

FOREWORD

The American, British, Canadian, and Australian (ABCA) Armies Medical Interoperability Handbook (MIH) was developed and is maintained by the ABCA Quadripartite Working Group on Health Service Support (QWG HSS).

The ABCA program is the primary interoperability forum involving the armies of the United States (US), United Kingdom (UK), Canada (CA), and Australia (AS). New Zealand (NZ) has observer status. QWG HSS is the working group within the ABCA program that addresses HSS issues. The working group comprises HSS representatives of participating armies and its principal activity involves the progression of standardization tasks on HSS issues identified and prioritized by armies. Standardization is achieved through the development and maintenance of Quadripartite Standardization Agreements (QSTAGs) and Quadripartite Advisory Publications (QAPs). Other ABCA activities include special working parties (SWPs) and information exchange groups (IEGs) on specific HSS issues, the maintenance of a Standardization List (STANLIST) and reciprocal use of materiel (RUM) loans. In addition, ABCA exercises are conducted on a regular basis to practice and evaluate standardization and interoperability among participating armies.

The QWG HSS meets annually to process standardization tasks and to discuss key HSS interoperability issues. Each meeting includes a review of the MIH. Users of the MIH in participating armies are encouraged to send comments and suggestions for amendment to their QWG HSS national point of contact (NPOC).

The custodian of the MIH is the U.S. Army Medical Department Center and School.

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**AMERICAN, BRITISH, CANADIAN, AND AUSTRALIAN ARMIES
MEDICAL INTEROPERABILITY HANDBOOK**

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CHAPTER ONE INTRODUCTION

DECLARATION OF ACCORD

The ABCA Armies agree to use the MIH as a staff officer guide (aide memoir) and as a doctrinal development reference for ABCA HSS operations. The subscribing Armies further agree to consult and, when possible, achieve mutual agreement regarding changes affecting the MIH before introducing such changes. The MIH will be reviewed at each QWG HSS meeting. The MIH has been given the Quadripartite Advisory Publication number (QAP 82) and may be revised or canceled by agreement of the subscribing armies. The MIH may be released to the North Atlantic Treaty Organization (NATO).

The handbook also provides an overview of the HSS system of each Army, to include medical units, their functions, and methods of support. Specifically, the HSS functions of medical treatment, patient evacuation, dental, veterinary (VET), preventive medicine (PVNTMED), mental health (to include combat stress control [CSC]), medical laboratory, optometric/optical and pharmaceutical services, medical intelligence, and health service logistics (HSL) (to include blood and blood products management) are described.

AIM

The aim of the MIH is to--

Create and maintain, on a long-term basis, a compendium of fundamentals to enhance interoperability for health services in the field.

Provide HSS planners of each national force a condensed narrative and graphic description of each nation's HSS that supports the Army in the theater of operations (TO).

Provide field commanders and staff officers information pertaining to health services deployed to support tactical organizations.

SCOPE

This handbook addresses the Army field HSS systems of participating nations with emphasis on support to units operating in the TO and with the cooperation of the Armies in the field.

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In addition, the concept of HSS in a nuclear, biological, and chemical (NBC) environment is presented. For the purposes of this manual, the term “role” is used to describe the phased system of health care delivery in the TO (e.g., far forward care is provided at the Role 1). The term “level” is used to describe the level of command (e.g., division, regiment, or corps).

HSS MISSION

HSS plays a key role in developing and maintaining combat power. Its mission is to maintain the health of the Army, thereby conserving the fighting strength.

PRINCIPLES OF HSS

Conformity. The HSS plan must conform to the tactical plan of operations. It must also conform to the highest role of medical care standards and ethics.

Proximity. HSS must be provided as soon as possible to reduce morbidity and mortality. Medical treatment facilities (MTFs) locate as far forward as possible; however, they must not be positioned so far forward as to interfere with combat operations or be subjected to enemy harassment.

Flexibility. The HSS plan must provide immediate response to changes in the tactical situational.

Mobility. Medical units must maintain close contact with the maneuvering combat elements they support. Therefore, they must have

transportation compatible with the combat units they support.

Continuity. Triage, treatment, and evacuation must be continued until the patient reaches an MTF capable of providing definitive care for his condition. No patient is evacuated further to the rear than the extent the physical condition/injuries justifies or the operational situation warrants.

Force Protection/Prevention. Significant conservation of manpower can be achieved by measures designed to promote health and prevent disease and injuries. Some health hazards may be geographically or environmentally produced in addition to more traditional communicable and noncommunicable diseases.

Command and Control. Command and control (C2) of HSS must be exercised at the highest level possible.

ROLES OF MEDICAL CARE

The ABCA Armies have agreed that the HSS system will be based on the following roles of medical care.

Role 1. Role 1 care is that which is integral to the unit and includes the acquisition, treatment, and evacuation of wounded, injured, or sick soldiers from forward areas of the battlefield. First-aid (self and buddy aid) and enhanced first-aid (combat lifesaver skills) are provided by the soldier, his buddy, or a nonmedical soldier trained in enhanced first-aid skills in the field, and by medically trained

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soldiers, physicians, and physician assistants (PAs) at unit-level MTFs.

Role 2. Role 2 HSS exists between the unit level and hospitals at Role 3. It provides collection, triage, treatment, and evacuation or return to duty (RTD) of casualties and routine sick call on an area support basis.

Role 3. Role 3 care includes the provision of initial wound surgery (IWS) and hospitalization for medical treatment and nursing care.

Role 4. Role 4 care includes providing specialized surgery, hospitalization, and rehabilitation.

HSS FUNCTIONS

HSS is comprised of functional areas that provide a continuum of medical care from the point of injury rearward to definitive and rehabilitative care in the sustaining base. These functional areas include--

Medical Treatment and Area Medical Support. In the forward areas of the battlefield, Roles 1 and 2 medical treatment are provided by medical personnel organic to the maneuver element or on an area support basis by a supporting medical element. Medical care at these roles include emergency medical treatment (EMT), advanced trauma management (ATM), initial resuscitative surgery, and routine sick call.

Patient Evacuation and Medical Regulating. Patient evacuation provides the links between the roles of care on the battlefield. It provides continuous medical treatment while the patient

is being evacuated rearward to the facility best suited to care for his medical condition. Patient evacuation is accomplished by the higher role evacuating from the lower role. Evacuation encompasses--

- Collecting the wounded.
- Performing triage (sorting).
- Providing an evacuation mode.
- Providing medical care en route.
- Anticipating complications and being ready and capable to perform emergency medical intervention.

Medical regulating is the coordination and control of moving patients to the MTFs best suited to provide the required specialty care. This function ensures the efficient and safe movement of patients through the phased health care delivery system.

Hospitalization. A hospitalization capability is found at Roles 3 and 4 within the TO and within each nation's sustaining base. Hospitalization capabilities of the member nations are discussed in their respective chapters.

PVNTMED Services. Historically, disease and nonbattle injuries (DNBIs) have rendered more soldiers combat ineffective than actual battle casualties. Therefore, the medical threat must be recognized and analyzed and measures taken to combat its effects. The medical threat that accounts for the vast majority of combat noneffectiveness can be reduced to the six broad categories listed below.

- Communicable diseases.
- Vectorborne diseases.
- Food- and waterborne diseases.

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- Diseases, trauma, or injuries caused by physical and mental unfitness.
- Environmental illnesses/injuries (e.g., heat, cold, altitude, and wet).
- Occupational illnesses/injuries (e.g., caused by carbon monoxide, solvents, noise, blast, and overpressure).

Commanders at all levels of command must ensure that PVNTMED programs are established and executed.

Dental Services. Dental support is arranged in roles, reflecting an increase in capability at each succeeding role. The functions of each lower role of dental support are contained within the capabilities of each higher role. In the forward areas, dental treatment is directed toward the relief of pain and management of infection and oral trauma. At the next role, care is focused on the treatment necessary to keep the soldier functioning in his unit without further evacuation and correcting potential dental emergencies. A preventive dentistry program and more definitive dental care can also be provided in the TO.

VET Services. VET support is an integral part of the HSS within the TO. VET services within the TO include--

Inspection of food animals, food production, processing, and storage facilities.

Prevention of foodborne and zoonotic diseases.

Maintenance of a directory of approved food sources for Armed Forces procurements.

Examination of food and food-producing animals in an NBC environment.

Care and treatment of government-owned animals.

Care and treatment of animals associated with humanitarian assistance, disaster relief, and nation-building operations.

Performance of mobile VET laboratory operations.

Mental Health Support. Mental health support includes a system-oriented program to control stressors and stress behaviors, neuropsychiatric (NP) triage and care, stabilization of seriously disturbed or disruptive cases, and restoration and reconditioning of combat stress reaction (CSR) casualties.

HSL to Include Blood Management. HSL encompasses medical supply and resupply, medical equipment maintenance, optical fabrication and assembly, blood and blood products management, and management of medical gases.

Medical Laboratory Services. Medical laboratory resources are used to analyze body fluids and tissues to determine disease processes or to identify microorganisms. Equipment and personnel are limiting factors in the scope of services provided. The sophistication of laboratory services increases at each successive role of care.

Pharmaceutical Services. Role 1 does not have pharmacy specialists assigned. Medications are contained in the medical equipment sets (MES). The MES are dispensed by treatment personnel. At some Role 2, and at Roles 3 and 4, pharmacy

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specialists provide dispensing support to both inpatients and outpatients, prepare intravenous (IV) additive products, perform inventory control, and safeguard controlled substances.

Medical Intelligence Support. Medical intelligence is the product resulting from the collection, evaluation, analysis, integration, and interpretation of all available general health and bioscientific information. Medical intelligence is obtained through intelligence channels and other sources. It is used to evaluate the medical threat in the area of operations (AO) in order to establish appropriate preventive and treatment programs. The medical threat also includes the level of compliance with International Humanitarian Law, specifically the Geneva Conventions and additional protocols, regarding the respect and protection of medical personnel, MTFs, and vehicles.

COMMAND AND CONTROL

National Command. A national commander commands all of his elements, including the supporting combat HSS system. For C2 purposes, the commanders normally delegate command of their assigned HSS resources to their senior HSS officer. It is necessary, therefore, to provide the HSS component of the force with a properly organized and functional C2 system. At each level of command, the senior HSS officer must possess the right of direct access to the commander on matters affecting the health of the command.

