to 1982 are expected to correct less than half of the \$14 million of estimated deterioration and safety problems identified by officials of the hospital. Furthermore, Navy facility officials told us that many of the projects planned and underway are directed toward correcting only the areas now being used by the hospital. Thus, if expansion were necessary into other areas of the hospital, the deficiencies would still remain in those areas.

1/Code violations were found by the Joint Commission on Hospital Accreditation and the Navy Department.

Uniform bed spacing and medical stockpiling criteria needed.

In 1958 DOD instructed the services to plan for expanded bed capacity by compressing peacetime spacing in wards--currently at 120 square feet per bed--to 72 square feet per bed. DOD also instructed the services to exclude space that could not be readily converted back to ward space. No DOD instructions have been issued to guide services on the level of hospital beds and ward-related equipment that may be retained at CONUS hospitals to support expanded bed capacity. The services have adopted substantially different planning approaches to obtaining hospital expansion capacity in the event of mobilization.

- The Army has attempted to identify in its hospitals all usable ward space suitable for conversion to the 72-square-foot criteria and has stockpiled most beds and other materials to support its expansion capacity.
- The Navy has attempted to identify all space within the 72-foot criteria as mobilization capacity regardless of whether beds and supporting materials are available.
- The Air Force plan reports both current operating capacity and expanded capacity, but limits expanded capacity to that which can be readily converted in 15 days following mobilization. Air Force instructions limit retention of beds and supporting materials to that required for normal peacetime operations.

HSC's plan for mobilization of CONUS hospitals identifies expanded bed capacity as space for patients measured in terms of the number of beds that can be set up using the 72-foot compressed spacing criteria in wards or rooms designed for patient beds. These beds are further defined as operating, transient, and inactive beds. The first two categories are functional in peacetime hospital operations and would be made available as mobilization resources. Inactive beds are defined as those where space and equipment are available, but staff to operate the beds under normal circumstances is not available. Inactive beds do not necessarily need to be set up and could be stockpiled to be made available anytime following mobilization. In hospital bed expansion, capacity is expected to incrementally increase during the 6 months after mobilization has begun to accommodate the expected level of casualties.

At Ft. Carson and Madigan, mobilization planners had attempted to maximize potential hospital ward space using the 72-square-foot compressed bed spacing criteria and had access to beds and other supporting materiel needed for expansion in storage on post or from Army stockpiles of war readiness materials. In some cases,

however, the space identified was not suitable for ward use, thus creating overstatements of capacity.

The Air Force medical mobilization plan provides that expanded beds represent hospital space available for setting up beds. The plan stated that to report capability would require additional information on the availability of staff and additional needed equipment. It specifies that only space which can be converted to hospital use within the first 15 days of mobilization may be used in computing hospitals' expanded capacities. Therefore, except for the first 15 days of mobilization, the Air Force does not anticipate a gradual increase in beds available for use. Air Force February 1980 regulations specify the number of beds and other ward-related equipment that may be kept at the hospital, stating that:

"Hospitals in CONUS * * * will retain a sufficient quantity of ward related equipment and durable supply items required to initially operate the facility at full constructed capacity based on (beds spaced on) 8 foot centers (about 100 square feet of floor space.)"

Since Air Force regulations do not allow stockage of beds as war readiness material in CONUS, and because the Air Force can only retain enough of this type of equipment to supply hospitals on the basis of beds placed in 100 square feet of space, its ability to expand to meet the medical care requirements of returning battlefield casualties is severely limited. We also believe that Air Force guidance which limits reporting of bed capacity to that space which can be converted within 15 days may also contribute to a significant understatement of expansion capacity in Air Force CONUS hospitals.

For example, the Air Force Academy Hospital's expanded bed capacity is reported in the Air Force medical mobilization plan as 148 beds--its normal operating capacity. Our review at the hospital showed that it could accommodate 205 beds if DOD's spacing criteria were used to report expanded bed capacity. Although the hospital did not have additional beds as supporting equipment, its real capacity was understated by 57 bed spaces, or about 28 percent of the available space.

It is important for the Air Force to know its total expansion capacity in terms of floor space to accommodate beds as well as its ability to support the space with staff, beds, and equipment. Effective interservice coordination of war readiness material stockpiles could afford more effective use of existing CONUS medical facilities. One Air Force medical planning official said that coordination of planning for medical mobilization among the three services has been much closer for intheater medical facilities than it has been for those in CONUS. He noted that each

service has been identifying CONUS hospital wartime missions independently, without knowledge of what the other services are planning.

AUGMENTING HOSPITAL CAPACITY WITH OTHER FACILITIES NEEDS REASSESSMENT

Limited DOD guidance exists on the use of facilities to augment military hospital capacity and that which has been issued is becoming dated. DOD issued a directive in 1964 on the use of hotels and inactive hospitals for medical mobilization expansion capacity, but issued no guidance on the use of auxiliary onpost facilities, such as military housing, schools, and other suitable structures. Services have adopted different approaches to planning the use of such facilities. Greater consistency in these approaches would assure that facilities best suited to medical use are selected and used effectively if mobilization occurs.

During the planning period covered in the Army HSC's medical mobilization plan, over half of the total bed requirements are expected to come from the opening of inactive hospitals, the conversion of barracks buildings to convalescent care facilities, and the leasing of hotels for conversion to acute care hospitals. In contrast, the Navy and Air Force plan to treat casualties in their existing facilities up to their operating capabilities and then obtain the balance of their needs from CMCHS and other Federal hospitals.

In our opinion, hotels currently identified by the Army for potential use as acute care medical facilities hold little promise for immediate conversion to such use in the event of mobilization for a short, intense conflict. Such facilities as well as buildings located on military posts could, however, serve as convalescent care facilities. Many opportunities had been overlooked by each of the services to identify onpost facilities that would be suitable for convalescent care. A coordinated interservice effort to identify these facilities in selected CONUS patient catchment areas would improve planning for DOD's medical readiness role. Distances and access to operating military hospitals, types of patients to be housed, levels of care to be provided, and ease of adaptation to medical use are factors that need to be assessed if they are to be used for convalescent care.

