#### CHAPTER 4

# PATIENT EVACUATION AND MEDICAL REGULATING Section I. EVACUATION POLICY

#### **4-1.** The Theater Evacuation Policy

a. Before plans can be made to provide hospitalization and evacuation, there are certain problems which must be resolved by command decision. One such decision is the evacuation policy. It is established by the Secretary of Defense, with the advice of the JCS, and upon the recommendation of the theater commander. The policy establishes, in number of days, the maximum period of noneffectiveness (hospitalization and convalescence) that patients may be held within the theater for treatment.

*b.* This policy does not mean that a patient will be held in the theater for the entire period of noneffectiveness. A patient who is not expected to be ready for RTD within the number of days established in the theater evacuation policy is evacuated to CONUS or some other safe haven. This is done providing that the treating physicians determine that such evacuation will not aggravate the patient's disabilities or medical condition. Field Manuals 8-10 and 8-10-6 discuss the theater evacuation policy. Field Manual 8-10 also discusses the acceptable percentage of fill for available hospital beds.

*c.* The evacuation policy has different meanings for different personnel. For example:

(1) To the physicians and dentists engaged in direct patient treatment and decisions relating to patient disposition, it means that there is a maximum period within which clinical staffs may complete the treatment needed to return the patient to full duty within the theater. If the theater policy is 60 days and full RTD can be predicted within that time, the patient will be retained in the theater hospital system. If the patient cannot be returned to full duty within 60 days, the patient will be evacuated out-of-theater as early as clinically prudent. Once the clinical judgment has been made, the patient should be allowed to recover enough to endure the evacuation.

(2) To the HSS planner, it means that he can compute the beds required in the theater if given the evacuation policy and other planning factors. (See Chapter 5.) This can be translated into the type, mix, number, and distribution of hospitals required in the theater.

(3) To the nonmedical logistician, it means, in part, that he can estimate his total obligation to support this system.

(4) To the United States Air Force (USAF) planner, it means that he can plan accurately for USAF AE requirements for both intraand intertheater patient movements.

(5) Finally, to the HSS operator, it means that he has a management tool, which when properly adjusted and used, will provide the balance between patient care and tactical support requirements. The HSS operator will be able to tailor a HSS package specifically designed to handle patient work loads, with maximum benefit to the patients and with maximum economy of available resources.

#### 4-2. Factors Determining the Evacuation Policy

The following factors are used in determining the evacuation policy:

*a.* Nature of Tactical Operations. A major factor is the nature of the combat operations.

Will they be operations of short duration and small magnitude? Will they be operations of long duration and heavy magnitude? Will NBC/DE weapons be employed? Will only conventional weapons be used? Is a static combat situation expected?

*b.* Number/Type of Patients. Another factor is the number and types of patients anticipated and the rate of patient RTD. Admission rates vary widely in different geographical areas of the world and in different types of military operations. Chapter 5 discusses historical data on admission rates under varying geographical, climatic, and organizational conditions.

*c. Evacuation Means.* An important factor is the means (volume and type of transportation) available for evacuation of patients from the TO to the CONUS.

*d. Availability of Replacements.* Another important consideration is the capability of CONUS to furnish replacements to the theater. For each patient who is evacuated from the theater to CONUS, a fully trained and equipped replacement must be provided. During a small-scale conflict overseas, CONUS replacement capability would be much greater when compared to a largescale conflict such as World War II.

e. Availability of In-Theater Resources. Limitations of all HSS resources such as insufficient numbers and types of HSS units in the COMMZ to support the CZ and an insufficient amount of health service logistics and nonmedical logistics will have a definite impact on the evacuation policy. The amount and timing of engineering support is also a consideration. The more limitations (or shortages), the shorter will be the theater evacuation policy.

## 4-3. Impact of Evacuation Policy on Health Service Support Requirements

a. A short theater evacuation policy—

• Results in fewer hospital beds required in the theater and a greater number of beds required elsewhere.

• Creates a greater demand for intertheater Air Force evacuation resources. (A shortened intratheater evacuation policy would likewise increase the number of airframes required in the theater.)

• Increases the requirements for replacements to meet the rapid personnel turnover which could be expected, especially in combat units. (The impact this would have on both intraand intertheater transportation and other requirements must also be considered.)

*b.* A longer theater evacuation policy—

Z Results in a greater accumulation of patients and a demand for a larger HSS structure in the theater. It decreases bed requirements elsewhere.

Z Increases the requirements for medical materiel and maintenance (health service logistics) and nonmedical logistics support.

• Increases the requirements for hospitals, engineer support, and all aspects of base development for HSS. (It demands the establishment of a larger number of hospitals in the COMMZ. Regardless of the construction stipulated, the number of man-hours and materials required must be considered.)

 $\dot{Z}$  Provides for a greater proportion of patients to be returned to duty within the theater, and thus reduces the loss of experienced manpower.

## 4-4. Adjustments to the Evacuation Policy

When patients are received at a rather constant rate, the evacuation policy at a specific echelon

may be adjusted to retain or RTD those patients who do not require specialized treatment in COMMZ general hospitals (GHs). However, when increased patient loads are anticipated, the intratheater evacuation policy must be adjusted to make additional beds available for current and anticipated needs. As a result, a larger proportion of patients admitted in the CZ are evacuated to the COMMZ much earlier than under average conditions. The displacement of hospitals temporarily reduces the number of beds available and may result in a greater number of patients being evacuated out of the CZ during the period of relocation.

# Section II. MEDICAL EVACUATION

#### 4-5. Evacuation Tenets

a. Patient evacuation is the timely and efficient movement of wounded, injured, or ill persons from the battlefield and other locations to the MTFs. Evacuation begins at the location where the injury or illness occurs and continues as far as the patient's medical condition warrants or the military situation requires. Medical personnel provide en route medical care during patient evacuation.

*b.* Service component commanders are responsible for evacuation of patients within their AOR.

*c.* The unified commander is responsible for issuing procedures for evacuation of formerly captured or detained US military personnel.

*d.* The unified commander will issue procedures for evacuation of EPW and civilian internees, other detainees, and civilian patients. (See FM 8-10 for discussions on the Geneva Conventions. The Conventions contain many provisions which are tied directly to the HSS mission. Also, see AR 190-8 for disposition of an EPW after hospital care.)