Full command of the national combat HSS components of the ABCA Force will be retained by each national component commander. However, operational command

of national HSS resources may be delegated to the senior HSS officer to facilitate overall coordination of resources in the TO. The C² relationships of these components are clearly defined at the time the Force is raised. Their relationships must be embodied in the command directives issued by the authority creating the Force to each national component commander as well as to the Force Commander.

Senior HSS Officer. The senior HSS officer is responsible to the Force commander for the overall planning and coordinating of HSS for the Force. His duties include the following:

Advising the Force commander on the health of the command.

Advising the Force commander and his staff on matters affecting the delivery of health care to the Force.

Developing, preparing, and coordinating health services policy, procedures, and support plans in conjunction with commanders of the National Health Service (NHS).

Exploiting medical intelligence data and information derived from national and other service sources.

Coordinating requirements for the requisition, procurement, storage, maintenance, distribution, and documentation of host-nation (HN) HSS resources.

Monitoring the HSS activities of each NHS, including the employment of NHS resources, encouraging interoperability where

appropriate, and disseminating the Force's HSS plan to the commanders of the NHS.

Health Service Support Strategies. The revolutionary changes in military strategy demand developing a medical interoperable HSS strategy. Global conflict has changed to regional conflicts embodied by the three strategic pillars, peacetime engagement requiring a health and fit force, deterrence and conflict prevention with casualty prevention, and fight to win with the resource intensive addition of casualty care and management (Chapter Annex, Figure 1-1). HSS focuses on health promotion, casualty prevention, and capable and agile medical units. This paradigm shift requires maximizing the synergistic effects of the ABCA medical elements through coordinated, comprehensively planned, and mutually supported medical operations.

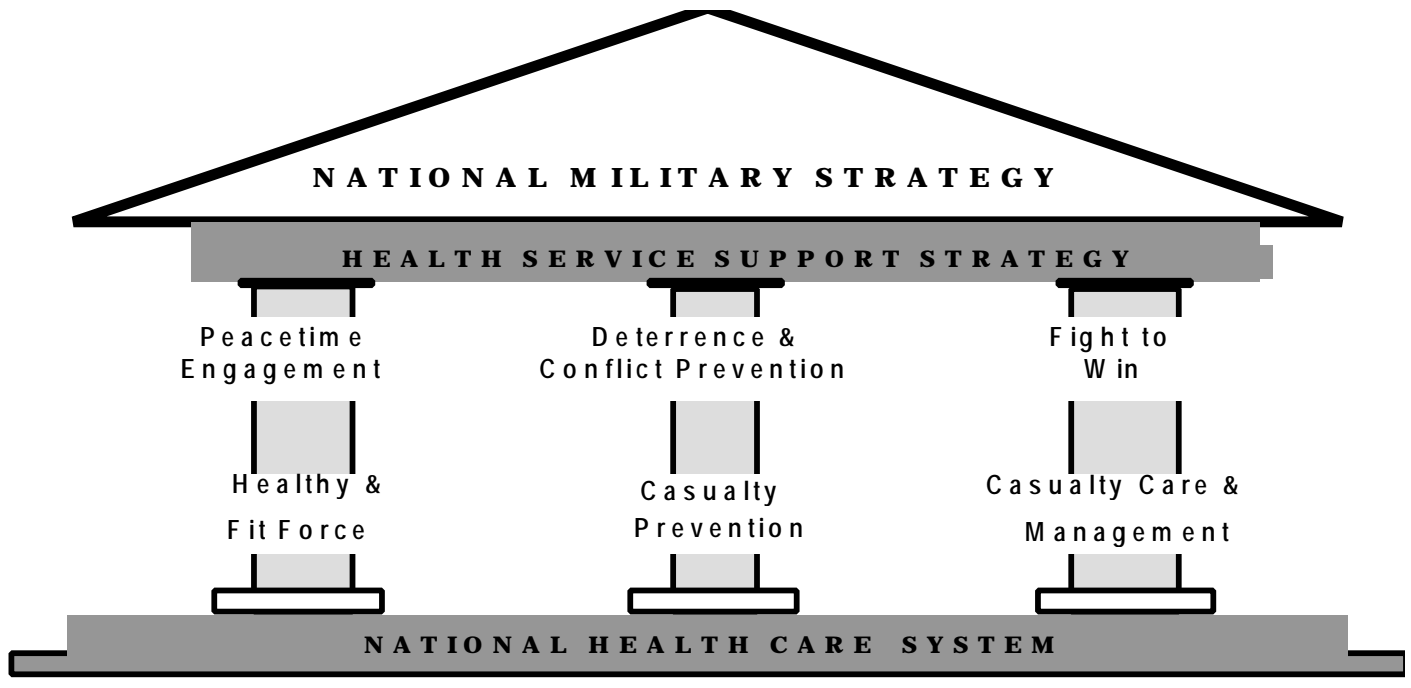


Figure 1-1.
National Military Strategy

CHAPTER TWO

HEALTH SERVICE SUPPORT OPERATIONS

HSS PLANNING

HSS planning is a deliberate planning process. This process aims at developing a system, which provides for the best available use of HSS resources under a given situation.

Consideration should be given to aspects such as the operational situation (including the commander's overall mission) and basic medical threat information (including endemic diseases and climate appropriate to the TO). Other issues applicable to specific operations should be identified and considered. HSS organizations are unique to each individual nation; an overview of comparison is provided in the Chapter Annex, Figure 2-1.

The following factors are normally critical aspects of HSS planning:

- Mission and type of operation.
- Operational concept or plan.
- Anticipated duration of the operation.
- Evacuation policy from the combat zone (CZ) and from the TO.
- Selection and consideration of the HSS aim.
- Medical threat assessment.
- Medical surveillance.
- Provision of the overall casualty estimate by the staff and its possible effects on the delivery of health care.
- Availability of resources and restrictions, if any, on their employment.
- Staff checks.
- C2 resources, requirements, and limitations as appropriate.
- Any factors that might be applicable to a particular situation or operation.
- Timely preparation and issue of orders.

Health THREAT

The health threat is a composite of ongoing or potential enemy actions and environmental conditions that might act to reduce the effectiveness of the ABCA Coalition Force through wounds, injuries, diseases, or psychological stressors. The medical threat is a composite of the following:

- Infectious diseases.
- Extreme environmental conditions.
- Conventional warfare.
- Biological warfare (BW).

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- Chemical warfare (CW) agents.
- Directed-energy weapons.
- Blast effect weapons.
- Combat stress.
- Flame and incendiary systems.
- Nuclear warfare.

Health SURVEILLANCE

Health surveillance is the process of monitoring the incidence and prevalence of battle casualties (Bcas) and DNBI in deployed forces. It involves the systematic observation and identification of threats to the health of those forces with a view to intervention.

The objective of health surveillance is to minimize preventable injury, illness, and wounding in deployed forces. The uses of health surveillance data include--

Advice to commanders on the general health status of their forces.

Early identification of changing or emerging health threats in a TO, such as--

- Operational threats posed by the enemy's warfare systems and weapons including those with ballistics, blast, fragmentation, and incendiary effects, as well as nuclear, biological, chemical, directed-energy, and nonlethal weapons.
- Environmental threats posed by the specific environment of the TO including disease, climate, terrain, fauna, flora, and industrial pollution.
- Occupational threats posed by the warfare systems and equipment of ABCA Armies including radiation, heat, noise, vibration,

toxic gases, excessive physical loads and effort, sensory overload, mental and physical exhaustion, disorientation, isolation, and other psychosocial and physiological factors.

Development and ongoing review of medical countermeasures, including the TO policy on vaccination, prophylaxis, and microbial pre-treatment.

Prioritizing the most effective use of scarce HSS resources, including the rapid and appropriate tasking of PVNTMED/ environmental health assets.

Updating TO and national health intelligence databases.

Providing human factor information, which can be used to reduce vulnerability by improved warfare system design.

Quantifying the effects of preventable injury, illness, and wounding in deployed forces (e.g., days lost).

Patient Estimates

Patient estimates are an essential aspect of overall HSS planning. The following are key factors in determining the estimates.

Patient estimates are determined from the Bcas forecast which are provided by the operational staff, in appreciation of the tactical or operational situation. A casualty is any person lost to the organization by reason of having been declared dead, wounded, injured, diseased, interned, captured, retained, missing, missing in action (MIA), beleaguered,

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besieged, or detained. A Bcas is one who becomes a casualty as a direct result of hostile action.

Patient estimates are derived from the overall casualty estimate by forecasting the numbers of casualties who will be lost for medical reasons and require medical care. The estimate is normally expressed as a percentage of the force.

There are two elements of the patient estimate: DNBI casualty rates and Bcas rates. The DNBI rate is assessed by the HSS staff using information provided in the medical intelligence brief and is usually expressed as a percentage of the deployed force.

Information required to calculate patient estimates include--

- Force strength.
- Types of casualties.
- Rate of casualty arrival.
- Battle intensity.
- Numbers of casualties.

Bcas Rates. Bcas rates will vary depending on enemy and own force composition, aim of the ABCA Forces, tactics, and types of weapons employed. Only the Assistant Chief of Staff, G3 (Operations) staff has access to these variables and will thus be responsible for providing Bcas rates.

CSR Casualty Rates. CSR casualty rates for non-Bcas are adopted for each battle intensity level as a result of consultation between the G3 staff and the HSS planners.

DNBI Casualty Rates. The health services provide rates for DNBI casualties who become noneffective due to disease or injury.

Other Casualties. In addition to those casualties sustained by the ABCA Forces own troops, consideration must be given to the rates of other casualties; for example, enemy and civilian casualties who may be admitted to ABCA MTFs.

Killed-to-Wounded Ratio. For patient estimating, this is the most significant element of casualties not considered as patients, along with the MIAs or enemy prisoners of war (EPWs). (For Bcas in conventional warfare, the killed-to-wounded ratio is between 1:4 and 1:3; 20-25 percent of Bcas killed in action [KIA]. Planning rates for NBC or combined NBC and conventional warfare have not yet been determined. The mortality rate of patients, those who die after entering the HSS system, in conventional warfare is between 2 to 4 percent.)