Military housing and other structures not effectively identified for medical readiness

The Army HSC requires mobilization planners to identify bed space in barracks, officers quarters, and other onpost facilities, such as schools and gymnasiums that would be suitable for conversion to convalescent care to augment hospital capacity. On the

premise that care for the casualties could be obtained through CMCHS, the Navy and Air Force have not required their planners to make similar determinations for meeting their projected bed shortfalls or for supplementing Army needs. As a result of services' different planning approaches and difficulties experienced by Army planners in identifying suitable facilities for this purpose, DOD does not have an accurate assessment of potential military convalescent care facilities near military hospitals.

The Army plans to obtain a significant amount of its total bed requirements from converted troop barracks and other facilities. At the two Army hospitals we visited, a realistic assessment had not been made of the construction effort needed to convert facilities to medical use.

Ft. Carson planners had selected five troop barracks for conversion to hospital ward space. The conversion would require extensive renovation to physically accommodate some 790 beds reported on the basis of 72-square-foot per bed spacing criteria. Work orders prepared to cover this conversion if mobilization occurs do not accurately reflect the extent of the renovation required and deal primarily with construction needed to provide external access to the building by litter and wheelchair patients, install bath tubs and other bathroom facilities, and install sanitizers.

However, no provision was made for the renovation of the hall passageways of the designated barracks which are about 4 feet wide--an inadequate width for movement of litter and wheelchair patients and food, medicine, and medical supply carts. Also, doorways to rooms are only about 30 inches wide, which is inadequate for movement of litter patients and other hospital equipment. Other modifications, including the removal of wall partitions necessary to meet DOD's conversion criteria, were not considered.

The Madigan Army Medical Center mobilization plan identified 13 three-story barracks buildings to be used for patients during mobilization. Twelve buildings were identically configured and planned to house 110 patients in each building, 40 nonambulatory on the first floor, 70 ambulatory on the second floor, and no patients on the third floor--for a total of 1,320 bed mobilization capacity. The other building was planned to house 40 nonambulatory patients on the first floor and 83 ambulatory patients on the second and third floors.

We evaluated the capacity of 1 of the 12 barracks buildings and found sufficient space was available to house only 85 patients, or 20 percent fewer patients than were being planned for. We discussed this with the mobilization planners at Madigan, who concurred in our evaluation of space capacity, and they stated that

the Madigan plan is to be adjusted to recognize this reduction. There is also little assurance that construction efforts necessary to convert the barracks could be completed by the time the facilities would be needed following mobilization. The extent of renovation required has not been determined and conversion plans had not been prepared at the time of our review.

Planned conversion and use of wooden nonhospital beds in the barracks could impact on the ability to care for many orthopedic patients expected. The chief of Orthopedic Services at Madigan told us that orthopedic patients generally need a hospital bed that will accept orthopedic appliances. Although the mobilization plan does not indicate that they will be used in barracks, Madigan has more than enough hospital beds in prepositioned war reserve stock to cover the requirement for those needed in barracks.

The special bed needs of orthopedic patients expected to be cared for in converted barracks should be considered, and the source of the beds and the time required to put them in place should also be factored into the mobilization plan. If conversion plans do not adequately address the construction effort necessary to accomplish patient care requirements, the plans' potential effectiveness will be greatly reduced.

The HSC plan requires local planners to make maximum use of all facilities and select those best suited for medical use. We visited facilities not included in the mobilization plan that are potentially suitable to house patients, including a guest house and a recreation center.

- The Ft. Lewis Guest House is a two-story brick structure, designed in 1971 containing 75 motel-like rooms. Each room is about 13 feet wide and 26 feet long, includes a private bath and contains sufficient square footage to house three patients. Ft. Lewis and Madigan Hospital officials said the building could be used as a medical facility, and we believe it could be quickly adapted to provide intermediate convalescent facilities. A Ft. Lewis official said the guest house's use is not planned to change during mobilization.
- The Nelson Recreation Center is located near the barracks Madigan officials plan to use for patients. The single-story cinder block building contains about 30,308 square feet, and it is divided into large rooms, including a ballroom about 96 feet long and 63 feet wide. It contains substantial sanitary facilities, but could need additional bathing facilities to meet HSC's conversion criteria. Officials said the building is less than 10 years old and has adequate utilities. Officials said this building is to be used only for recreation purposes during mobilization.

Ft. Lewis and Madigan planning officials told us that they had not considered these buildings as possible medical facilities. Madigan planning officials were evaluating other Ft. Lewis buildings that could be used as medical facilities at the conclusion of our fieldwork.

Conversion of hotels and other private structures to hospitals or convalescent centers has practical limitations

The Navy and Air Force believe it is unlikely that they would be able to staff and equip hotels in sufficient time for use under current short-term, high-intensity wartime planning scenarios and have excluded them from their current medical mobilization planning efforts. The Army, however, expects to obtain a substantial portion of its total bed requirements from hotels during the later part of the period covered by its medical mobilization plan. Because of the difficulties in converting hotels to acute care hospitals, we believe that they should not be included in medical readiness plans for this purpose.

The February 1980 HSC mobilization plan provides that, as barracks placed into medical use during initial phases of mobilization are turned back to installations for housing troops in training, hotels that have been under conversion for use as operating hospitals during the early months will be staffed and made operational to assume the added workload. Army HSC mobilization planners told us that they are reconsidering this planning determination and may use them only for recuperative-type patients.

HSC criteria precludes local military hospitals from contacting designated hotels in their areas which were originally identified for medical mobilization use in the early 1960s. Madigan planners had limited knowledge of the feasibility of converting designated hotels to hospitals, and informed us of potential problems that could impact on their use as acute or convalescent care facilities.