(1) Sick, injured, or wounded EPW are treated and evacuated through normal medical channels, but remain physically segregated from US and allied patients. Helmets, gas masks, and

like articles issued for personal protection will remain in the possession of each individual. Enemy prisoners of war are evacuated from the CZ as soon as possible. Only those sick, injured, or wounded prisoners who would suffer a great health risk by being evacuated immediately may be treated temporarily in the CZ.

(2) The MTF commander is responsible for the treatment of sick, injured, or wounded EPW patients. The echelon commander is responsible for the security of EPW patients. (See FM 19-40 for further information concerning EPW evacuation and control. Also, see FM 19-4 for a discussion on EPW operations.)

*e.* Procedures and policies for evacuation of injured and sick military working dogs (MWDs) will be issued by the unified commander.

*f.* Army aeromedical evacuation units must be able to communicate with other Service hospitals.

#### **4-6. Planning for Patient Evacuation**

a. Planning patient evacuation involves considering all available forms of transportation and providing appropriate HSS personnel in the evacuation system to assure continuity of patient care. It also involves planning the routing, controlling evacuation movements, and planning the location of evacuation facilities. Patient collecting points, ambulance exchange points, and an ambulance shuttle system (ambulance loading points, ambulance relay points, and ambulance control points) must be planned. Thorough investigation of all the available lines of communications is an essential prerequisite to such planning. Field Manual 8-10-6 provides a comprehensive discussion on medical evacuation in support operations across the operational continuum.

*b.* The AMEDD does not have dedicated fixed-wing aircraft for evacuation of patients from the CZ to the COMMZ or from the COMMZ to the CONUS. (See paragraph *4-23a, b,* and *c.)* For additional means of evacuation, coordination must be effected with—

Ż The particular Service controlling aircraft and ships.

• The transportation command controlling the locomotive power for trains and other forms of transportation.

c. Coordination with other Services and commands is usually accomplished through medical regulating (MEDREG). The surgeon, however, must forecast the requirements for air and surface evacuation so that coordination for its procurement may be done in advance of the need. Aircraft are requested on the basis of anticipated needs and to meet emergencies such as those occurring in nuclear warfare where CZ hospitals are suddenly filled to capacity.

## 4-7. Evacuation Means

*a.* The USAF Airlift System is primarily responsible for moving patients from the CZ to the COMMZ, within COMMZ, and from COMMZ to CONUS. (See paragraph 4-24.) If movement requirements exceed the capability of the USAF AE system, the MEDCOM medical regulating officer (MRO) may have to seek alternative modes of transportation. (See paragraph 4-17h.) He may task the MEDCOM's medical battalion (evacuation) (see paragraph 4-20) for movement of patients by Army aircraft or ground ambulances.

*b.* In addition to using ground evacuation when the USAF AE system cannot support the number of patients requiring air evacuation, there are other factors that may require the use of ground evacuation from the CZ to the COMMZ. Some reasons for evacuating patients by ground transportation are the following:

(1) Tactical considerations that prevent the use of aircraft for patient evacuation during certain periods.

(2) Patients who cannot be evacuated by air.

(3) Weather conditions.

(4) Lack of adequate or properly located airfields.

(5) Insufficient numbers of aircraft available.

*c.* When patient evacuation by air from the CZ to the COMMZ is not possible or appropriate, field or bus ambulances from medical ambulance companies assigned to the medical battalion (evacuation) of the COMMZ medical brigade, MEDCOM, may be used.

*d.* If air or ground ambulances must be used to transport large numbers of patients to or within the COMMZ, the MEDCOM MRO must obtain clearance through the TA movement control center (MCC), which is an agency of the TA transportation command. This agency coordinates and controls the movement of Army aircraft and ground transportation within the theater. When capabilities are exceeded, the MCC coordinates requests for additional air and ground resources. It also obtains the necessary clearances to support the mission from the CZ.

e. Modern warfare is likely to generate more casualties than the airlift system can handle. Surface evacuation is then a possibility. It is possible that, under certain circumstances, patients may be returned to CONUS by surface vessel rather than by air. Such transportation is the responsibility of the Military Sealift Command (MSC) (paragraph 4-23b). Deliberate planners should strive to make requirements estimates known so that MSC planners are able to provide medical evacuation. The MEDCOM MRO would be responsible for coordinating the evacuation requirements. After coordination is complete, the MEDCOM establishes patient-holding facilities at COMMZ ports. Patients would be delivered to these facilities and held until loaded aboard designated ships. Once in CONUS, patients would normally be taken to the nearest Air Mobility Command (AMC) terminal for further airlift to destination hospitals.

*f.* Table 4-1 lists the types of transportation usually available to the AMEDD for the evacuation of patients within a TO and shows their patient-transporting capacity.

Table 4-1. Evacuation Capabilities (United States Force)	abilities (United States Forces)	orces)
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	<u>_</u>	ITTER***	AMBULATORY***	
USAI				
	TRANSPORT AIRCRAFT			
	C-130 HERCULES##		85	
	C-9A NIGHTINGALE*	40	40—15 LITTER PLUS 24 AMBULATORY	
	C-141B STARLIFTER##	103	147	
	C-5 GALAXY##		70	
	C-17A##		48 LITTER PLUS	
			44 AMBULATORY	
CIVIL	RESERVE AIR FLEET (CRAF)			
	BOEING 767 (B-767)	111**		
US A	RMY			
	GROUND VEHICLES			
	M886/893 TRUCK, AMBULANCE*	4	8	
	M1010 TRUCK, AMBULANCE, 1 1/4-TON, 4X4*	4	8	
	BUS, MOTOR, 44 PASSENGER*	18	37	
LEGE	END:			
*	Requires on board medical attendant(s) and equipment.			
**	Configured for litter patients only.			
***	Maximum capacity litter or ambulatory.			
#	Ambulatory figure for the UH-60A is 15 if the litter kit is not installed.			
##	Naval vessels and aircraft and Air Force cargo aircraft in most situations r	equire on b	oard medical personnel and equipment	
###	Figures for litter and ambulatory patients are the same since all patien			
§	These capacities require any Marines on board to be disembarked to shore.			
şş	These capacities will require Navy personnel augmentation packages		the Army's Professional Officer Fille	