Differences in Casualty Rates. There are presently considerable differences in casualty and patient rates accepted by nations. Rates acceptable for planning by ABCA Armies must still be developed for specific operations. This is particularly necessary for rates in an NBC environment.

Further details on calculating patient estimates can be found in the Annex to this chapter (Tables 2-1 and 2-2).

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MEDICAL EVACUATION AND REGULATING

Medical Evacuation. An ABCA medical evacuation system will be heavily dependent on the use of aircraft as a means by which casualties and patients are evacuated within and from the AO. Aeromedical evacuation (AME) remains the preferred means, thereby reducing morbidity and mortality. In some cases, ground evacuation will be the only available means due to the lack of air resources, the air threat, or the weather. Tactical or strategic AME will almost certainly be the primary means of evacuating patients from the TO. In some cases, alternative means for the evacuation of patients will be appropriate and could even be preferred.

The principles to be applied in either case are the same and should be borne in mind when planning a medical evacuation system. The medical evacuation system is outlined in Tables 2-3 and 2-4.

Basic Considerations.

- Tactical commander's operation plan (OPLAN).
- Anticipated casualty load and expected areas of patient densities.
- Patients' medical condition.
- Location, type, and status of available MTFs.
- Protection of personnel, vehicles, and units under the provisions of the Geneva Conventions.
- Airspace C2.
- Road network and engineer barrier plans.
- Weather conditions.

Priorities.

Priority I (Urgent). This priority is for those casualties whose life is immediately threatened. Rapid evacuation, urgent resuscitation, and/or surgery are required to save life.

Priority II (Priority). These casualties have life or limb in serious jeopardy. Evacuation to allow early resuscitation and/or surgery is required.

Priority III (Routine). This priority is for those casualties whose life or limb is not in serious jeopardy. Evacuation should be effected as soon as possible.

Categories. AME is divided into the following three categories:

Forward AME. Forward AME is the airlift of casualties between points on the battlefield to and between MTFs in the CZ or between points in the maritime AO. In operations where the boundaries of the CZ are not clear (i.e., most operations other than war), forward AME will be conducted between points in the AO as designated by the Force commander.

Tactical AME. Tactical AME is the airlift of patients from the CZ to points outside the CZ, but within the communications zone (COMMZ).

Strategic AME. Strategic AME is the airlift of patients from the COMMZ to points outside the AO and between points within the support areas.

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Evacuation of Patients. The primary focus of medical evacuation is to provide en route medical care while providing the safe, efficient movement of a casualty from the point of wounding, injury, or illness to a Role 3 MTF. In maneuver units, an individual who becomes a casualty will either move from the point-of-injury on his own or be moved by other members of his unit. In many cases, litter bearers will be available to carry the casualty to a unit MTF or a casualty collecting point (CCP). Those units with organic casualty collection vehicles available may employ them to remove casualties to the rear as far as the unit aid post. From this point, a Role 2 medical unit assumes responsibility for further ground evacuation.

Request for Evacuation of Casualties. The medical evacuation request is used for requesting support from evacuation units using both air and ground ambulances. The essential elements of the request, which must be given, are indicated below:

- Unit requesting evacuation.
- Location of pick-up site (grid coordinates, references, or similar identification).
- Call sign/frequency at pickup site.
- Number of patients by precedence.
- Nature of injury or illness.
- Special equipment requirements (extraction equipment or a ventilator).
- Number of patients by type (litter, ambulatory).
- Security at the pickup site.
- Method of marking the pickup site.
- Patient nationality and status.
- NBC contamination/decontamination.
- Nationality of patients.

Selection of Patients for AME. The following criteria should be applied when assessing whether patients should be evacuated by air:

- AME is necessary as a lifesaving measure, such as it is likely that shock will result from the prolonged or rough surface evacuation.
- Prognosis.
- Patients who urgently require specialized treatment.
- Patients who are liable to suffer unnecessary pain or discomfort or whose condition is likely to deteriorate unless evacuated by air.

Medical Regulating. The following six principles apply specifically to medical regulating:

Conformity. Medical regulating plans *must* conform with the appropriate operational and administrative plans and *should* conform with standards of medical practice.

Economy. Due to the likelihood of scarcity of medical resources, these assets must be used efficiently and economically.

Coordination. Close coordination between medical headquarters, MTFs, and evacuation resources must be established; and therefore, close coordination between the operational and administrative staff and the medical services must be assured.

Flexibility. Plans must be flexible to meet changes in casualty rates, availability of resources, and the tactical situation.

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Communications. During evacuation, good communications are essential to enable maximum flexibility and economy in the use of resources. Alternate means of communication are essential.

Simplicity. As with all plans, a simple medical regulating plan is most likely to succeed.

MEDICAL TREATMENT

The ABCA Armies HSS in a TO must be able to ensure continuity of patient management in order to conserve manpower effectively and efficiently. Achieving the desired degree of patient management will be dependent upon the successful interoperability of treatment principles and clinical policies.

Patient Management. Patient management is a continuous process of medical care, increasing in complexity by roles of capability to deal with the clinical needs of the patient. While optimal patient management is never compromised unless dictated by the combat situation, it is necessarily a balance between many conflicting factors, including--

- Treatment requirements.
- Evacuation requirements.
- Resources available.
- Time available.
- Environmental and operational conditions.

Patient and Casualty Management Concept. The patient management concept should--

Provide effective first-aid and life-sustaining procedures immediately following injury or at the onset of illness.

Protect patients from further injury, including environmental and weapons effects.

Document basic details of the illness or injuries sustained and the treatment given to each patient.

Treat patients as far forward as possible and RTD as many patients as possible.

Evacuate patients as rapidly as possible from the point-of-injury to an MTF for resuscitation and additional lifesaving measures. Patients with extremely serious injuries must be afforded the necessary treatment promptly.

Evacuate patients following resuscitation to Role 3 MTFs for IWS and subsequently to hospitals in the rear or outside the TO. There, definitive surgery, long-term nursing care, and other specialist services are available consistent with the Force evacuation policy.

The fundamentals of patient management in the forward areas include--

First-aid. Self-aid or buddy aid must be carried out promptly by nonmedical soldiers who are sufficiently trained to respond effectively to the situations most likely to be encountered in the context of the battlefield environment. When available, combat lifesavers who are nonmedical soldiers trained in enhanced first-aid skills can provide additional care until medical personnel arrive.

Triage/Sorting. In order to do the greatest good for the greatest number of patients, effective triage is used to establish priorities for the treatment, evacuation, and RTD of soldiers on a continuous basis. It is

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particularly important in the forward combat zone (FCZ) due to the expected shortfalls in resources and the need to RTD patients as soon as possible.

Emergency Medical Treatment. EMT focuses on the initial trauma life support (stabilization) of the patient and is initiated by trained HSS personnel as far forward as feasible (within platoon and company positions) and as soon as possible after wounding or onset of illness. EMT is within the capability of Role 1 MTFs. Such care includes--

- Maintenance of cardiorespiratory function.
- Control of hemorrhage.
- Prevention of shock through vascular volume replacement.
- Relief of pain.
- Control of body temperature.
- Application of dressings and splints.
- Protection from the elements.

Sustaining Care. Sustaining care ensures earlier efforts towards stabilization are not compromised. Sustaining care is provided en route during evacuation by medical vehicle and in MTFs along the evacuation route. Sustaining care is within the capability of Role 2 MTFs.

Initial Surgery. Initial surgery is that urgent life- and limb-saving, hemorrhage and infection control, or resuscitative and stabilizing intervention which must be expeditiously performed as far forward as the tactical situation permits. IWS is within the capability of Role 3 MTFs.

Mass Casualties. A mass casualty situation occurs when large numbers of casualties have

been produced simultaneously or within a relatively short period of time and when a great disparity exists between the number of patients and the available HSS resources (personnel, facilities, equipment, supply, evacuation means, and time). Mass casualties may result from any type of warfare or other incidents. Problems may occur from disruptions in the supply, communications, and transportation systems.

Alter Standards and Scope. When casualties are produced in numbers, which exceed rated capabilities for conventional warfare, medical units must be prepared to alter the standards and scope of medical treatment they ordinarily provide. These alterations in situations of medical disparity must be with the objective of providing the greatest good for the greatest number of patients. The responsibility for authorizing use of mass casualty procedures is that of the senior medical commander, who must be constantly aware that the situation is a finite one and must be prepared to return to conventional methods as soon as possible.

Treatment. Mass casualty treatment priorities for triage are--

- IMMEDIATE. This group includes those soldiers requiring lifesaving surgery. These procedures should not be time-consuming and should concern only those patients with high chances of survival. (Examples include, but are not limited to, respiratory obstruction, accessible hemorrhage, or emergency amputation.)
- DELAYED. This group includes those badly in need of time-consuming surgery, but whose general condition permits delay

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in surgical treatment without unduly endangering life. To mitigate the often critical effects of delay in surgery, sustaining treatment (e.g., stabilizing IV fluids, splinting, administration of antibiotics, catheterization, gastric decompression, and relief of pain) will be required. (Examples include, but are not limited to, large muscle wounds, fractures of major bones, intra-abdominal and/or thoracic wounds, and less than 50 percent burns to the total body surface area [TBSA]).

- **MINIMAL.** These casualties have relatively minor injuries and can effectively care for themselves or can be helped by nonmedical personnel. (Examples include, but are not limited to, minor lacerations, abrasions, fractures of small bones, and minor burns.)
- **EXPECTANT.** Casualties in this category have wounds that are so extensive that even if they were the sole casualty and had the benefit of optimal medical resource application, their survival would be unlikely. During a mass casualty situation, this type of casualty would require an unjustified expenditure of limited resources that are more wisely applied to several other more salvageable soldiers. The expectant casualty should be separated from the view of other casualties, however, they should not be abandoned. Above all, one attempts to make them comfortable by whatever means necessary and to provide attendance by a minimal but competent staff. (Examples of this category include unresponsive patients with penetrating head wounds, high spinal cord injuries, mutilating explosive wounds

involving multiple anatomical sites and organs, second and third degree burns in excess of 60 percent TBSA, profound shock with multiple injuries, and agonal respiration.)