HSC's mobilization plan identifies five hotels in Portland, Oregon, about 120 miles from Madigan and two in Seattle, Washington, about 50 miles from Madigan which will be used as hospital facilities. Of about 3,175 rooms in these seven hotels, about half are in Portland and half are in Seattle. The Madigan mobilization planners said they had not visited these hotels and had no basis for evaluating their adaptability for hospital use. At the request of HSC, however, Madigan had developed staffing requirements for the hotels calling for a total of 2,779 military and 1,292 civilian personnel to staff the seven hotels.

Madigan officials were concerned that, in preparing these estimates, they had no idea how many beds were on given floors and how the wards could be arranged. Madigan officials raised several issues that they believed would mitigate against use of hotels as either acute care hospitals or recuperative care facilities.

- Identification of local community sources to support the additional laboratory and X-ray requirement for using hotels as hospital facilities had not been made.
- A draft of medical people could take staff from civilian hospitals at the same time the Army's use of hotels could require such personnel.
- Electrical requirements for radiology and sterilization areas in hotels need to be predesignated and converted for effective use.
- Considerable time could be required to obtain additional vehicles needed to transport patients from the receiving hospital to the hotels.

The largest of seven hotels identified in HSC's plans--containing 800 beds--is scheduled to be closed for renovation for 2 years. We advised the Madigan mobilization planner of this fact, and on July 17, 1980, Madigan advised HSC and selected three replacement facilities with a combined total of 778 rooms. The Madigan planner said he selected the three replacement facilities from the "Hotel/Motel Red Book," and that in selecting them, he looked for facilities with a large capacity that were close to each other and an airfield.

When we expressed concern to HSC officials that the hotels located over 100 miles from the Madigan Army Medical Center might be difficult to manage due to their distances from the Center, the officials agreed and said that they now have an effort underway to identify hotels closer to the Center.

Uniform policy needed on retention
of closed or converted military hospitals
as mobilization facilities

Service policies and practices differ concerning the retention of military hospitals that are no longer needed to meet peacetime requirements. A 1976 DOD directive sets out guidance on retaining real property, including hospitals, for mobilization and indicates such property may be licensed to another Government agency, leased to private concerns, or placed on the General Services Administration's excess property roles and still be reclaimable by DOD.

The Air Force has elected not to retain rights to inactivated hospitals for mobilization purposes because most hospitals excessed are small, remotely located, and would be difficult to staff and equip if reactivation were necessary. Thus, when Air Force bases are closed, or new hospitals are constructed as replacements, the old hospitals are excessed and turned over to the General Services Administration with no intent to reclaim them in the event of mobilization.

The Navy does not generally retain inactive hospitals because its officials believe staffing and equipping them would be difficult in the event reactivation were necessary. Navy medical mobilization planners felt that once hospitals are designated inactive they have usually outlived their useful life and no longer meet required standards. In addition to the probable deficiencies of inactive hospitals, they said maintaining them in an inactive status would be costly. However, the Navy has retained mobilization access rights to its recently constructed hospital in New Orleans, Louisiana, which was determined excess to military needs and was leased to a private concern. 1/

The Army maintains inactive hospital facilities at 13 Army installations in 12 States. The number of beds the Army expects to obtain from inactive hospital facilities is small when compared with its total mobilization bed requirements. However, these beds are listed as acute care beds and are expected to be available rather quickly after mobilization has begun. HSC officials estimated that it would cost at least \$10 million to provide equipment necessary to activate the 13 inactive hospital facilities. Estimates of the cost to repair, maintain, and construct needed improvements to make them operational have not been developed.

In May 1980, we visited one of the larger inactive hospitals in Ft. Indiantown Gap, Pennsylvania, just after it had been partially opened to care for Cuban refugees seeking to relocate in the United States. The hospital at Ft. Indiantown Gap is a one-story wood cantonment hospital built during World War II with expansion capacity reported in HSC's plan to be over 1,200 beds, most of which are planned to be activated during the first 30 days after mobilization.

The hospital was deactivated in 1953 and was not extensively used again until 1975 and 1976, when it was partially activated to care for a small number of Vietnamese refugees. The hospital remained inactive until May 1980, when some 20,000 Cuban refugees

1/Potential use during mobilization of the New Orleans Naval Hospital was addressed in our report entitled "The New Orleans Naval Hospital Should Be Closed and Alternative Uses Evaluated" (HRD-78-71, May 15, 1978).

began to arrive at the post for housing and processing into the U.S. civilian community. An Army field hospital unit was brought in to operate Indiantown Gap's dispensary, laboratory, emergency room, and enough wards for 120 beds. The hospital's operating rooms were opened so that general surgery could be performed; however, there was no intent to do surgery unless it became necessary in an emergency. At the time of our visit, about 15 percent of the opened beds were occupied, and patients requiring surgery and others with serious medical problems were being referred to nearby civilian hospitals.

The Commander of the Army field hospital who was brought in to activate the Indiantown Gap hospital indicated that the hospital facility has limitations on the kinds of procedures that could be performed there because it is old and had not been updated with the design developments now available in modern hospitals. He said it cannot meet Occupational Safety and Health Administration, Joint Commission on Hospital Accreditation, and other professional organization standards. Nevertheless, he stressed that it is better than a tent hospital, and he said that tents could be used, if necessary, to expand certain sections.

Although the hospital has apparently been adequate to handle the less serious medical problems of a relatively small number of Cuban refugee inpatients, there are serious deficiencies that would need to be corrected before the hospital could be expected to provide care to 1,200 casualties. HSC estimates the cost to equip the hospital would be in excess of \$2 million. A 1975 Army engineering evaluation found that the plumbing system in the hospital building needed to be completely replaced and that a substantial engineering effort would be required in the areas of electrical power, hot water, and medical equipment installation to bring medical facilities up to acceptable standards.

REDIRECTION INITIATIVES

While our review was in progress, service mobilization planners undertook some new initiatives that offer the potential to improve the medical readiness posture of CONUS military hospitals. The results of these efforts, for the most part, should be completed during 1981.