# Table 4-1. Evacuation Capabilities (United States Forces) (Continued)

* AMBULATORY***
10
8
0
6 16
8 5
10 8
33 TER PLUS 7# BULATORY
9
48
32
30
21 TER PLUS
T

#### US NAVY

# SHIPS AND WATERCRAFT

T-AH 19, US NAVAL SHIP MERCY	1000###	1000###	
T-AH 20, US NAVAL SHIP COMFORT	1000	1000	
AMPHIBIOUS ASSAULT SHIP (LHD) (MULTIPURPOSE)	604	604	
(CASUALTY RECEIVING SHIP [CRTS]) (RECEIVES BOTH			
HELICOPTER AND WATERBORNE CASUALTIES)##,###,§,§§			
AMPHIBIOUS ASSAULT SHIP (LHA) (GENERAL PURPOSE)	367	367	
(RECEIVES BOTH HELICOPTER AND WATERBORNE			
CASUALTIES)##,###,§,§§			
AMPHIBIOUS ASSAULT SHIP (LPH) (HELICOPTER)	222	222	
(CRTS)##,###,§,§§			
AMPHIBIOUS TRANSPORT DOCK (LPD)##	14	14	
(COULD BE DESIGNATED AS AN EMERGENCY OR			
OVERFLOW CRTS)			
DOCK LANDING SHIP (LSD)##,###,§,§§	108	108	
ONLY NEWER LSDS (CLASS 41 AND NEWER SHIPS) HAVE			
LIMITED POTENTIAL FOR USE AS EMERGENCY OR OVER-			
FLOW CRTS. THEY DO NOT HAVE DENTAL CAPABILITY.			

Table 4-1. Evacuation Capabili	es (United States	s Forces) (Continued)
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	LITTER***	AMBULATORY***
US NAVY (CONTINUED)		
AMPHIBIOUS CARGO SHIP (LKA)##	12	12
MEDICAL OFFICER ASSIGNED. COULD SUPPORT FLEET		
SURGICAL TEAM (21-PERSON MEDICAL AUGMENTA-		
TION TEAM). THE NUMBER OF POTENTIAL PATIENT		
CARE BEDS ARE LIMITED. NOT SUITABLE AS CRTS.		
TANK LANDING SHIP (LST). EXTREMELY LIMITED		
MEDICAL CAPABILITY AND NO DENTAL CAPABILITY. THE LARGE TANK DECK (DESIGNED FOR VEHICLE		
STOWAGE) OFFERS POTENTIAL USE AS A CASUALTY		
TREATMENT SPACE IF AN APPROPRIATE SHELTER IS		
INSTALLED. THE OBVIOUS ADVANTAGE IS IN ITS		
ABILITY TO REACH THE BEACH. ELEMENTS OF A		
FLEET SURGICAL TEAM COULD BE USED TO PROVIDE		
PERSONNEL AND EQUIPMENT FOR THIS POTENTIAL		
USE. USED IN MASCAL SITUATIONS.		
AMPHIBIOUS COMMAND SHIP (LCC)	24	24
THE LCC HAS ADEQUATE MEDICAL FACILITIES TO		
CARE FOR EMBARKED PERSONNEL. ITS MISSION		
AND LIMITED BED CAPACITY PRECLUDE ITS USE AS		
A CRTS. THE AMPHIBIOUS TASK FORCE SURGEON,		
LANDING FORCE SURGEON, AND OTHER KEY		
MEDICAL STAFF OFFICERS ARE NORMALLY LOCATED		
ON AN LCC DURING OPERATIONS.		
ROTARY-WING AIRCRAFT		
CH-46 SEA KNIGHT**	15	25
CH-53D SEA STALLION**		55 WITH CENTER LINE SEATING INSTALLED
V22, OSPREY	12	24

# Section III. CALCULATION OF PATIENT EVACUATION REQUIREMENTS

# 4-8. Methodology

This section presents a methodology for calculating the time and the number of units of transport required to evacuate a given number of patients, or to support a specific operation.

### 4-9. Time Factors

The following are time factors for evacuation of patients (including loading and unloading):

a. Litter Squads.

(1) Average terrain, four-person squad—900 meters and return in 1 hour.

(2) Mountainous terrain, six-person squad—350 meters and return in 1 hour.

*b.* Ambulance (wheel and track vehicle). During combat in the division area—eight kilometers and return in 1 hour (optimal weather and terrain).

c. Aircraft.

(1) Helicopter—150 kilometers oneway in 1 hour (based on the operational capability and patient-loading ease of UH-1V/H helicopter).

(2) Transport—360 kilometers oneway in 2 hours (based on 1 1/2 hour mission for C-130E aircraft and 30 minutes patient-loading time).

(3) Army airplane—200 kilometers one-way in 1 hour (based on the operational capability of U-21 aircraft, including patient-loading time).

#### 4-10. Computations

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*a.* The following formulas may be used to calculate the time and the number of units of transport required to evacuate a given number of patients:

(1) Time required:  

$$T = \frac{N X t}{U X n}$$
(2) Units required:  

$$U = \frac{N X t}{T X n}$$

N = Total number of patients to be evacuated.

n = Number that can be transported in one load.

T = Total time.

t = Time required for one round-trip.

U = Number of units of transport (litters, ambulances, and aircraft).

*b.* The amount of evacuation resources required to support a specific operation may be calculated by using the following formula for either WIA or DNBI patients: (See paragraphs 4-11 and 4-12 for example problems and solutions. )

$$\frac{(A \times B)}{D} \times E = ambulance require-ments by type per day.$$

where:

A = The total patients (WIA or DNBI) generated for a specific operation per day. This figure may be calculated using projected figures for the specific AO. Admission rates contained in Chapter 5 reflect experience factors derived from past wars. These figures may be used as bottom-line planning factors only.

B = The percentage of those patients in A, above, requiring evacuation. Normally, this figure will exceed 100 percent as a recognition of the fact that many patients will need to be moved more than once. The number of times a patient will be moved will depend on many factors. In assigning a specific percentage as a planning factor, the HSS planner must consider—

Force structure.

- Enemy weapons systems.
- Weather.
- Airfield or seaport loca-

Other factors affecting

tions.

•

patient flow.

C = The average number of patients moved by a means of evacuation. The figure will vary depending on the type of ambulance (ground or air), or the specific model of vehicle.

D = The average number of missions a particular evacuation vehicle can complete per day.