Management of CSRs. CSR is a term which encompasses an array of reversible effects caused by the stresses of combat. It refers to the temporary psychological upset causing an inability to function normally (normal function includes the ability to engage the enemy and survive).

CSR encompasses the terms battle fatigue (BF), battle shock, critical incident stress, as well as older terms such as shell shock, war neurosis, NP, not yet diagnosed (NYD) (nervous), and combat exhaustion. The incidence of CSR is related to many factors including length, type, and intensity of battle.

CSR is a normal reaction to a very abnormal situation and does not constitute a psychiatric illness, although if incorrectly managed, may become one. It should also be noted that CSR may present as depression, neurosis, or psychosis. The practical definition of a psychiatric patient is, therefore, considered to be a CSR casualty who has exceeded the policy limit for treatment and continues to have significant symptomatology.

Role 1. CSR cases could be held within the company/unit area where they would receive rest and short periods of meaningful work under direction of unit personnel followed by RTD. Brigade/division CSR management teams would visit unit holding areas to provide assistance to unit personnel and to prescribe treatment when required. The team will advise

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on the evacuation of cases not responding to management at this level.

Role 2. Those cases not responding to unit management, or who are evacuated for tactical reasons, would be further managed in the brigade/division stress recovery center (SRC) or equivalent. SRCs are normally located within the divisional area.

DENTAL SERVICES

Dental support in the AO is necessary to conserve manpower. Nonbattle dental casualties may be reduced significantly if dental preparation was undertaken on troops prior to their deployment, if field hygiene is maintained, and if adequate dental support and appropriate treatment levels are available in the AO.

Provision of Dental Services. Dental treatment is provided at each role of care in the following manner:

Role 1. Only dental first-aid is provided at this facility by organic medical personnel.

Role 2. Professional dental personnel will establish and provide restricted dental treatment.

Role 3. Dental treatment is provided on an area or hospital basis.

Role 4. Comprehensive dental treatment (e.g., maxillofacial surgery) may be provided with augmentation of special personnel and equipment. Extensive oral rehabilitation which either requires care beyond the scope available at Role 4 or which cannot be accomplished

within the holding policy will require evacuation from the TO.

Dental Fitness. Dental fitness classifications should be simple and readily understood by military commanders. These classifications should assist in the appreciation of the deployment preparation standard of troops. To minimize early and avoidable manpower loss from dental causes, troops entering the AO should be dentally fit. Minor or chronic treatment that can be postponed without detriment to the serving member or the military requirement should not preclude individual deployment.

Additional Duties. From time to time, operational constraints may restrict the provision of dental services. During these periods, dental personnel may be allocated to nondental tasks appropriate to their training. These tasks might include unit responsibilities or augmentation of other medical support. To maximize the potential for successful employment of dental personnel, training appropriate to these additional duties must be identified and undertaken. As far as possible, this training should be completed prior to deployment.

Host-Nation Facilities. Host-nation support (HNS), where applicable, may be used to facilitate the provision of dental support to the ABCA Force. Conversely, the ABCA Force may need to supplement HN resources as part of a civil aid program.

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HEALTH SERVICE DOCUMENTATION AND REPORTING

Medical Situation Report. To ensure timely and accurate reporting of medical information within a TO to all levels of command, participating ABCA Armies agree that forces under their command will use the Medical Situation Report (MEDSITREP) format at Table 2-5.

Proper medical documentation facilitates effective HSS by providing the following:

Medical records of the clinical condition and treatment of each patient so that continuing treatment may be related to past events.

Information used to notify the patients' next of kin.

Information to units for the preparation of personnel strength returns.

Accurate assessments of pension entitlement.

Statistical records for planning and historical purposes.

Materials for medical research.

Information that may be used in tracking patients whose whereabouts are unknown.

Field Medical Card. In order to ensure successful first-aid and further treatment of a patient when first receiving medical attention, simple basic medical records are needed in a written form (Field Medical Card [FMC]). Details of the FMC are contained in Table 2-6.

Patient Evacuation Tag. The Patient Evacuation Tag is used to identify patients being moved through the medical evacuation chain in strategic-level evacuation platforms. The Patient Evacuation Tag also identifies medical treatment provided en route between MTFs. Details of the Patient Evacuation Tag are contained in Table 2-7.

Reporting on Allied Patients. For the purpose of providing information regarding the patients of other allied nations, the need is recognized for reports to be provided by medical facilities which admit and treat patients of another nation (reports concerning allied personnel under treatment). Details of the reporting procedures are contained in Table 2-8.

Medical Report of Cause of Death. This report of cause of death provides documentation regarding deaths and their causes. Details on this report are provided in Table 2-9.

Medical Warning Tag. This tag is worn by all members of an ABCA Force who have conditions which a medical authority considers significant. These conditions may not be readily apparent when the member is comatose or otherwise unable to communicate with medical personnel. Conditions for which the medial warning tag may be used are listed in Table 2-10. This is not an exclusive listing and can be modified as appropriate by member nations.

COMPARATIVE HSS ABCA UNITS				
STRATEGIC LEVEL	OPERATIONAL LEVEL	TACTICAL LEVEL		
ROLE 4	ROLE 3	ROLE 2		ROLE 1
				US
				UK
<p>ALLIED</p>				CA
<p>FWD GEN HOSP</p>				AS
<p>BASE HOSP IN NZ</p>				NZ

Figure 2-1.

Table 2-1						
Patient Estimation Process for the Forward Combat Zone						
Battle Patient Estimate						
Force Strength (Note 1)	X	Casualty Rate (Note 2)	=	Casualties Per Day	X	Battle Intensity Period (Note 3)
				=	Total Casualty Estimate	-
						Non Patients (Note 4)
						=
Stress Reaction Patient Estimate						
Force Strength (Note 1)	X	Casualty Rate (Note 2)	=	Casualties Per Day	X	Battle Intensity Period (Note 3)
				= Total Casualty/Patient Estimate		
Nonbattle Patient Estimate						
Force Strength (Note 1)	X	Casualty Rate (Note 2)	=	Casualties Per Day	X	Days (Note 3)
				= Total Casualty/Patient Estimate		
Notes						
1	<i>Force Strength</i>		Total troops at risk for the estimate.			
2	<i>Casualty Rate</i>		For battle and stress reaction patient estimates, this is provided by the G3 staff. It is expressed as a daily percentage of the force strength for each of the four levels of battle intensity (severe, moderate, light, and minimal). For nonbattle patient estimates, this is provided by the health services as one overall rate regardless of the battle intensity.			
3	<i>Battle Intensity Period</i>		For battle and stress reaction patient estimates, this is expressed as the number of days predicted for each battle intensity level and is provided by the G3 staff. For nonbattle patient estimates, it is the entire period of the estimate.			
4	<i>Nonpatients</i>		This includes all other casualties, e.g., KIAs, MIAs, or EPWs.			

Table 2-2 Patient Estimation Process for the Rearward Combat Zone						
Battle Patient Estimate						
Force Strength (Note 1)	X	Casualty Rate (Note 2)	=	Casualties Per Day	X	Battle Intensity Period (Note 3)
				=	Total Casualty Estimate	-
						Non Patients (Note 4)
						=
Stress Reaction Patient Estimate						
Force Strength (Note 1)	X	Casualty Rate (Note 2)	=	Casualties Per Day	X	Days (Note 3)
				= Total Casualty/Patient Estimate		
Nonbattle Patient Estimate						
Force Strength (Note 1)	X	Casualty Rate (Note 2)	=	Casualties Per Day	X	Days (Note 3)
				= Total Casualty/Patient Estimate		
Notes						
1	<i>Force Strength</i>		Total troops at risk for the estimate.			
2	<i>Casualty Rate</i>		For battle and stress reaction patient estimates, this is provided by the G3 staff. It is expressed as a daily percentage of the force strength. Only one rate is provided because multiple battle intensity levels are not considered rearward of the FCZ. For nonbattle patient estimates, the casualty rate is provided by the health services.			
3	<i>Days</i>		The number of days considered in the estimate.			
4	<i>Nonpatients</i>		This includes all other casualties, e.g., KIAs, MIAs, or EPWs.			

Table 2-3 Health Service Support Workload Requirements Data	
In determining HSS workload requirements, the following data is recommended:	
1. Total casualty estimate including	<ul style="list-style-type: none"> • Estimates for battle. • Stress. • DNBI casualties.
2. Initial evacuation policies for	<ul style="list-style-type: none"> • FCZ. • RCZ. • TO.
3. Return to duty rates,	to be determined for specific military operations.
4. Evacuation data, to include	<ul style="list-style-type: none"> • Numbers of casualties by evacuation priority between Roles 1 and 2 MTFs and rearward of Role 2 facilities. • Numbers of walking, sitting, and litter patients from the battle area to Role 1 MTFs, Role 1 to Role 2 MTFs, and rearward of Role 2 facilities. • Nature and capacity of vehicles required to evacuate given numbers of casualties.
5. Hospitalization data, to include	<ul style="list-style-type: none"> • Numbers of patients admitted to Role 3 MTFs. • Numbers of surgical patients at Role 3, particularly those requiring immediate lifesaving intervention. • Numbers of nonsurgical patients admitted to Role 3. • Average patient stays and patient accumulation/decumulation factors. • Numbers of patients admitted to Role 4. • Dispersion factor. • Role 4 bed guidance, as a percentage of committed troops.
6. Surgical workload data, to include	<ul style="list-style-type: none"> • Anatomical distribution of wounds. • Average time per surgical procedure. • Operating room average hours operating, per day. • Medical materiel consumption rates for essential commodities.