Recognizing the need to improve CONUS medical mobilization planning efforts, Air Force planners in August 1980 were developing a CONUS concept of operations, including several initiatives designed to address and improve the mobilization planning efforts of CONUS Air Force hospitals. These CONUS initiatives included

- determining each hospital's specific wartime mission based on its capabilities and the needs of the Air Force,
- identifying Air Force facilities which would receive casualties and the specialties that could be provided,
- validating each hospital's expansion capacity,
- determining the availability of minimum care beds and spaces outside of the medical facility, and
- creating a war readiness materiel program to facilitate hospital expansion and use of convalescent care facilities.

Mobilization planners indicated to us that they believed these initiatives will be completed in time for inclusion in its April 1981 medical readiness plan.

The Navy is also updating its medical readiness plan, which planners hope will include more usable information than the existing plan. Among other things they will provide for

- continuing the hospital's support of the installation when operating under reduced strength;
- expanding the hospitals to care for returning battlefield casualties as reservist and other medical personnel become available;
- incorporating CMCHS into the Navy's medical mobilization planning; and
- establishing an interface between the Navy medical department and Navy line planners, JCS, and others in the planning process.

The Army HSC's February 1980 plan provides that it will prepare a capabilities plan for medical readiness in conjunction with the overall capabilities plan being prepared for Army forces. HSC planners told us that this plan would be completed sometime during 1981 and will consider the limiting constraints in providing health care readiness stemming from the interrelationships of available staff, equipment, and facilities. HSC expects to obtain insights from a recently completed mobilization exercise that will help in the preparation of its revised medical readiness capabilities plan.

CHAPTER 3

ALTERNATIVES FOR IMPROVING MEDICAL

FACILITIES CONSTRUCTION PROGRAM TO

MEET READINESS REQUIREMENTS

DOD could improve the mobilization capability of future military hospitals by designing in flexibility for internal expansion and requiring that hospital mobilization roles be considered during DOD's construction review and funding approval process. In recent years, DOD has given little consideration to mobilization factors in configuring new hospitals, and DOD construction planning has been directed primarily to meeting design requirements for peacetime hospital operations. As large World War II hospitals were replaced with smaller hospitals constructed to civilian standards, flexibility to expand for mobilization has been diminished.

To meet substantial mobilization bed shortfalls being projected for CONUS military hospitals, much reliance is being placed by DOD on the expectation that a commitment for significant civilian hospital beds can be obtained by 1982 through CMCHS. However, high casualty levels projected by DOD in future wartime scenarios and sizing and other operating constraints that could accompany CMCHS implementation constitute strong incentives for DOD to obtain the best mobilization capability possible as new military hospitals are constructed to meet peacetime requirements.

The methods used by DOD to develop new hospital construction projects and report their operating performance characteristics to the authorization and appropriations committees of the Congress do not consider the projects' impact on medical readiness. Military services are required by DOD to develop a 5-year plan identifying military hospital replacement and renovation projects that should be undertaken to maintain and upgrade the peacetime requirements of the medical care system. Each year the plan is revised for changes in requirements, and it is submitted to the Armed Services and Appropriations Committees of the Congress as the basis for forward funding of medical construction projects.

Before a replacement or renovation project is funded for construction, an economic analysis is performed comparing the costs and operating characteristics of all likely alternatives for providing the needed medical services in peacetime. If a hospital construction project proves to be the most advantageous alternative, a concept study by DOD or an architect-engineer firm can be undertaken to develop an appropriate operating design for the new facility. Following DOD acceptance of a design concept, working drawings can be initiated for those projects included in the current or next succeeding year of the 5-year military construction program. Funding for construction of a new hospital or

renovation project may be requested from the Appropriations Committees of the Congress when design working drawings are over 35 percent completed.

MEDICAL READINESS SHOULD BE CONSIDERED IN
DETERMINING PRIORITIES FOR CONSTRUCTION

Continuity of peacetime care should be a primary consideration in directing resources for CONUS hospital replacements. However, in an environment of competing demands for resources, hospitals' expected contributions during mobilization should be an important consideration in establishing priorities for funding medical facilities construction projects.

Military services have justified appropriations for hospital construction based on DOD instructions issued in 1968 requiring the submission of peacetime requirements data. In recent years, mobilization plans have changed to accommodate a short-term, high-intensity mobilization scenario generating substantial casualties that must be cared for in CONUS military hospitals. DOD's justifications for new hospital construction projects have not been changed to recognize the mobilization role now envisioned for CONUS military hospitals. Shortcomings in military hospital capacity have necessitated the creation of CMCHS to care for over half of DOD's projected bed requirements for expected casualties.

Under present mobilization plans, returning casualties would be directed to 34 selected areas of the country with high concentrations of military, VA, and civilian hospital beds. Most military hospitals identified for peacetime replacement are operating at reduced capacity and have deteriorated to the point where their peacetime use is impaired and their potential expansion for wartime use is diminished. Military hospitals planned for replacement in key readiness areas should be accorded some priority over replacements in other locations where peacetime needs are comparable, but less critical from a mobilization standpoint.

DOD's review and approval procedures for construction projects in the 5-year plan do not provide committees of the Congress with DOD assessments of the

- relative importance of the planned hospitals' roles in the event of mobilization,
- extent of mobilization expansion flexibility being built into the new hospitals, or
- gain or loss of mobilization capability resulting from the planned hospital replacements.

Because hospital replacements in the past have substantially reduced mobilization capacity, DOD should apprise the Congress of

the impact on mobilization of hospital replacements in its 5-year hospital construction plans, including the potential for absorbing mobilization capability losses through CMCHS and Federal hospitals in the area.

ECONOMIC FEASIBILITY STUDIES SHOULD ADDRESS HOSPITALS' MOBILIZATION ROLES

Economic feasibility studies performed before undertaking DOD hospital construction projects are not effectively addressing hospitals' mobilization roles. Economic analyses have been used primarily to select the most cost-effective means of meeting peacetime medical care needs from all viable alternatives, including hospital construction. Requirements placed by the services on contractors preparing economic analyses until recently have not addressed the issue of mobilization.