E = The dispersion allowance for the specific types of evacuation vehicles in the formula. The dispersion allowance is a recognition that a specific percentage of vehicles in the force will be unavailable for missions due to maintenance, crew rest, combat loss, or replacement lag time. The HSS planner will determine the specific percentage used by reviewing maintenance historical data and considering the threat in terms of the enemy, terrain, and weather. To convert the dispersion allowance into a factor, see Table 5-1, Chapter 5.

#### 4-11. Example Problems

To determine the requirements for air or ground evacuation resources to support a specific operation, you, as the HSS planner, have determined information necessary to compute this problem. Complete the calculations for air *or* ground evacuation vehicles by using formulas provided in paragraph 4-10B. Compare the answers to the solutions provided in paragraph 4-12.

*a.* Using the information below, calculate air ambulance requirements. (See paragraph 4-10B for formula application.) (1) Type of patients:

- DNBI 413.
- WIA 588.

(2) Patients by type requiring air evacuation:

DNBI 120 percent.

Ž WIA 180 percent.

(3) Average number of patients per mission: 3.

(4) Average number of missions per helicopter per day: 11.

(5) Dispersion allowance: 30 percent.

*b.* Using the following information, calculate ground ambulance requirements:

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(2) Patients by type requiring ground evacuation:

Z DNBI 130 percent.

Ž WIA 70 percent.

(3) Average number of patients per trip: 2.

(4) Average number of trips per day per ambulance: 6.

(5) Dispersion allowance: 35 percent.

## 4-12. Example Solutions

- a. Calculate air ambulance requirements:
  - (1) Type of patients:

496 Patients re-

quiring air evacuation.

• WIA 588 <u>X 1.80</u> 1,058 Patients re-

quiring air evacuation.

• DNBI 496 WIA <u>+ 1,058</u>

1,554 Total patients requiring air evacuation.

(2) 1,554 / 3 patients per mission = 518 missions.

(3) 518 / 11 missions per day = 47 helicopters.

(4) 47 X 1.43 dispersion factor = 67 helicopters.

*b.* Calculate ground ambulance requirements:

(1) Type of patients:

DNBI 413 <u>X 1.30</u> 537 Patients re-

quiring ground evacuation.

412 Patients re-

quiring ground evacuation.

949 Total pa-

tients requiring ground evacuation.

(2) 949 / 2 patients per trip = 475 trips.

(3) 475 / 6 trips per day = 79 ambulances.

(4) 79 X 1.54 dispersion factor = 122 ambulances.

# Section IV. MEDICAL REGULATING

## 4-13. Casualty Management System

Medical regulating is a casualty management system designed to coordinate the movement of patients from site of injury or onset of disease through successive echelons of medical care to an MTF that can provide the appropriate medical care and treatment. Prompt movement of patients to the required level of professional care is necessary to avoid increased morbidity and mortality. See discussions in FMs 8-10, 8-10-3, and 8-10-6.

## 4-14. Planning for Medical Regulating

*a.* If patients occurred at regular intervals, in constant numbers, at predetermined locations, and with predictable injuries, their

evacuation would require little or no MEDREG. Since these circumstances never occur, MEDREG is a vital support factor which must be employed in the most effective manner possible.

(1) *Coordination.* The MEDREG system operates worldwide to regulate the movement of patients from the US Army, US Navy, and USAF to appropriate MTFs or medical treatment elements (MTEs). While the concept of MEDREG is simple, its execution becomes quite complex for the following reasons:

*(a)* It involves all three military services, thus requiring careful and detailed coordination.

(b) Patients require continuous medical care during all phases of evacuation.

*(c)* The AMEDD does not have its own long-range evacuation means; therefore, close coordination with the Services providing transportation is required.

(2) *Control.* The MEDREG system is under the technical control and supervision of MROs assigned to all medical command and control headquarters above battalion throughout the TA. These officers plan and coordinate with the various organizations and agencies who participate in the MEDREG system. Many factors must be considered in controlling the movement of patients. The primary factor is the tactical situation. Conditions are seldom static, and success in achieving the combat mission must remain the primary goal of both combat and CS units. Tactical MEDREG is controlled by Service MROs; theater MEDREG is controlled by the theater JMRO or AJMROs; and CONUS MEDREG is controlled by the ASMRO.

*b.* Patient management, therefore, is a dynamic decision-making process which must be applied throughout all echelons of medical care. It does little good to move a patient from one point to

another if the receiving point is not prepared to handle him. Effective patient regulating may prove to be as big a problem as medical evacuation. For example, patients may not be regulated to a 296-bed combat support hospital (CSH) with 150 empty beds. Why? There may be many factors that may impede this regulating. Other factors, in addition to the tactical situation, which influence the scheduling of patient evacuation include—

(1) Availability of transportation.

(2) On-hand patient mix, specialty capabilities, Class VIII status, medical equipment status, staffing status, associated supply items of other equipment status, pending displacement of MTFs, or locations of MTFs.

(3) The current bed status of MTFs (beds occupied/not occupied).

(4) Surgical backlog of each facility.

(5) Number and location of patients by diagnostic category.

(6) Location of airfields or seaports.

(7) Condition of each patient. (Is the patient sufficiently stabilized to withstand travel?)

(8) Communications capabilities.

#### 4-15. Wartime Regulating

*a.* The wartime regulating and/or evacuation of patients between the second and third echelons of care MTFs are the responsibility of the Service component (Army, Navy, or Air Force) commander. In the CZ, the Service components are responsible for evacuation of patients from an injury site to the nearest MTF.

*b.* In the CZ where patients are transferring between facilities of the same Service and these facilities do not support other Services, the JMRO is not assigned regulating responsibility. (Component Service MTFs may be required to support patients from other Services in the CZ. Service MROS must, therefore, ensure there is secure communication and coordination between Service MROS in the CZ.) The regulating of casualties from the third to fourth echelon and the subsequent regulating from the theater to CONUS is accomplished jointly by JMRO and the ASMRO (paragraph 4-19).

#### 4-16. Intratheater Medical Regulating

a. The medical brigade and group commanders assign missions to their subordinate hospitals and evacuation units in support of the committed divisions. This establishes an anticipated flow of patients from the division medical companies to the CSHs or mobile army surgical hospitals (MASHs) at the corps. Through periodic and "spot" reports, the medical brigade MRO, assisted by medical group MROs, further controls the movement of patients to prevent the overloading of individual hospitals.