Table 2-4	
Patient Estimation Methodology and Medical Staff Data	
Patient estimates are derived from the formula depicted in Annex Tables 2-1 and 2-2.	
1. Patient Estimation	<p>To identify medical workload and establish HSS resource requirements, the following staff data, with respect to clinical workload, may be employed for planning purposes for conventional warfare.</p> <p><i>Evacuation policy:</i> To be determined for specific military operations.</p> <p><i>Return to duty rates:</i> To be determined for specific military operations. The majority of casualties returned immediately will be Bcas with minor injuries who are treated at Role 1. Historically, of those casualties returned to duty within 0-3 days, approximately 77 percent are expected to be stress reaction casualties. The remaining 14 percent beyond 90 days consists primarily of those unfit for further service, as well as patients who died of wounds (DOW) after admission to MTFs.</p> <p><i>Patient evacuation data:</i> The rates between the forward area and Role 2 MTFs are adjusted for the varying battle intensity levels.</p>
2. Dispersion Factors	The dispersion factors reflect beds which are not available because of the types of illness or injury, fluctuations of disease, or geographical location of the patients. The dispersion factor for planning HSS to ABCA Forces is 1.25, or an allowance of 20 percent.
3. Anatomic Wound Distribution	<p>The distribution of wounds as a percentage of total wounds is--</p> <ul style="list-style-type: none"> • Head, face, and neck--15 percent. • Thorax--10 percent. • Abdomen--6 percent. • Upper extremities--28 percent. • Lower extremities--41 percent.
4. Surgical Workload Data	<p>Surgical workload data is as follows:</p> <ul style="list-style-type: none"> • One surgeon can perform 12 surgical procedures in a 24-hour period. • Each OR operates 24 hours per day.

Table 2-5 Medical Situation Report (MEDSITREP)		
1. Purpose	To inform higher levels of command of the HSS situations during time of peace, tension, and war.	
2. When Transmitted	<i>Exception Report (Peace).</i>	Submitted as soon as possible after the occurrence of a HSS incident of significance.
	<i>Daily Report (Tension and War).</i>	Submitted initially as soon as the reporting medical unit is operational. Thereafter, the report is submitted with an as-of-date, -time, -group (DTG) of 2359Z.
3. Method of Transmission	Radio, teletype, or computer message format or by hand.	
4. Precedence	At discretion, but not higher than IMMEDIATE.	
5. Security Classification	CONFIDENTIAL (higher as appropriate).	
6. Content	EXAMPLES:	MEDSITREP AS OF DTG (2359Z)
<i>Medical Evacuation Status:</i> Number of patients	<ul style="list-style-type: none"> • seen since last report. • evacuated beyond the unit since last report. • returned to duty since last report. • who have died within the unit since last report • presently held in the unit. 	190 80 10 64 36
<i>Health Service Logistics Situation</i>	Report significant shortages of minimum essential supply items, using class group code numbers at Appendix A.	013/032/091/093
⁽¹⁾ <i>Hospital Status</i>	<ul style="list-style-type: none"> • ⁽²⁾Number of operational beds. • ⁽³⁾Number of available beds. • Significant personnel shortages (by rank/specialty). • Significant major equipment deficiencies. 	100 12 MAJ/GEN SURG – 1 X-RAY MACHINE – 1
<i>Mass Casualty Situation</i>	<ul style="list-style-type: none"> • Cause. • Location (name/grid reference). • Number of casualties. • Unit(s) affected. 	NIL
<i>Epidemic Situation</i>	<ul style="list-style-type: none"> • Disease code (Appendix A). • Location (name/grid reference). • Number of patients. • Unit(s) affected. 	NIL
NOTES:		
⁽¹⁾ Only hospital facilities will report at paragraph 6C of the MEDSITREP. Nonhospital/medical units which have a holding capacity are not included.		
⁽²⁾ Hospital beds are termed "operational" if they are supported by the necessary equipment and personnel to provide treatment appropriate to the role of the medical unit.		
⁽³⁾ Hospital beds are termed "available" if they are operational and not occupied by patients (operational beds less the number of inpatients equals the number of beds available).		

Table 2-6	
Field Medical Card	
The FMC will contain certain basic information and will be enclosed in an envelope of stout paper or other strong material that is waterproof and of a convenient size.	
1.	Provisions should be made to facilitate reading the name without opening the envelope. This can be accomplished by providing space on the outside of the envelope or by using a transparent material.
2.	<p>Each Army shall provide its own cards and envelopes. The basic information required is standard for all ABCA Armies. The FMC should contain the following minimum information:</p> <ul style="list-style-type: none"> • Regimental/personal service number. • Rank or grade. • Surname. • Other names. • Unit. • Nationality. • Religion. • Date of casualty or illness. • Nature of casualty or illness. • Time. • Diagnosis. <ul style="list-style-type: none"> ▪ Treatment given, dosage, time given, and date. ▪ Morphia. ▪ Antibiotics. ▪ Tetanus. • Tourniquet applied, yes/no, time, and date.
3.	The patient's transportation category (evacuation precedence) should be handwritten either on the FMC or on the envelope whenever patients are being evacuated and Patient Evacuation Tags are not available.

Table 2-7 Patient Evacuation Tag	
1.	The hospital/medical unit preparing patients for evacuation by land/air/sea is responsible for initiating a Patient Evacuation Tag. When a patient's departure is postponed, dates and effective entries on the tag are corrected by the originating medical facility (OMF).
2.	The tag is affixed to the clothing of each patient to be evacuated. The tag will be in three copies or parts: the basic tag, the embarkation copy/part, and the disembarkation copy/part. The two last copies/parts should be perforated, detachable, and marked "DETACH ON EMBARKING" and "DETACH ON DISEMBARKING". The basic tag is to be printed on stiff paper and remains attached to the patient throughout the evacuation.
3.	At the beginning of the patient's evacuation, the OMF prepares the tag. While in transit, if the patient enters MTFs for brief periods between stages of the journey, the basic tag will be preserved and reattached to the patient before his departure. When embarking on the next stage of the evacuation, the MTFs are referred to as "remaining overnight facilities," "holding facilities," or "disembarkation facilities."
4.	<p>The Patient Evacuation Tag should contain the following minimum information:</p> <ul style="list-style-type: none"> ◆ Name and initials. ◆ Regimental/personal service number. ◆ Rank or grade. ◆ Nationality. ◆ Evacuating unit. (Enter the designation and geographical location of the OMF.) ◆ Diagnosis. (It should be brief and provide only such detail as is required for continuous medical care en route.) ◆ Type of casualty, to be noted as follows: <ul style="list-style-type: none"> ▪ Bcas. ▪ Nonbattle accident/injury (NBA/NBI). ▪ Psychiatric. ▪ Sick/disease (S/D). ▪ Other cases. ◆ Transport category, to be noted as follows: <ul style="list-style-type: none"> ▪ Lying. ▪ Sitting (walking wounded or ambulatory). ▪ Isolation. ▪ Under observation. ▪ Special cases. ◆ Ship/aircraft designation and type (to be completed by transportation authorities). ◆ Number of cabin, bunk, or seat. ◆ Date (of signature of the tag). ◆ Signature (of the authorized evacuation officer, either medical or administrative).
5.	<p>The reverse side of the basic tag contains details to be filled in where necessary at any stage of evacuation as follows:</p> <ul style="list-style-type: none"> ◆ Diet recommended (whether regular or special [if special, describe]). ◆ Treatment recommended en route (enter information necessary for the guidance of medical personnel during the evacuation). ◆ Treatment and progress record (space provided for information regarding examination and treatment carried out en route).

Table 2-8 Reporting on Allied Patients	
1. Policy	Every medical formation/unit in a force may admit, treat, transfer, and discharge members of the other ABCA Armies. Each of these MTFs has the responsibility for notifying the appropriate national authority of information concerning casualties of that nation, either directly or through the reporting nation's staff channels.
2. Procedures	<p>The procedures prescribed in this table will be followed by the ABCA Armies for reporting the required information:</p> <ul style="list-style-type: none"> • Medical treatment facilities which administratively admit patients will prepare daily separate lists, covering the period 0001 hours to 2400 hours, of admissions, transfers, and discharges of personnel to each ABCA Army serving in the Force. • These reports are numbered and are forwarded to designated medical authorities. • Patients considered by the appropriate medical authority to be Very Seriously Ill (VSI) or Seriously Ill (SI) will be reported on special reports. All variation to the reports, as well as deaths in MTFs, will be reported by the fastest means to the next higher headquarters. For death cases, the cause of death will be included. Definitions of VSI and SI are: <ul style="list-style-type: none"> ▪ <i>Very Seriously Ill</i>. A patient is <i>VSI</i> when the illness is of such severity that life is imminently endangered. ▪ <i>Seriously Ill</i>. A patient is considered <i>SI</i> when the illness is of such severity that there is cause for immediate concern, but there is no imminent danger to life. • The loss of hand(s), foot (feet), limb(s), or eye(s) is also reported to the next higher headquarters.
3. HSS Roles of Notification	A comparative figure of the medical installations existing within the ABCA Nations is shown in Figure 2-1.
4. Patient Reporting	<p>The minimum information to be reported to the parent nation is:</p> <ul style="list-style-type: none"> • Designation and nationality of medical unit issuing report. • Serial number and date of issue of report. • Personal identification number (to be shown for each patient). • Rank/grade (to be shown for each patient). • Surname and initials or forenames (to be shown for each patient). • Unit or regiment (to be shown for each patient). • Nationality of the casualty's unit/regiment. • Diagnosis to include whether the patient is VSI or SI and whether the loss of hand(s), foot (feet), limb(s), or eye(s) has occurred. • Category: <ul style="list-style-type: none"> ▪ Battle casualty. ▪ Nonbattle accident/injury. ▪ Psychiatric. ▪ Sick/disease. ▪ Other cases. • Date of: <ul style="list-style-type: none"> ▪ Admission. ▪ Transfer out. ▪ Discharge. • Unit to which transferred or discharged (show nationality of unit). • If deceased, the entry is to state DIED and the date of death is given.