In September 1979, an economic analysis contractor completed a study comparing several alternatives for replacing the San Diego Naval Hospital. The hospital was initially constructed in 1922. With subsequent additions, the hospital had a constructed operating capacity of 1,181 beds and an expansion capacity of 1,471 beds. Much of the study focused on the sizing of various replacement alternatives, including whether it would be cost effective to size the facilities to serve the substantial number of patients currently receiving benefits under the Civilian Health and Medical Program of the Uniformed Services. No requirements were placed on the contractor to assess the implications of the various sizing alternatives on the (1) new hospital's ability to function or expand in a mobilization role or (2) impact on expansion capacity accompanying the replacement. In December 1980, the Secretary of the Navy stated that the Navy, upon completion of its replacement facility, plans to retain the principal inactive hospital structure which was completed in 1956--and several accompanying structures--for mobilization purposes.

The same contractor was employed by the Army to perform an economic analysis of the Ft. Carson Hospital replacement. Specifications for that contract provided among other things that the analysis would be guided by operational readiness and mobilization requirements. The contractor, in reporting on the seven most likely alternatives, identified and weighted readiness capacity for comparison purposes in terms of its impact on future medical training requirements. Consideration was not given to the flexibility of each alternative to expand during mobilization or the net impact on mobilization capability of changing from the old to the new hospital configuration.

The Army contracted with the same firm for an economic analysis of the Madigan replacement hospital. The analysis is to be completed in April 1981, and specifications required the contractor to analyze and comment on the impact of mobilization mission

requirements of Madigan as well as those of Ft. Lewis for each alternative. Madigan is expected to play a key CMCHS role in coordinating the utilization of civilian and military hospitals in the Seattle-Tacoma area in the event of mobilization. This area of the country would be one of the first areas receiving medical casualties under CMCHS.

FLEXIBILITY FOR MEDICAL READINESS
EXPANSION COULD BE DESIGNED INTO
PEACETIME HOSPITALS

Design concept studies performed to determine configuration of new hospitals before construction are oriented to meeting peacetime performance requirements. DOD studies and other efforts have revealed opportunities to design in flexibility for growth and change. The results of these efforts could also be used to provide for mobilization expansion within the basic constraints of peacetime construction requirements. However, little has been accomplished in military hospital construction during the past 10 years to provide for the hospitals' expansion during mobilization.

Civilian hospital room sizing standards
reduce expansion capacity

Although it is generally recognized that fewer staff are required to care for patients in large open areas, and it is much easier to add beds to expand capacity, military hospital design has gotten away from the old open bay concept where a nursing ward could contain 30 or more beds in one room. DOD's 1968 and 1973 design guidelines, which provide up to 25 percent for one-bed rooms, 50 percent for two-bed rooms, and 25 percent for four-bed rooms, allow the services to build hospitals that are compatible with civilian standards of privacy. These standards, along with a 1978 instruction which reduced a limit of 150 square feet to 120 square feet for one-bed rooms, limit the expansion capacity of new military hospitals.

Recent hospital concept design studies approved for the Bremerton Naval and Ft. Carson Army hospitals have included 21 and 28 percent of their total nursing unit requirements in one-bed rooms. The Bremerton Naval Hospital was approved for construction before 1978, and single-bed rooms were designed at 150 square feet or more, allowing space for two beds under the 72-square-foot mobilization criteria. The Ft. Carson Hospital, a 195-bed facility now in the design phase, has 55 one-bed rooms 1/ with

1/Of the 55 one-bed rooms, 32 were for general use, 11 for isolation, and 12 for intensive care. In computing design capacity devoted to one-bed rooms, DOD excludes intensive care and recuperation rooms.

about 120 square foot of floor space for each. These bedrooms do not have space to permit more beds under DOD criteria.

In sizing and configuring civilian hospitals, one-bed rooms are planned for both medically necessary patient separation and for accommodating patient preferences for those able to afford the added cost of single room privacy. By providing a substantial portion of a hospital's capacity in single-bed rooms that lack flexibility to accommodate additional patients, the military services will be limiting ability to expand. Hospital expansion capacity could be improved if fewer one-bed rooms were designed into new hospitals in favor of two-bed rooms and if the room sizing of one-bed rooms were increased to permit space for two beds under DOD's 72-square-foot compressed bed spacing criteria.

Adding utilities for acute care bed expansion

The expansion capacity of future military hospitals could be improved by providing additional utilities needed to support acute care bed use in light care and low density bed areas. Such additional support utilities have not generally been considered for improving hospital mobilization expansion capacity, but have been incorporated into one naval hospital recently to provide for anticipated growth of the peacetime inpatient loads.

The new Bremerton Naval Hospital, opened in April 1980, has a 170-bed operating capacity, 52 of which are in light care rooms currently in use for alcoholic and psychiatric rehabilitation. These rooms have been equipped with capped utilities for medical gases, suction, and electrical service needed to support acute medical surgical care bed growth in peacetime. Also, 18 single acute care bedrooms with suitable space for expansion were equipped with extra utility outlets to support two beds in each room. In effect, the utilities added have increased the acute care expansion capacity of Bremerton by 70 beds, or about one-third of the 192-bed expansion capacity projected by hospital officials.

The Ft. Carson Army replacement hospital, now in the design development stage, has 32 planned light care beds and 55 single-bed rooms, 23 of which are isolation or intensive care rooms. It is located in the Denver patient catchment area for CMCHS and is expected to play an important role in caring for wartime casualties. Light care bed areas are not planned to be equipped with utilities for acute care.

Configuration changes could increase flexibility to expand

Options for planning hospital nursing unit room configurations developed by DOD and civilian hospital architectural firms offer flexibility for mobilization expansion within the constraints of

peacetime construction parameters. These alternatives have not generally been adopted for military hospitals and should be considered when appropriate in future hospital construction projects in readiness areas.