*b.* The patient disposition and reports branch, division medical operations center (DMOC), division support command coordinates with the medical group MRO who regulates the patients from the division's AO. The division tracks patients rather than regulates them. The exception to this is when the DMOC, in coordination with the medical group and medical brigade MROs, regulates patients directly to the MASH, but this is not a routine procedure.

*c.* The formal joint MEDREG system begins in the hospitals assigned to the corps.

(1) On a daily basis, physicians identify those patients who cannot be returned to duty within the established evacuation policy and are sufficiently stabilized to withstand movement to a COMMZ hospital. (2) This information is reported by each patient care unit (ward) to the patient administrator (PAD).

(3) The PAD in each hospital normally performs the MEDREG function.

(a) He assembles all pertinent information from the patient-care units (wards) and transmits a consolidated report to the MRO of the medical group/brigade headquarters to which the hospital is attached. This report is, in effect, an evacuation request. It should contain, as a minimum, the following information.

• Number of patients by clinical service such as surgical, medical, and neuropsychiatric.

Ž Number of patients by transportability categories: litter and ambulatory.

• Patient status such as active duty (AD) military, US civilian, EPW, or noncombatant evacuees.

This required information identifies hospital bed requirements, clinical specialty requirements, loading configuration for transportation, special handling requirements of patients, and requested evacuation date and time.

*(b)* The PAD is also responsible for keeping his next higher MRO apprised of current beds available and clinical service status.

(4) The MRO at group headquarters—

(a) Receives the reports from the attached hospitals.

(b) Consolidates the reports.

*(c)* Designates patients to subordinate hospitals and tasks subordinate medical evacuation units for assets to transfer patients.

*(d)* Forwards a consolidated requirements report to the medical brigade MRO for coordination of MEDREG for patient evacuation from the medical group facilities to the supporting MTFs in the COMMZ.

*(e)* Indicates desired MASF for patients being evacuated via air transportation.

*(f)* Keeps the brigade MRO informed of current beds available and clinical service status.

*(g)* Monitors bed status reports from hospitals under his span of control.

(5) The MRO at the medical brigade head quarters in the CZ–  $\,$ 

(a) Provides medical regulation of patient movement to and between *assigned and attached* MTFs, designates receiving hospitals, and notifies subordinate MROs who disseminate the information to the hospital PADs, or coordinate the evacuation resources for the transfer. If patients within the CZ are being regulated to other Service MTFs, an AJMRO will be established who will regulate patients between Service MROs.

*(b)* Consolidates the reports from all groups within the corps and transmits (submits) a consolidated report on the remaining requirements (those patients requiring regulating to COMMZ hospitals) to the MRO at the MEDCOM headquarters.

*(c)* Keeps the MEDCOM MRO informed of current beds available and clinical service status.

*d.* Medical regulating within the COMMZ is similar to the system described within the CZ. Attending physicians in field hospitals (FHs) identify patients to be evacuated to GHs, and PADs consolidate requests within their hospitals for submission to the medical brigade MRO. (The PAD is also responsible for keeping his next higher MRO informed of current beds and clinical service status.) Brigade MROs further consolidate the requests of patients requiring evacuation from subordinate hospitals and forward them to the MEDCOM MRO.

The MEDCOM MRO consolidates all e. reports of patients requiring evacuation from subordinate MROs and submits them to the JMRO. The JMRO consolidates the patient evacuation requests from all Services-Army, Navy, and Air Force—within the theater. He then compares the requests to the current bed status reports from COMMZ hospitals to identify receiving hospitals. (This comparison enables the JMRO to assure availability of adequate beds for current and anticipated needs, route patients requiring specialized treatment to the proper MTFs, and effect an even distribution of patients in COMMZ hospitals.) The JMRO designates MTFs in the COMMZ to receive the patients identified for intratheater evacuation. The JMRO will then notify the CZ medical brigade MRO and the COMMZ MEDCOM MRO of the regulating decision. The JMRO, therefore, regulates the flow of patients regardless of Service throughout the theater, assuring the efficient use of theater hospital beds.

*f.* Depending upon the distance between hospitals, patients may be evacuated by Army evacuation means, or by Air Force aircraft. The MEDCOM MRO coordinates through the AELT (paragraph 4-24b) to the AECC (paragraph 4-24a) for USAF evacuation flights from the CZ to the COMMZ. (See subparagraph 4-17 *f through l.* He coordinates Army medical evacuation by tasking subordinate evacuation units. Large ground movements must be coordinated through the MCC.

## 4-17. Intertheater Medical Regulating

a. Many of the patients treated at COMMZ hospitals are returned to duty within the theater. Others, however, cannot be returned to duty within the theater evacuation policy and must be evacuated to the CONUS. The reporting of these patients for evacuation is as previously described—from attending physician to patient administration officer, through the COMMZ brigade MRO to MEDCOM MRO, consolidated at each headquarters. The MEDCOM MRO submits the consolidated request for CONUS evacuation from the COMMZ hospitals to the JMRO.

*b.* The JMRO coordinates the evacuation requirements for CONUS beds with the ASMRO who is located in CONUS. Paragraph 4-19 discusses the ASMRO.

*c.* The ASMRO consists of representatives from the Army, Navy, and Air Force. The ASMRO will direct the distribution of patients into CONUS hospitals.

*d.* In the event no JMRO has been established because multiple services are not providing Echelon IVHSS, the MEDCOM MRO assumes the functions of the JMRO.

*e.* When the ASMRO provides the JMRO with CONUS hospital designations, the JMRO disseminates this information to the MEDCOM MRO (and to the MROs of other Service components).

*f.* The MEDCOM MRO requests air transportation through the AELT to the AECC for evacuation flights from the CZ to the COMMZ and from the COMMZ to the CONUS.

g. The AECC coordinates the AE requirements with aerial resupply missions into the CZ. To the maximum extent possible, retrograde tactical aircraft are used for AE missions. When required, special mission aircraft may be allocated to accomplish the mission. After coordination is complete, the AECC furnishes detailed flight schedules to the MEDCOM through the AELT, indicating on-load and destination airfields, number of patients to be moved, and the Air Force mission numbers of the aircraft.

*h.* When the MEDCOM MRO receives the information from the AECC through the AELT, he, in turn, disseminates the information to subordinate MROs. If movement requirements exceed the capability of the AE system, the MEDCOM MRO may have to seek alternative modes of transportation.