Table 2-9	
Medical Report of Cause of Death	
1.	In the case of death of a member of ABCA Forces, if examined by a medical officer, that medical officer should determine the cause of death. Further, a report to the parent nation of the deceased is required.
2.	<p>The format for this report is provided below:</p> <ul style="list-style-type: none"> • Cause of death. • Approximate interval between onset and death. • Disease or condition directly leading to death. • ⁽¹⁾Antecedent causes morbid conditions, if any, giving rise to the above cause, stating the underlying condition last. • Other significant conditions contributing to the death, but not related to the disease or condition causing it. • ⁽²⁾Any additional information required by individual nations will be entered here. The format reproduced above <u>must not</u> be altered.
NOTES	<p>⁽¹⁾This does not mean the mode of dying, for example, heart failure. It means the disease, injury, or complication which caused death.</p> <p>⁽²⁾Full instructions for the completion of the form are contained in the World Health Organization (WHO) pamphlet on medical certification of cause of death.</p>

Table 2-10 Medical Warning Tag	
1.	The following is a list of possible conditions for which a medical warning tag may be worn. This list is not mandatory and may be modified at national discretion. <ul style="list-style-type: none"> • Allergy to medications. • Sensitivity to biological products. • Sensitivity to immunizing agents. • Convulsive disorders. • Diabetes mellitus. • Absence of a kidney. • Use of long-term medications (such as anticoagulants). • Sensitivity to anaesthetic agents.
2.	⁽¹⁾ The information appearing on the medical warning tag will include the wearer's: <ul style="list-style-type: none"> • Last name, first name, initials of other names. • Regimental/personal service number. • Condition(s) affecting the wearer.
3.	The medical warning tag is to be made of a sturdy, heat-resistant material. The shape, size, and color of the tag is left to national discretion.
4.	It is recommended that the tag be not less than 50 mm by 25 mm and be of a distinctive color.
5.	The medical warning tag is to be worn around the neck in addition to the identity tag or disc.
6.	An example of an acceptable medical warning tag is provided below: <p style="margin-left: 40px;">THOMAS, JOHN W. 12349876 United Kingdom ALLERGY PENICILLIN</p>
NOTE	⁽¹⁾ The use of abbreviations should be avoided. The country to which the wearer belongs should also be shown.

CHAPTER THREE

HEALTH SERVICE SUPPORT LOGISTICS

HEALTH SERVICE LOGISTICS

General HSL. The HSL system must be able to support ABCA Forces effectively on any type of battlefield and, in addition, be prepared to provide essential HSL to the civilian population, including refugees. In forward areas, frequent moves and rudimentary conditions mitigate against sophisticated and highly technical medical instruments and dictate the requirement for rugged, easily operated and maintained medical equipment.

The broad heading of health services materiel includes the following:

Medical equipment (e.g., surgical instruments and panniers).

Major items (e.g., x-ray machines).

Consumable medical items (e.g., blood, pharmaceuticals, dressings, and medical gases).

HSL System. All units must be provided HSL through a system that is highly responsive, economical, and manageable. The primary objective of the HSL system is to ensure the optimum standard of health services is not jeopardized by the user's lack of essential items. The type and quantity of medical materiel in a TO will vary according to the nature and scope of the operations.

Nature of HSL. The nature of health service materiel and its use by health professionals dictates that, as far as practicable, the HSL system be a dedicated and integral part of

HSS, under the command or technical control of the senior HSS officer at the highest level consistent with the operational situation.

Medical Logistics Units. Medical logistics units are established as far forward along the patient evacuation routes as necessary to control the storage and distribution of medical materiel. In this manner, the system follows a more direct path to user units, is responsive to ensure that patient care is not prejudiced because of a lack of specific items, and is able to obtain protection under the provisions of the International Humanitarian Law, specifically the Geneva Conventions and additional protocols, when appropriately marked. With the HSL system established along patient evacuation routes, evacuation platforms can be used for both delivery and backhaul of medical materiel.

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Chapter Three

HSS Logistics

PRINCIPLES of HEALTH SERVICE LOGISTIC OPERATIONS.

Principles. The most significant principles of an effective and efficient HSL system include--

Responsiveness to any operational situation including the capability to support fluctuating demands and priorities.

Mobility to complement the rapid movement of combat forces.

Survivability under adverse operational and environmental conditions.

Economy to ensure conservation and judicious application of available supplies and services.

Simplicity in HSL plans and systems to provide continued support under rapidly changing conditions.

Health Service Materiel Requirements.

Authorized Stock. The authorized stocks of health services materiel held by units are identified in appropriate equipment tables and scales.

Stock in Forward Areas. A limited range of health service materiel items will be authorized in the forward areas of a TO, with a more comprehensive range of items available in rear areas. Transportation and supply systems must have the capacity to provide high priority and broad-based responses to sudden and/or large increases in demand. Dependent upon National Policy,

blood will be supplied for Role 2 and higher use.

Flexibility. Flexibility must be maintained in locating health service materiel by planning alternate locations and keeping minimum stock levels in forward areas. Health service stocks must be stored and distributed separately from other classes of supplies in order not to compromise the protection afforded by International Humanitarian Law, specifically the Geneva Conventions and additional protocols, when appropriately marked.

Review and Adjustment of Stock. Holdings are to be constantly reviewed and adjusted based on the Force OPLAN. Central to the HSS estimate required for any operation is the calculation of the medical materiel requirement (MMR), which is the total TO requirement needed over and above unit holdings to sustain the Force during specific operations. The MMR applies the factors of casualty estimates, casualty treatment regimes (CTRs), holding, and evacuation policy.

The MMR for any health service commodity can be estimated using the following formula:

$$\text{MMR} = \text{CTR} \times \text{Total Patient Estimate}$$

Casualty Treatment Regimes. Formalized and standardized CTRs are essential for the calculation of the MMR. In producing CTRs, modern surgical and clinical procedures are modified by consensus to meet the dictates of logistics economy and

Chapter Three

HSS Logistics

simplicity under wartime constraints. Consultants and specialists produce optimum CTRs that can be applied to specific patient conditions at each role of care. Continuous revision and review are required to ensure that the most up-to-date clinical practices are reflected.

Evacuation Policy. The ABCA Armies have individual variations in both their medical evacuation systems and evacuation policies. Evacuation policy affects the distribution of health services materiel based on the length of stay at each role of care.

Casualty Estimate/HSS Requirements. The HSS staff is responsible for calculating patient and workload estimates to produce an MMR.

Equivalent of Health Service Materiel. The ABCA Armies have agreed to cross-reference health service materiel stock numbers up to and including Role 4 MTFs in the following NATO supply classes:

- 6505 Drugs, biologicals, and official reagents.
- 6508 Medicated cosmetics and toiletries.
- 6510 Surgical dressing materials.
- 6515 Medical and surgical instruments, equipment, and supplies.
- 6520 Dental instruments, equipment, and supplies.
- 6550 In vitro diagnostic substances, reagents, and test kits and sets.

HSL Operations

Motor Ambulances. Design features of new motor ambulances have been standardized to

allow patients of any of the ABCA Nations to be carried in any ambulance.

Stretchers. Stretchers produced for ABCA Armies will conform to standardized dimensions. Approved stretcher dimensions are given for frames, supports, and handles and are included in national doctrines. Restraining aids are to be supplied with each stretcher. Information on stretcher standardization is contained in QSTAG 519.

Container Color Coding. A standardized system of color coding containers of HSL materiel has been adopted by the ABCA Armies.

Maroon triangles are placed on diagonally opposite corners of each top, side, and end.

Geneva Convention emblem is placed in the center on the top and sides of the container.

National identification is placed at one end of the top.

Field Dental Equipment. Standardized lists of minimum essential items of supplies for emergency field dental treatment, including drugs, medication, and equipment, have been agreed upon. This list is designed to provide emergency care for maintaining frontline troops and to prepare patients for transfer to the rear areas under combat conditions.

Storage and Transport of Labile HSL Materiel. Labile HSL materiel may become either physically or chemically unstable due to storage or movement under adverse environmental conditions.

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The major factors influencing the storage and stability of labile medical and dental materiel are temperature, humidity, and exposure to sunlight. These factors can affect the potency period of labile materiel. The stated expiration date is applicable only if prescribed optimum storage and movement conditions have been maintained. If labile materiel is subjected to elevated temperatures, accelerated chemical degradation and reduction of potency, particularly of therapeutic drugs, usually results. Storage requirements for HSL materiel are included in restriction codes (REST CODE) annotated for each individual item.

Perishable and thermolabile medical and dental materiel has been broadly classified into four categories. Each of the four categories has its own handling procedure.

Freeze Item. Items in this category include items requiring constant freezing below minus (-) 5°C during both storage and movement.

Refrigerated Item. This category includes items requiring constant, controlled refrigeration within the range of 2°C to 8°C during storage and movement.

Thermolabile Item. Items in this category include requiring refrigerated storage with limited unrefrigerated shipping time.

Perishable Item. This category of items includes those requiring storage below 35°C. In transit, temperature should not exceed 43°C. This temperature range includes sensitive medical and dental equipment.

HSL Materiel Management.

Inventory Manager. In the AO, a medical logistics unit will serve as the TO HSL inventory manager. Under the command of the TO medical command, it will provide the responsive support essential to the functioning of the Armies' HSS system by the most effective and economical means.

Support Services. Materiel and allied services in support of medical units engaged in a TO may be provided direct from the Armies' own countries or appropriate offshore bases. The lines of communications (LOC) to a TO may include water, land, and air routes, together with necessary terminals, transshipment, and transportation agencies.

Distribution of Materiel. Materiel and medical-peculiar repair parts required to support the delivery of health care will normally be furnished within the TO as follows:

Requests. Requests will be routinely sent to the rear by vehicles, trucks, ambulances, and aircraft, although electronic means, such as radio, line, or teletype, may also be used. Supplies will be dispatched forward by the most appropriate means.

Support. A COMMZ medical logistics unit will support a similar organization in the CZ.

Direct Exchange. The principle of direct exchange of fast-moving items, such as stretchers, blankets, pillows, and splints, will be employed to minimize distribution problems within the medical evacuation system.

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Any equipment received with a patient will be returned to the nation originating the patient evacuation as soon as possible. At the time of the arrival of the patient, if the situation demands, functionally similar **nonconsumable** equipment will be provided to the OMF by the receiving unit.

Handling. The handling of nonexpendable items of medical or dental property will, in general, conform to national procedures. Nevertheless, each nation will undertake to segregate, as soon as possible, nonexpendable items of HSL materiel belonging to another nation and return them to that nation.

Exchange Points. Equipment exchange points where items of medical equipment are sorted and exchanged with owner nations are to be arranged as circumstances require.