We talked to officials of two hospital architectural firms in the Pacific Northwest, one of which had been a contractor in recent DOD construction and the other a design contractor for a major civilian hospital in Portland, Oregon. The Portland hospital included expansion capability in the design so that two private rooms could be converted to a three-bed ward. Officials of both firms said it was possible to design for expansion capability and that the concept was particularly valid for military construction because of the mobilization mission of DOD facilities.

Among possible design features suggested were the following:

- Use a wall between adjacent rooms which could be removed to create a multibed ward.
- Provide space for an examination/treatment room on any ward where multiple occupancy could be expected.
- Consider spaces in a hospital, such as nurses' lounges for expansion.
- Have a modular room system, preferable for structural modules of four beds.

The officials said that it is much more economical in terms of initial construction costs to build all two-patient rooms. It was noted that there is low utilization of space for water closet, hand basin, etc., in a one-bed room.

One official believed that as a "rule of thumb" 100-percent bed expansion capacity could be designed into new DOD construction to accommodate wartime conditions. He also believed such expansion could be designed with minimal cost implications.

Officials of the other firm thought flexibility features for expansion were already occurring occasionally in DOD hospital construction and that the concept of design flexibility should be considered on a case-by-case basis instead of one generic solution for all hospitals. The officials indicated that an economic analysis should be done that considered sizing for both peacetime and mobilization missions and that the planned replacement for Madigan offered the opportunity to perform this type of analysis.

Between 1970 and 1975 the Health Systems Division of Westinghouse Electric Corporation, in cooperation with several consultants, conducted an analysis for DOD of new military hospital

planning concepts. In that effort a study was made of construction methods that would yield expansion capability for normal growth in peacetime patient workloads at minimal cost. The study included options for expanding future bed capacity that were both internal and external to the hospital.

One option proposed for inpatient care nursing wards was the use of a modular patient room capsule design concept. The patient capsule was conceived to accept a variety of single, double, or three- or four-bed room combinations.

Inpatient nursing units would be made up of room modules designed to accept a variety of patient care and ward resource management concepts. For operational flexibility, the light care function of inpatient care would be designed as a component of the inpatient configuration system on the same floor to accept shifts on demand from higher levels of care requirements. Such an arrangement could facilitate the conversion of the hospital to meet the increased acute care needs in the event of war.

VA has used the modular construction concept in its recently completed hospital at Loma Linda, California, and it is continuing to apply this concept to four other hospitals now under design or construction. The Director of Research at VA's Office of Construction told us that the concept of building nursing units with removable partitions is a viable way of adjusting to the peacetime changes in patient loads, and he believed that it could also be considered by DOD as a means of building expansion flexibility into military hospitals for wartime operations. He said the cost of modular construction in VA hospitals is now about 3 percent greater than the cost of conventional construction, but that if life-cycle costs are considered, modular construction becomes less costly. Regarding how quickly the modular constructed walls could be removed from a nursing area, the VA official said it could be done in a few weeks.

DOD Health Affairs officials indicated that the use of modular construction may not be cost effective for hospitals with fewer than 300 beds and that conversion following mobilization might take up to 6 months. We do not believe that excessive time would be required following mobilization to make the conversion. Five military hospitals in key readiness areas of the United States which are scheduled for replacement or major alteration within the next 5 years would have new or additional operating bed capacity ranging from 275 to 614. ^{1/} In view of VA's use of modular construction and the fact that the five military hospitals will be close to or exceed 300 beds, we believe that DOD should consider the use of modular construction as a means of enhancing flexibility for mobilization expansion.

^{1/}Naval Regional Medical Centers, San Diego and Portsmouth; Travis and Malcolm Grow Air Force Hospitals; and Madigan Army Medical Center.

CHAPTER 4

CONCLUSIONS, RECOMMENDATIONS,

AND AGENCY COMMENTS

CONCLUSIONS

DOD guidance and planning for use of medical facilities to care for wartime casualties should be reviewed and updated to reflect current medical readiness approaches and made consistent among the services to assure that the most effective use would be made of all available medical resources. The latitude provided in DOD mobilization guidance on the use of CONUS military hospitals has resulted in significant differences in the way the services determine the levels of care that could be provided. Under present DOD guidance the services have adopted different

- transition plans for converting hospitals to handle wartime-casualties,
- methods to identify capacity for individual hospital facilities to expand to care for wartime workload,
- stockpiling policies for medical materiel to meet mobilization expansion requirements,
- types of buildings as wartime facilities to augment hospital capacity, and
- policies for retention of closed hospitals as future mobilization facilities.

As a result of these differences, DOD does not have an accurate assessment of the medical mobilization capacity of CONUS military facilities. Also, some buildings--such as hotels, motels, and inactive military hospitals--would be difficult to convert or reestablish as operating hospitals providing acute care and should not be considered for such use in medical readiness plans. Such facilities may, however, be suitable for convalescent care if they can be economically staffed and operated.

Planning for the most effective use of CONUS military hospitals in the event of a war is dependent on an accurate assessment of the availability of facilities; supporting staff, and medical materiel. Because DOD's ultimate objectives must be to make the best expanded use of its hospitals, service planning processes must accurately identify both potential facility capacity and current capability in terms of staff and materiel limitations. Service planning to date has focused on identifying hospital capacity with limited assessments of capability. Because plans for assessing

capability have not been completed, DOD does not have an accurate assessment of the extent to which military hospitals could treat battlefield casualties in the event of mobilization.

DOD needs to place increased emphasis on the mobilization role in configuring new hospitals. DOD construction planning has been directed to meeting design requirements for peacetime operating patient loads. As large World War II hospitals were replaced with smaller hospitals constructed to civilian standards, flexibility to expand for mobilization has been diminished. DOD has been required to develop a CMCHS to support much of its expected bed requirements.

DOD should report to the authorization and appropriations committees of the Congress the expected impact on medical readiness of each new hospital construction project in its 5-year plan. DOD could improve the mobilization capability of future military hospitals by requiring that hospital mobilization roles be evaluated and considered in DOD's construction review and funding approval process and by designing in greater expansion flexibility where appropriate.