*i.* Communications zone medical brigade and CZ medical brigade/group MROs inform their MTFs of the number of patients to be evacuated from each departure airfield, the mission numbers of the evacuation aircraft, and the arrival and departure time of the aircraft. They also designate ambulance units to support each hospital in moving the patients.

*j.* Each facility, supported by designated ambulance units, then moves its patients to the appropriate departure airfield(s). At designated corps airfields, the USAF AE squadron operates a MASF (subparagraph 4-24d) to hold patients pending loading on aircraft. These holding facilities are limited so the time frame during which patients must arrive at the MASF is generally limited to no earlier than 3 hours prior to the aircraft's arrival or no later than 1 hour prior to departure.

*k.* Once patients are delivered to the MASF (subparagraph 4-24d), the Air Force assumes control of them until they are off-loaded at the destination airfield. If for some unforeseen reason, AE aircraft is not available, the originating MTF will pick up the patient and provide medical care until the next scheduled flight. At the COMMZ airfield, the patients are off-loaded from the C-130

aircraft, placed on Army vehicles, and transported to the destination GH.

*l.* In the COMMZ, the Air Force operates an ASF (subparagraph 4-24e) at each AMC terminal used for AE. If for some unforeseen reason, AE aircraft is not available, the originating MTF will pick up the patient and provide medical care until the next scheduled flight. When the patients are delivered to the ASF, AMC assumes responsibility for their care.

<sup>*m.*</sup> On arrival in CONUS, patients will generally be held for 24 to 36 hours in the ASF at the aerial port of debarkation. Then they will normally be loaded aboard C-9 aircraft for further movement to destination airfields, where they will be met by medical personnel (of their respective Services, if possible) and moved by an appropriate means to their destination hospitals.

#### 4-18. Joint Medical Regulating Office

a. The JMRC is a joint agency, consisting of elements of two or more Services, established to regulate the movements of patients, within a TO to MTFs having the capabilities to provide the necessary care. It also coordinates the movement of patients to CONUS with the ASMRO. The Defense Medical Regulating Information System (DMRIS) is used within the Pacific and European Commands to communicate patient regulating information to ASMRO. Many of the fixed MTFs in both theaters are connected to DMRIS to communicate with JMRO and ASMRO.

b. The JMRO functions as part of the unified command surgeon's section. It consists of a Medical Service Corps officer and enlisted administrative specialists from all Services. Composition varies from unified command to unified command. Personnel include both permanently assigned staff and Reserve augmentation and personnel provided by components. The command surgeon may establish subunified command JMROs and AJMROs to provide regional regulating.

*c.* Specified duties of the JMRO are as follows:

(1) To develop and recommend to the unified command surgeon overall policies, procedures, and guidance for reporting medical evacuation requirements.

(2) To maintain direct liaison with the ASMRO, MEDREG offices of component Services, transportation agencies which furnish evacuation transportation, and the component surgeons.

(3) To coordinate with the unified command surgeon in determining bed availability.

(4) To obtain reports of available beds from the surgeons of component Services accessible to the JMRO.

(5) To accept requests for beds from the Service regulating officers.

(6) To identify facilities to receive patients requiring medical care at another MTF.

(7) To coordinate with ASMRO for beds at CONUS MTFs for patients requiring movement out of the TO because estimated hospitalization will exceed the theater's established evacuation policy.

(8) To obtain, consolidate, and disseminate current and projected estimates of evacuation requirements within the joint force and to CONUS. In the COMMZ and CZ, the AJMRO needs the evacuation requirements. For CONUS-bound evacuees, the ASMRO and the Commander, JTF for CONUS Medical Mobilization, as a minimum, also need this information to provide beds and transportation from the theater to CONUS medical facilities.

#### 4-19. Armed Services Medical Regulating Office

The ASMRO is a joint agency operated by the Chief of Staff, USAF, as executive agent for the JCS, and subject to the direction, control, and authority of the JCS. The ASMRO performs a supporting role to the combatant commands.

#### NOTE

The ASMRO is pending reorganization under US Transportation Command (USTRANSCOM). When the reorganization is effected, it will be a direct reporting unit of the USTRANSCOM. It will continue to perform a supporting role to the combatant commands.

b. The ASMRO regulates patients from TO based on requests from a JMRO or other designated reporting activity to CONUS MTFs capable of providing the required level of care. In making the regulating decisions, the ASMRO coordinates with the USTRANSCOM to make optimum use of transportation assets. The ASMRO is also responsible for MEDREG within CONUS. To accomplish the MEDREG mission, ASMRO maintains continuous liaison with the joint force JMRO. The ASMRO regulates patients using the DMRIS (in peacetime and wartime) and the automatic digital network (AUTODIN). When authorized by ASMRO, other means of communications such as facsimile and telephone may be used.

# Section V. MEDICAL EVACUATION UNITS

# 4-20. Medical Battalion (Evacuation), TOE 08-446L000

*a. Mission.* This unit provides command and control of air and ground medical evacuation units within the TO.

*b.* Assignment. The medical battalion (evacuation) is assigned to the TA MEDCOM or corps medical brigade. It is normally further attached to the medical brigade in the COMMZ or medical group in the corps.

c. Capabilities. This unit provides—

• Command and control and supervision of operations, training, and administration of a combination of three to seven assigned or attached medical companies (air ambulances, TOEs 08-447L100 [UH-1] and 08-447L200 [UH-60], and ground ambulance, TOE 08-449L000).

• Staff and technical supervision of aviation operations, safety, and aviation unit maintenance (AVUM) within attached air ambulance companies.

• Coordination of medical evacuation operations and communications functions on a 24-hour, two-shift basis.

Ž Medical supply support to attached units.

Ž Echelon I HSS and aviation medicine.

*d.* Basis of Allocation. One medical battalion (evacuation) is allocated per combination

of the following units: three to seven medical companies, air ambulance and/or ground ambulance.

#### 4-21. Medical Company (Air Ambulance) (UH-1V or UH-60A Aircraft), TOE 08-447L100 and TOE 08-447L200

*a. Mission.* The mission of the medical company (air ambulance) is to provide AE and support within the TO.

*b.* Assignment. The medical company (air ambulance) is normally assigned to the medical brigade and is normally further attached to the headquarters and headquarters detachment (HHD), medical battalion (evacuation).

c. Capabilities. This unit provides—

• Fifteen helicopter ambulances to evacuate patients consistent with evacuation priorities and operational considerations, from points as far forward as possible to Echelon II and III MTFs.