Reporting Unsatisfactory Materiel. Standardized procedures have been adopted for reporting unsatisfactory HSL materiel between ABCA Armies. Defective or unsatisfactory HSL materiel is classified into three types; these types includes--

Type I. Materiel which has been determined by use or test to be harmful or defective to the extent that it has caused or may cause death, injury, or illness.

Type II. Materiel other than equipment which is suspected of being harmful, defective, deteriorated, or otherwise unsuitable for use.

Type III. Equipment which is determined to be unsatisfactory because of malfunction, design, or defects attributable to faulty

materiel, workmanship, and/or quality inspection or performance.

Types I and II are to be reported by the fastest means available. If reported orally, the report should be confirmed immediately in writing or by formal message. Type III complaints will normally be reported by formal messages or in writing.

Maintenance. Preventive maintenance of HSL materiel is carried out at the user level by medical personnel with assistance as required by personnel of other technical services.

Captured Materiel. HSL materiel is afforded a protective status by the Geneva Conventions and may not be intentionally destroyed.

Enemy HSL Materiels. HSL materiel captured from the enemy is considered to be neutral and protected property and is not to be intentionally destroyed. Such equipment is handled in accordance with national procedures.

ABCA Armies' HSL Materiels. When the capture of ABCA Armies' HSL materiel by enemy forces is likely, the materiel should not be purposely destroyed. Items that cannot be evacuated should be abandoned; such abandonment is a command decision.

BLOOD AND BLOOD PRODUCTS AND IV FLUIDS

General Blood and Blood Products and IV Fluids. One of the most important (if not the most important) medical treatment items on

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the battlefield is blood. Resuscitation and stabilization of a wounded soldier who has hemorrhaged more than two units of blood will be difficult, if not impossible, without blood replacement. IV fluids may be utilized to temporarily expand the vascular system, but they do not provide the life-sustaining, oxygen-carrying capacity that red blood cell (RBC) replacement provides.

Forward Use of Blood. Since blood is one of the most perishable medical commodities in the field, its use far forward is often precluded by the lack of refrigeration and other equipment necessary to maintain the viability of RBCs. Until oxygen-carrying blood substitutes or synthetic blood is available, nonoxygen-carrying resuscitation fluids will continue to serve as less than an ideal casualty stabilization treatment.

Blood Requirements. Adequate resuscitation before IWS is mandatory and requires blood and blood products. The importance of blood is noted by the fact that nearly 50 percent of deaths on the battlefield (KIA and DOW) are the result of shock associated with blood loss and the inability to replace blood promptly and adequately.

National Resuscitation Policies. ABCA Armies have differing blood supply policies in the AO; availability of resuscitation fluids and blood and blood products is depicted in the chapter Annex, Table 3-1. The basic availability of blood and blood products is enumerated to ensure an understanding of other systems, in the event of a combined service deployment. Matters relating to organization, transportation, and communications, in connection with blood supply in the field of operations, remain the

responsibility of each of the participating armies.

Minimum Essential Characteristics. The QSTAGs detail the minimum essential characteristics for equipment and requirements for blood and blood products (see Appendix B and C).

Equipment.

- Nonpowered blood shipping (transportation) containers within the TO. (Normally this container will be used for shipment of RBCs. With a proper conditioning medium, fresh frozen plasma and frozen or liquid platelet concentrate can be shipped in the container.)
- Blood donors and transfusion equipment.
- Collapsible plastic containers for blood and blood components.

Requirements.

- Cross-servicing requirements.
- Medical requirements for blood donors.
- Blood group identification.
- Packaging of blood.

Essential Equipment Characteristics. Agreed minimum essential characteristics of field medical equipment are listed in QSTAG 990.

Colors for Self-Injection Devices. Colors for self-injection devices and/or containers to be employed by ABCA Armies are standardized as depicted in Table 3-2.

TABLE 3-1 COMMONALITIES AND VARIANTS IN RESUSCITATION FLUIDS AND BLOOD PRODUCTS					
ROLES 1-4		United States	United Kingdom	Canada	Australia
RESUSCITATION FLUIDS					
1	<ul style="list-style-type: none"> Ringer's Lactate 	X	X	X	plus plasma volume expander (synthetic)
2	<ul style="list-style-type: none"> Ringer's Lactate Plasma Volume Expanders (synthetic) 	X	X	X	X
3	<ul style="list-style-type: none"> Ringer's Lactate Plasma Volume Expanders (synthetic) Plasma Protein Solutions 	X	X	less plasma protein solutions	plus plasma volume expander (synthetic)
4	<ul style="list-style-type: none"> Ringer's Lactate Plasma Volume Expanders (synthetic) Plasma Protein Solutions 	X	X	X	X
ROLES 1-4		United States	United Kingdom	Canada	Australia
BLOOD PRODUCTS					
1		--	--	--	--
2	<ul style="list-style-type: none"> Whole Blood (O) Red Blood Cells (O) 	X Less whole blood	--	--	--
3	<ul style="list-style-type: none"> Whole Blood (O) Red Blood Cells (O) Red Cell Concentrates (O) Fresh Frozen Plasma Platelet Concentrates 	X Less whole blood and red cell concentrates	X Less red cell concentrates and platelet concentrates	X Less fresh frozen plasma	X Less fresh frozen plasma
4	<ul style="list-style-type: none"> Whole Blood (O) Red Blood Cells (O) Red Cell Concentrates (O) Fresh Frozen Plasma Platelet Concentrates 	X Less whole blood and red cell concentrates	X Less red cell concentrates and platelet concentrates	X	X
NOTE: (O) = O Blood Group for all categories, except for the United States at Role 3, where O = ABO Blood Groups.					

TABLE 3-2	
SELF-INJECTION DEVICES	
CONTENT	COLOR
Morphine	→ Bright Red
Atropine or an equivalent	→ Bright Yellow
Oxime or an equivalent	→ Light Brown
Antidepressants or an equivalent	→ Orange
Nerve Agent Anticonvulsant	→ Grey
<p>NOTE: When the contents of the containers and/or self-injection devices are a mixture of the drugs above, two or more circular bands of each of the appropriate colors are used.</p>	

CHAPTER FOUR

HEALTH SERVICE SUPPORT IN A NUCLEAR, BIOLOGICAL, OR CHEMICAL ENVIRONMENT

NBC THREAT

The ABCA Armies HSS in a TO must be capable of treating patients produced by NBC warfare, terrorist actions, and industrial waste and accidents while remaining effective. The NBC environment will have a critical impact on the management of the increased numbers of patients caused by them. It is therefore, imperative for the ABCA Armies HSS system to standardize their procedures and materiel to permit functioning at the highest level of efficiency possible in the NBC environment.

Nuclear Weapons. Tactical nuclear weapons continue to become more refined. Technology is designing these weapons with specific requirements and the capability of increased delivery accuracy.

Enhanced Radiation Weapons. Enhanced radiation weapons will increase the ratio of radiation injured patients to blast and burn injured patients.

Biological Weapons. Biological weapons are comprised from biological agents or toxins, derived to produce casualties in man or animals and damage to plants or materiel. A toxin is an organic protein poison, initially isolated from living organic sources, including microorganisms that may subsequently be manufactured by chemical synthesis.

Chemical Weapons. Chemical weapons are chemical substances which are intended for use in military operations to kill, seriously injure, or incapacitate human beings because of their physiologic effects. Chemical agents may be

used together as mixtures. The development of new chemical agents of increased toxicity or lethality is feasible.

LEVELS OF CONFLICT

High-Intensity Conflict. High-intensity conflict involves military operations between regular forces in which the full range of resources and weapons could be used from the outset; and, if conventional weapons are used, the risk of escalation to nuclear war. It is anticipated that there could be proliferation of the number of nations possessing nuclear capability. If the nations possessing the capability are involved directly in conflict or in support of a nonnuclear ally, there is the possibility of nuclear use.

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Mid-Intensity Conflict. Mid-intensity conflict involves military operations mainly against regular forces. The conflict normally has limited political and territorial objectives within restricted geographical boundaries and a limited range of available resources and weapons.

Low-Intensity Conflict. Low-intensity conflict includes military operations against irregular forces in guerilla warfare, insurgency or rebellion situations, and military support to civil authorities under conditions of civil disturbances or peacekeeping. While it is unlikely that the level of conflict itself will involve NBC weapons, the proliferation of chemical weapons, especially in the time frame under consideration, makes the likelihood of terrorists or irregular forces obtaining them more feasible.

COUNTERING THE THREAT

To counter the threat posed by NBC weapons and to manage expected mass casualty situations if these weapons are used, the HSS system must rely on improvements in the following areas:

- Vaccines, prophylaxis, pretreatment, antidotes and treatment to counter the effects of NBC agents.
- Patient handling/evacuation and decontamination systems.
- Protection (e.g., facilities, material, and personnel).
- Increased mobility on the battlefield.
- Communications including automatic data processing and storage.
- Medical intelligence and health threat data collection capabilities.

- Enhanced capabilities to enable the rapid detection and identification of NBC contaminants and agents on patients, within facilities, and on medical materiel.

HSS CONCEPTS

Operational Environments. Sustained operations of high intensity may be conducted during all hours and in all geographical and climatic conditions, with an inevitable effect on the individual and a corresponding increased demand on the HSS system. In this battlefield scenario, NBC weapons may be used in periods of high operational intensity which could be of short duration. There may be intervening periods of low intensity providing an opportunity for recovery. Operational environments could include--

- Arctic.
- Jungle.
- Desert.
- Temperate.
- Mountain.
- Urban terrain.

Environmental Considerations. Tactical nuclear weapons, including an enhanced radiation type, would be used on likely troop concentrations for maximum effect. The HSS system must be prepared to operate in and cope with the specific requirements of each environment. Operational procedures must reflect these unique environmental considerations.

CW Environment. The success of the HSS system to function effectively in a CW environment and to successfully treat the maximum number of casualties relates directly

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to the preparations made in advance. Medical treatment must be provided in protected environments or while dressed in protective equipment. The numbers of casualties expected will exceed the capabilities of the available HSS resources.

BW Environment. Biological weapons are unique in their ability to inflict large numbers of casualties over a wide area with minimal logistical requirements and by means which can be virtually untraceable. The difficulty in detecting BW agents and protecting personnel, especially when onset of illness is delayed from the time of dissemination, make this class of weapon difficult to defend against.