RECOMMENDATION TO THE CONGRESS

As part of its priority setting processes for authorizing and appropriating funds for the construction of military hospital replacements, we recommend that the Congress consider the relative importance of the planned hospitals' roles in the event of mobilization, the extent of mobilization expansion flexibility being built into the new hospitals, the gain or loss of mobilization capacity resulting from the planned hospital replacements, and whether nearby civilian hospitals can be expected to support mobilization needs.

RECOMMENDATIONS TO THE SECRETARY OF DOD

We recommend that the Secretary develop, as part of a 5-year construction plan submitted to the Congress, information necessary to assess the impact on mobilization of each hospital to be replaced. For hospital replacements not included in DOD's current construction year, information provided should be identified as preliminary pending approval of planning funds for more detailed design development.

To improve medical readiness of future military hospitals, the Secretary should provide guidance to the military services:

- Requiring that economic feasibility studies assess and weigh, in conjunction with peacetime requirements, the mobilization implications of each construction alternative under active consideration.

- Permitting inclusion of medical utilities to support expansion beds in military hospitals planned for readiness areas.
- Requiring that design concept studies identify bed expansion capacity targets, within peacetime sizing constraints, for building the flexibility to expand for mobilization into military hospitals.
- Identifying adjustments in normal hospital operation procedures for nursing units and central surgical and medical support areas necessary to accommodate emergency expansion and compressed bed spacing during mobilization.
- Basing the distribution of one-, two-, and four-bed rooms on an assessment of expected peacetime patient needs and mobilization requirements.
- Reducing, where appropriate, the number of one-bed rooms in favor of two-bed rooms to improve mobilization capacity of key readiness hospitals.
- Permitting sufficient floor space in one-bed rooms to accommodate expansion flexibility for two beds.

The Secretary should assess past hospital design concept studies undertaken by DOD and new hospital design concepts being implemented in civilian hospitals to identify hospital construction design practices that would enhance flexibility for mobilization expansion. Design practices found useful for this purpose could be utilized by the military services for designing future hospitals.

To obtain a more coordinated and accurate assessment of the ability of existing military hospitals to function in the event of mobilization, we recommend that the Secretary:

- Provide criteria for the military services to use in developing mobilization transition plans for each hospital that provide for the (1) conversion of facilities to wartime configurations, (2) stockpiling for war readiness of beds and materials to support expansion capacity, (3) phasing out of peacetime patient workloads, and (4) transition of hospital operations to designated mobilization staffs.
- Require the military services to reassess mobilization plans to determine if hospitals and augmenting buildings are in adequate physical condition and are operationally configured to function at planned mobilization expansion capacity.
- Develop criteria for services' use in determining which military facilities, such as onpost barracks, housing, or schools, are suitable for medical readiness use to augment military hospitals.

- Instruct the services to remove from their mobilization plans those inactive hospitals that cannot be efficiently equipped and operated under expanded wartime requirements and retain rights to newer hospitals that have been excessed, but offer additional operating potential.
- Instruct the services to remove from their mobilization plans such designated commercial buildings as hotels and motels that have been identified for conversion to hospitals.

Because effective planning for the use of military hospital capacity is dependent on an accurate assessment of the facilities available and the availability of medical staff, supplies, and equipment, we recommend that the Secretary of DOD require the services to complete planned capability assessments in conjunction with the updating of mobilization plans being completed in 1981.

AGENCY COMMENTS

DOD officials advised us that they agreed with most of the recommendations in this report. Comments they provided have been incorporated in appropriate sections of this report.

DOD indicated that it would prefer to withhold concurrence with our proposal to reduce the number of single patient bedrooms pending completion of its study of patient room mix. We believe our recommendation as stated on page 35 should be implemented.

DOD indicated that information in the 5-year plan is very fluid and that it would prefer to provide mobilization information only on hospitals included in the current year presented to the Congress. We believe the Congress should be apprised of all major hospital replacements that may be anticipated by DOD during the 5-year planning period. We modified our recommendation to permit DOD to provide preliminary data on the mobilization impact of hospital replacements where detailed design development has not started.

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July 31, 1979

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The Honorable Elmer B. Staats
 Comptroller General of the United States
 U.S. General Accounting Office
 441 G Street, N.W.
 Washington, D.C. 20548

Dear Mr. Staats:

The Committee has recently completed its hearings on the Department of Defense's budget request for fiscal year 1980. During the hearings, we discussed many aspects of DOD's programs for providing medical care to beneficiaries.

There are several areas that the Committee would like your office to examine further during the coming year.

Sizing of Outpatient Facilities

Your office has prepared several reports for us concerning the appropriate bed size of military inpatient facilities. We feel it is now time to look at how the military services size their outpatient and ancillary support facilities. The broad questions we would like you to address are:

1. Do the military medical departments have a single, appropriate methodology for sizing outpatient and ancillary support facilities? If not, should there be such a methodology?
2. Would a computerized model be effective in sizing outpatient and ancillary support facilities? If so, can one be developed?
3. What cost savings could be achieved by developing one standard outpatient clinic for each of the services to use?

We would like your report on this matter by February 1980 for use during our hearings on DOD's fiscal year 1981 budget request.

Naval Regional Medical Center San Diego, California

In fiscal year 1981 the Navy may request funding for the replacement of its San Diego hospital. We understand that the City of San Diego has recently offered to provide an alternate site for the new facility.

We would appreciate it if your staff could evaluate the advantages and disadvantages of the sites currently being considered by the Navy. Please give particular attention to the estimated impact each site has on the total cost of the proposed project.

We would like your report on this matter as soon as possible, but not later than November 1979.

Wartime/Contingency Hospital Planning

With the concern over physician shortages, much attention has recently been focused on the wartime as well as the peacetime missions of the military medical departments. In evaluating the merits of hospital construction projects over the past several years, the Committee has focused largely on peacetime requirements. Since DOD is now planning to place considerable reliance on other Federal and civilian hospitals to provide care to wartime casualties, the Committee believes that it should have better information on the contribution that different hospitals make to DOD's medical readiness posture.