• Air crash rescue support, less fire suppression in combat search and rescue operations.

• Expeditious delivery of whole blood, biologicals, and medical supplies to meet critical requirements.

 $\hat{Z}$  Rapid movement of medical personnel and accompanying equipment and supplies to meet the requirements of MASCAL situations, reinforcement, and/or reconstitution, or emergency situations.

Z Movement of patients between hospitals, ASFs, MASFs, seaports, or railheads in both the corps and COMMZ.

*d.* Basis of Allocation. This unit is allocated on the basis of—

•

1.0 per division supported.

 $\check{Z}$  0.333 per supported separate brigade or ACR.

• 1.0 per two divisions supported (general support).

• 1.0 per theater in support of hospital ships.

#### NOTE

Communications zone rules for allocation of units are derived from the CINC or theater commander based on the unit's mission requirements and geographical dispersion.

## 4-22. Medical Company (Ground Ambulance), TOE 08-449L000

*a. Mission.* The mission of the medical company (ground ambulance) is to provide ground evacuation of patients within the TO.

*b.* Assignment. The medical company (ground ambulance) is assigned to the medical brigade and further attached to an HHD, medical battalion (evacuation) for command and control.

c. Capabilities. This unit provides-

• Truck ambulances with a singlelift capability for evacuation of 160 litter patients or 320 ambulatory patients.

• Evacuation of patients from division medical companies to CZ hospitals.

• Evacuation of patients from area support medical companies to supporting hospitals.

Z Reinforcement of division medical company evacuation assets when required.

 $\dot{\mathbf{Z}}$  Reinforcement covering force and deep battle operations.

• Movement of patients between hospitals and ASFs, MASFs, seaports, or railroads in both the corps and COMMZ.

Z Area evacuation support beyond the capability of the area support medical battalion.

• Emergency movement of medical supplies.

*d.* Basis of Allocation. This unit is allocated on the basis of–

 $\check{Z}$  0.333 per separate brigade or ACR.

Ž 1.0 per division supported.

 ${\bf \check{Z}}$  ~ 1.0 per corps supported in the COMMZ.

#### 4-23. United States Transportation Command

The USTRANSCOM, through its Service component commands, provides resources for medical evacuation of patients in support of the worldwide requirements of supported CINC.

a. Air Mobility Command. The AMC provides intratheater, strategic (or intertheater), and domestic AE support. The AMC is tasked to provide operational policies, doctrine, standards and evaluation, and training for the AE system. The AE system consists of three subsystems which

correspond to casualty flow patterns from initial point of injury to CONUS. Assets described in this paragraph can be established to support any of these subsystems, as needed.

(1) Strategic (or intertheater) subsystem. Strategic AE support normally provides patient evacuation between the TO and another theater or CONUS. Strategic AE may be accomplished using the retrograde portion of USTRANSCOM's assigned airlift missions by dedicated airlift if authorized by the supported CINC. Strategic AE may also be accomplished on dedicated CRAF B-767 aircraft activated as part of the AE segment of CRAF. The strategic AE subsystem will normally operate from primary C-141 support airfields.

(2) *Theater subsystem.* The theater AE subsystem provides evacuation of patients between MTFs within a theater. Theater AE moves patients to rearward MTFs, and/or to MTFs with a higher level of care. The AMC provides resources to establish theater capabilities or augment existing ones. The theater subsystem operates under the OPCON of the Air Force component commander. The theater AE subsystem normally operates from forward C-130 resupply airfields and can use either retrograde or dedicated airlift.

(3) *Domestic subsystem*. The domestic AE subsystem supports patient movement from strategic aerial ports of debarkation (APOD) to airfields nearest CONUS destination hospitals or from one MTF to another within CONUS.

b. Military Sealift Command. The MSC assists, as required, in arranging or providing patient movement by sea, or from and/or between ships at sea using organic assets of the ships. Embarked medical personnel are US Navy assets assigned to various naval medical units, none of which are part of MSC. Similarly, the US Navy hospital ships are operated by the Navy and are not MSC controlled.

*c. Military Traffic Management Command.* The Military Traffic Management Command (MTMC) assists, as required, in arranging or providing patient movement from a reception airfield to a CONUS MTF, if the movement is not provided by the AMC domestic AE system.

# Section VI. COMPONENTS OF THE AEROMEDICAL EVACUATION SYSTEM

### 4-24. Aeromedical Evacuation Elements

Aeromedical evacuation operations are conducted using the following six basic AE elements: an AECC, AECEs, MASFs, ASFs, AELTs, and AE crews. The AE system does not own any aircraft. Aeromedical evacuation movements are requested through the AECC and are entered into the theater airlift request system just like any other air movement requests. With the exception of ASFs, AE elements are capable of operations on any bare or unimproved air base or airhead if adequate base operating support can be furnished by the host Service. Elements of the AE system (with the possible exception of the ASF) are linked through a high frequency radio net.

Aeromedical Evacuation Coordiа. nation Center. The AECC is the operations center where overall planning, coordinating, and directing of AE operations are accomplished. The AECC collocates with the deployed tanker airlift control center (D-TACC), which is the senior airlift representative's command and control function for all airlift operations. The AECC coordinates and manages the AE system while the D-TACC or tactical air control center (TACC) (for intertheater) controls aircraft. The AECC merges patient movement requirements once a destination hospital is determined to identify AE aircraft missions needed. The AECC then coordinates with the D-TACC or TACC for airlift and communicates airlift schedules with supporting AE elements and MTFs. The theater AECC is initially staffed with personnel from the nearest AD AE squadron. Long-term manning of theater AECCs could include

a combination of AD and Air Reserve Component (ARC) (Air National Guard and Air Force Reserve) personnel. The personnel complement provides for continuous 24-hour operations. Specific responsibilities of the AECC include:

(1) Advising the senior airlift representative on aeromedical issues.

(2) Coordinating the selection and scheduling of theater airlift aircraft allocated for AE missions.

(3) Monitoring AE crews.

(4) Coordinating special medical equipment and supplies.

(5) Maintaining statistical data and providing reports.

(6) Monitoring resupply for subordinate AE elements.

(7) Monitoring field maintenance support for assigned vehicles, aerospace ground equipment, and communications equipment.

(8) Serving as the high frequency radio net control station.

b. Aeromedical Evacuation Control Element. The AECE is the functional manager for AE operations at a specific airfield. Aeromedical evacuation control elements come under the OPCON of the AECC and are responsible for the following operations on a 24-hour basis:

(1) Exercising OPCON and crew management functions over all AE crews assigned, attached, or transiting its location.

(2) Supervising ground handling and on/off loading of casualties.

(3) Managing special medical equipment, supplies, and medical and AE kits, including tracking and resupply.

(4) Arranging for casualty in-flight food service.

(5) Coordinating mission preparation, including aircraft configuration and servicing for AE requirements.

(6) Maintaining communications with the AECC, supported ASF and/or MTF, and host base activities regarding mission tasking, casualty flow, and support. Various forms of communications are used, to include the integrated high frequency net, land lines, and couriers.

Aeromedical Evacuation Liaison ſ Team. The AELT provides a direct high frequency radio communications link and immediate coordination between the user Service originating requirements for AE and the AECC. Aeromedical evacuation liaison teams are under the OPCON of the AECC or the AECE if a regional command structure is set up. They are normally located at the echelon of the user Service where patient movements are authorized. Depending on the tactical operation being supported, AELTs can be collocated directly with an MTF, or at any other level of command to ensure a smooth and coordinated patient flow into the AE system. In addition, the AELT can be used at any AE element as a communications team as operations dictate. The functions and responsibilities of the AELT include(1) Coordinating casualty movement requests and subsequent movement activities between the AECC and the user Service.

(2) Determining time factors involved for the user Service to transport patients to the designated staging facility.

(3) Determining requirements for special equipment and/or medical attendants to accompany casualties during flight.

Mobile Aeromedical Staging Facility. d. The MASF is a mobile, tented, temporary staging facility deployed to provide supportive patient care and administration. Each MASF is capable of routinely holding and processing 25 patients at any given time. It is not intended to hold patients overnight or for an extended period. Patients can generally be held from 2 to 6 hours. Normally, a MASF will be capable of cycling its patient load four times within a 24-hour period. It can, however, surge to six cycles in 24 hours for a limited time. Mobile aeromedical staging facilities are located near runways or taxiways of airfields or forward operating bases that are used by tactical airlift aircraft to resupply combat forces.

(1) Each MASF deploys with sufficient supplies and equipment to sustain its patient staging operation for 5 days. If it is to be deployed for a longer period or is expected to receive more patients than normal, it must be resupplied. The MASF is dependent upon the host base for food, potable water, billeting, POL, and other general support.

(2) Manning of the MASF typically includes flight nurses, AE technicians, and radio operators. The senior flight nurse serves as the officer in charge and functions under OPCON of the AECC or an AECE. There are no physicians assigned to a MASF. If a physician is needed, that requirement must be coordinated through one of the nearby MTFs. A MASF performs the following functions: (a) Receives patients designated for AE from user Service forward medical elements. The MASF has no organic patient transportation capability; the user Service is responsible for patient transportation to and from the MASF.

*(b)* Provides supportive nursing care to casualties awaiting airlift.

*(c)* Prepares patient manifests (if not yet accomplished by the user Service), patient aircraft load plans, and other administrative support on a limited basis.

*(d* Assists AE crews in configuring the aircraft to receive litter and ambulatory patients.

(e) Notifies AECC when an AE aircraft has departed.

*(f)* Functions as an AECE when an AECE is not collocated.

*(g)* Provides status/capability reports to the AECC.

(3) Mobile aeromedical staging facilities are neither staffed nor equipped to accomplish certain patient support activities. The originating MTF must provide the following minimum support:

(a) Transportation for patients to and from the airfield.

*(b)* Special supplies and equipment required for patients in flight.

#### NOTE

USAF elements do not accomplish blanket and litter exchange.

*(c)* Any required guards or attendants (medical or nonmedical).

*e. Aeromedical Staging Facility.* An ASF is a fixed medical facility (50 to 250 beds) located on or near an enplaning or deplaning air base or airstrip to provide patient reception, administrative processing, ground transportation, feeding, and limited medical care for patient entering, en route in, or leaving the AE system. Aeromedical staging facilities perform all of the functions of a MASF, except that they are not readily mobile. In addition, ASFs have physicians assigned.

f. Aeromedical Evacuation Crews. Aeromedical evacuation crews provide in-flight supportive nursing care aboard the evacuation aircraft. The crews are also responsible for ensuring the aircraft is properly configured and loaded. United States Air Force physicians are not part of a standard AE crew.

(1) While on a mission, each AE crew is a self-contained unit under the supervision of a flight nurse designated the medical crew director (MCD). While on a mission, the MCD is under OPCON of the AECC and is responsible for patient care and mission management in coordination with the aircraft commander. The MCD, in coordination with the AECC/AECE, is also responsible for scheduling the return of the AE crew to its originating location, as well as for securing and returning all associated medical supplies and equipment. When AE crew personnel are not on an operational mission, they are normally assigned to an AECE or MASF for OPCON and other crew management support functions.

(2) An individual AE crew normally consists of five personnel: two flight nurses and three aeromedical technicians. However, the crew may be tailored as the mission dictates, with additional crew members often assigned to missions with over 50 patients.

# Section VII. THE INFORMATION MANAGEMENT SYSTEM

#### 4-25. Theater Army Medical Management Information System

The Theater Army Medical Management Information System (TAMMIS) is the wartime baseline system for the Department of the Army. Adjustments may be made to meet Army, Navy, and USAF wartime requirements while ensuring compatibility between Services throughout the TO. The TAMMIS automates specific tasks to manage medical resources and medical materiel. Although the primary focus is to automate wartime operations, it also includes peacetime functions. The purpose is to support readiness missions while in garrison and during training exercises, thus ensuring a rapid transition from peace to war.

#### 4-26. Medical Regulating Subsystem

The TAMMIS MEDREG subsystem assists the MRO in managing the evacuation of patients so that patient medical needs and movement requirements are most efficiently matched against available beds/resources. The MEDREG operates within the corps and at echelons above corps (EAC). Medical regulators at medical groups and brigades, MEDCOM, and the JMRO will use MEDREG to designate beds for patients and to coordinate patient movement within the theater. The JMRO (or the senior MEDREG activity in the theater) will also coordinate with the ASMRO to regulate patients to facilities outside the theater.