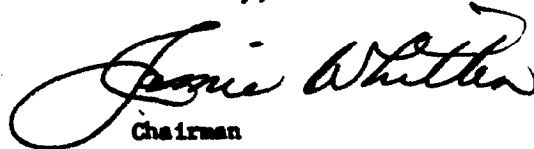
Therefore, I would appreciate it if your office could:

1. Assess the contribution that non-DOD hospitals are expected to make to support DOD's wartime/contingency mission.
2. Determine the extent to which DOD considers the specific wartime/contingency mission of a hospital when planning its construction.
3. Evaluate the contribution that non-DOD hospitals could make to both DOD's peacetime and wartime/contingency mission.
4. Assess dual mission hospitals to determine whether renovation or complete replacement would be the most appropriate approach to construction.
5. Determine what savings could be achieved by any changes in planning for wartime medical contingencies.

The Committee staff will contact your staff to discuss which hospitals should be subjected to the detailed examination referred to above.

This report should be available prior to our hearings on the fiscal year 1981 budget.

Sincerely,

A handwritten signature in cursive script, reading "Jessie Whitler". The signature is written in black ink and is positioned above the printed name "Chairman".

Chairman



ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

HEALTH AFFAIRS

May 1, 1981

Mr. Gregory J. Ahart
Director, Human Resources Division
General Accounting Office
Washington, D. C. 20548

Dear Mr. Ahart:

This is in reply to your letter to the Secretary of Defense regarding your draft report, dated March 2, 1981, "DoD Needs a Better Assessment of Military Hospitals' Capabilities to Care for Wartime Casualties" (GAO Code 101028) (OSD Case #5632).

The staff of the Department of Defense has reviewed this report and concurs with the recommendation that the Congress consider the relative importance of planned hospitals' roles in the event of mobilization and that the Department should:

1. Provide guidance to the Military Services regarding several specific aspects of medical facilities planning and design;
2. Assess past hospital design concept studies that would enhance mobilization expansion;
3. Obtain a more coordinated and accurate assessment of the ability of military hospitals to function in the event of mobilization; and
4. Request the Military Departments to complete planned capability assessments in conjunction with the updating of their mobilization plans.

As noted above, we concur with the findings of this report, however, our review resulted in the several comments relating to specific statements and wording of recommendations contained in this report. Our comments follow:

This report recommends that DoD's 5-year Medical Construction Plan be amended to include information necessary to assess the impact on mobilization of each hospital to be replaced. We suggest that only the current year presented to Congress include this

information. As much as three years are required to prepare a project for presentation to the Congress. DoD guidance will be changed to require that mobilization be included as a primary factor in project development. Because the 5-year plan is a very fluid plan we do not feel the 5-year plan would be an appropriate document to convey our medical mobilization planning to the Congress.

We do not concur in the information, as presented, on page three of the report. Expansion capabilities listed in the "Existing" column and in the "Replacement" column are inconsistent because expansion assets of the Replacement hospitals are not included in the bed numbers reported.[See GAO note.]

The report indicates that "preparing new physicians and staff for assuming hospital stewardship under short notice..." was not being accomplished by the Services. While the military medical facilities planners may need to improve their efforts in this regard, plans and training for augmentation personnel have been accomplished by the Military Departments.

The report states that plans have not been made for phasing out peacetime patient loads in the event of mobilization. DoD hospitals are required by the Joint Commission on Accreditation of Hospitals (JCAH) to include in their Emergency Preparedness Plan provisions for identification and transfer of patients in the event of emergency situations. DoD hospitals are in compliance with this JCAH standard. We feel that while mobilization plans need to more clearly identify plans for directing patients in the event of mobilization, such plans are in existence.

Regarding the discussion of the economic analysis of the Philadelphia Naval Hospital, the GAO report does not accurately reflect the findings of this analysis. We recommend the following rewording.

"An economic analysis by the Navy's Bureau of Medicine concluded that the continuation of inpatient care would be marginally cost effective."

The report suggests modular construction techniques, as defined by the GAO, could benefit DoD mobilization

GAO note: Reference is made to a chart in the draft which is not included in the final report. Firm estimates of expansion capability had not been developed by DOD for hospitals under design or construction included in the chart.

expansion. Information presented is misleading to readers who are unfamiliar with the GAO's definition of modular construction. Modular construction in this case employs two unique construction techniques to facilitate room reconfigurations. First, long span structural members are employed to minimize the number of vertical structural members such as columns and load bearing walls. This type construction enables walls to be added or removed at much less cost and in less time; however, this type reconfiguration requires temporary closures of affected areas and can require as long as six months to complete. This reconfiguration time would not satisfy mobilization needs. Secondly, modular construction requires the use of interstitial space for easy access to utilities and mechanical systems. Both DoD and the VA have determined that this particular type construction is not cost effective for hospitals of fewer than 300 beds. This is a costly construction technique and should be employed only when determined feasible for certain hospital projects. We do not concur with GAO's opinion that modular construction, again as defined by the GAO, is a viable alternative to conventional techniques in all cases.

This report recommends mobilization be included as a factor in the economic feasibility studies performed by the Military Departments. We suggest this recommendation include the following wording to insure the intent of this recommendation is clear:

"....requiring that as a part of the economic analysis performed for proposed major hospital projects that each identified alternative address the effect the alternative has on mobilization needs at the respective military installation."

We cannot concur at this time with the GAO recommendation to reduce the number of single patient bedrooms. The staff is currently determining the proper mix of single, double and four patient rooms in both peacetime and wartime. We prefer not to reduce the number of single rooms until we have completed this study of appropriate room mix.

We wish to thank the GAO for the insight provided by this report. This report will be extremely helpful to the staff in addressing medical mobilization issues.

Sincerely,



Vernon McKenzie
Principal Deputy Assistant Secretary

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