NBC Weapons. The threat of enemy use of NBC weapons, especially chemical agents, may not be related to the degree of industrialization of the adversary country. Chemical weapons may be used by an advisory country as a battlefield force multiplier and equalizer against a larger opposing force.

HSS PRINCIPLES

HSS operations have the responsibility of conserving the forces manpower by preventing injury and disease and maximizing the early RTD of the sick and injured. The HSS system incurs additional responsibilities, hazards, and encumbrances when operating in an NBC environment. These health service responsibilities include--

Assistance and guidance to tactical commanders on casualty prevention and the capability of certain NBC casualties to continue effective operations.

Providing vaccines, prophylaxis, pretreatment, and antidotes with adequate instructions for their use to tactical commanders.

Planning for the use of command-provided casualty decontamination personnel.

Management and treatment of conventional and combined injury patients, including unusually large numbers of NBC patients.

C2 of medical units in an NBC environment.

Interoperability planning for collecting casualties and evacuating and treating patients, including diversion of patients from one ABCA Nation to the MTFs of another ABCA Nation.

Training, to include interoperability training scenarios.

PREVENTION

Preventive Medicine. PVNTMED is the primary health services task in all TOs. PVNTMED has increased significance in a biological and/or chemical environment. Vaccines and prophylaxis are the mainstays of prevention in the biological environment. Contamination control of MTFs and protection of patients and medical materials becomes an important role for the health services. HSS should include the provision of comprehensive field laboratory service by at least one ABCA Nation on an interoperability basis which may provide assistance with the following:

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Identification of biological organisms and toxins.

Identification of unknown chemical agents detected but not identified by the usual field analysis kits.

Expert advice on the means of containment and the removal or destruction of NBC contamination.

Medical Intelligence. The medical intelligence system must monitor disease outbreaks around the world, especially in areas of anticipated operations, to provide information for vaccine development.

Development. Medical intelligence must also remain responsible for predicting likely biological agents and providing information for vaccine and antitoxin development. Vaccines against a number of potential BW agents have been developed while others are still under development.

Knowledge. Close liaison must be maintained with national and international health agencies, tactical commanders, and the intelligence/NBC staffs of higher headquarters. Lastly, knowledge of enemy immunization programs and CW training may assist in predicting which chemical and biological agents could be used.

Vaccines, Prophylaxis, and Pretreatment. Prophylaxis and pretreatment are employed before the use of CW and BW agents. An acceptable system of vaccines, prophylaxis, and pretreatment will produce protection with minimal side effects while having an optimal storage and shelf life.

Vaccines. Vaccines provide long-term protection and are used either once or infrequently. The development and use of a range of vaccines and possible therapeutic drugs against agents and ionizing radiation represents the emerging medical defense system.

Prophylaxis. Prophylaxis uses drugs against biological agents during pre- or postexposure. Prophylaxis would most likely be administered when the intelligence reporting indicates the enemy intends using CW and BW agents.

Pretreatment. Pretreatment requires regular and repetitive administration for a constant level of protection. Existing ABCA nerve agent pretreatment consists of a carbamate administered orally prior to the enemy chemical attack.

CASUALTY CARE AND MANAGEMENT

First-Aid and Initial Medical Treatment.

Prior Treatment. It is anticipated that an oral antiemetic will be employed prior to or immediately after exposure to radiation to reduce or ameliorate early nausea and vomiting. The use of other immediate measures to counter the effects of radiation exposure is limited in the forward area. Therapeutic agents are under development to retard the effects of radiation and enhance wound healing; however, these are not expected to be used as first-aid measures.

Battlefield Treatment. On the NBC battlefield there will be inadequate numbers of medical

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personnel; therefore, first-aid and paramedical training will have increasing importance.

Nerve Agent Poisoning. Nerve agent poisoning requires the immediate administration of atropine and oxime.

Atropine. Atropine is administered until signs of atropinization are achieved. When the casualty is not masked, the respirator must be adjusted for him by the nearest available soldier. Atropine protects only partially against convulsion and resulting brain damage in severe poisoning. Currently, the drug of choice is benzodiazepine for antagonizing the convulsive action.

Oximes. Oximes vary by nation:

- US--pralidoxime chloride.
- UK--pralidoxime mesylate
- CA--hagedorn (HI-6).
- AS--to be advised.

Other Treatment. Since World War I, there remains no specific treatment available for preventing the effects of mustard gas and no specific treatment for mustard lesions. The key to first-aid and initial treatment of cyanide is speed. Intravenous sodium nitrite and sodium thiosulfate sequester the cyanide, which combines with cyanide ions that are excreted. Some casualties poisoned by incapacitating agents respond to physostigmine in repeated doses.

BW Agent Attack. It is likely that a BW agent attack will be completed before the unit commander, or his medical advisor, is aware that it has taken place. The problem may be the inability to distinguish between an

epidemic of natural origin and a BW attack. An artificially induced epidemic would be expected to peak in a few hours to a very few days as contrasted to naturally occurring epidemics. Man is among the most sensitive biotectors currently available. Onset of illness following toxin exposure may range from minutes to hours, possibly a day or two. Some potential BW agents are transmissible among humans and spread by personal contact after the initial attack.

Initial Care. Initial resuscitation frequently determines survival, especially those casualties with combined injuries. Not only must the NBC injury receive prompt, adequate first-aid and initial resuscitation, but the conventional battle wounds must also receive forward care. The HSS system must, therefore, ensure that MTFs are equipped and that personnel (battalion/unit aid stations/ combat medical corpsmen) are adequately trained and available. In some instances within the NBC environment, it may not be possible to evacuate patients quickly causing units to hold and stabilize them until they can be evacuated.

Patient Management.

Evacuation. Evacuation in an NBC environment may be nonexistent because the normal means and routes are often severely disrupted. Therefore, plans for the transport of casualties in nonmedical vehicles must be developed. Priorities for evacuation will have to be effectively employed. Once decontaminated and provided with initial EMT, casualties/patients require protection from further contamination. Means such as casualty bags (AS, UK, CA) or patient

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protective wraps (US) must be available to protect the patients during evacuation. Further, treatment may have to be continued during evacuation, so the evacuation vehicles must have minimal drugs and equipment to sustain patients while they are being transported.

Triage. To provide the greatest good for the maximum number of casualties, effective triage must be established. The principles of triage must be understood, with personnel capable of effectively applying them, particularly in mass casualty situations.

Treatment. Treatment of radiation injury, beyond antiemetics, far forward may be available in the near future. Antitoxins and antibiotics are available to counter the effects of some biological agents. Drugs will be available to ameliorate the effects of nerve and blood agents. Research is required to devise more effective treatment procedures for lesions caused by blister agents.

The effectiveness of treatment of patients suffering from chemical contamination is dependent on timely decontamination. This means that decontamination capabilities must be available to the HSS system at all roles of treatment.

Treatment Regimes.

Nuclear Warfare. Nuclear flash (burns and blindness), initial/residual ionizing radiation (fallout), and blast create the injuries and medical problems resulting from nuclear warfare. An increase in the number of patients suffering from psychological stress, as well as those suffering from a combination of both

psychological and physiological injuries, can be expected.

Additional Burdens. Due to likely intense concentrations of biological agents of unknown origin and virulence, the effects of biological weapons offer problems outside those encountered in normal operations and invariably result in a mass casualty situation. A massive logistics burden is imposed due to the quantities of drugs and antitoxins required. An additional requirement to hold patients forward or in segregated areas to isolate the disease also increases the logistics burden.

Chemical Contamination. The problems of patients suffering from chemical contamination are likely to be difficult to resolve, particularly those that occur as a result of the use of nerve agents. Patients may require respiratory assistance.

General Care. In addition to the problems caused directly by NBC weapons, there are associated areas that must also be addressed. These areas include the following:

- A rise in the number of heat-related injuries because of the need to wear and work in protective clothing.
- A higher number of stress reactions.
- The treatment of all conventional injuries in an NBC environment and the problems associated with synergistic effects of combined injuries.

HSS PLANNING FACTORS

Advanced Planning. In order that a mass casualty situation does not completely overwhelm the HSS system, it is essential that

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adequately prepared and practiced plans are available. Planning must include accommodation requirements, either in the field or by converting existing buildings to health services use. Augmentation of medical units with personnel and equipment for decontamination is essential. There must be plans prepared that prevent contamination from being extended rearward if units withdraw as the tactical situation dictates.

Increased Personnel. Operations must cope with the devastation caused by nuclear attack, mass casualty situations, initial/residual radiation (fallout), and chemical/biological agents. The management of casualties caused by nerve agents poses formidable problems. Additionally, the use of blister agents (such as mustard) has the potential of saturating the HSS system with patients requiring extensive hospitalization and creating significantly increased medical personnel requirements for their care.

Clothing Contamination. The number of patients depends on the state of training and preparedness of the force and the length of warning given before full individual protection is established. With nuclear fallout, contamination of clothing is inevitable. With chemical agents, it cannot be assumed that clothing is contaminated, as this depends on the persistency of the agent involved and the length of time since contamination occurred.

Initial Decontamination. To maximize the HSS capacity to manage the anticipated patient load, it is essential that as many MTFs remain uncontaminated for as long as possible. When contaminated patients are received at a medical unit, it is necessary to remove them

from their individual protection for triage and treatment. For this to occur, decontamination is carried out and the patient is moved to a contamination-free environment.

DECONTAMINATION

Decontamination Personnel. Decontamination of patients will be totally beyond the capacity of health service units. Medical personnel staffing is insufficient to both treat and decontaminate patients. Decontamination personnel must be provided from nonhealth service resources. They should, whenever possible, be earmarked for those duties in advance and trained for their tasks.

Development and Effectiveness of Decontaminates. Decontaminates which rapidly neutralize chemical or biological agents must be developed and remain readily available in quantities or in bulk while placing a minimal burden on the logistics system. For radioactive material, the only effective decontamination is removal. It is essential that decontamination be effective before patients are moved into a collective protection (COLPRO) shelter.

Patient Care. Judgment must be exercised in decontaminating the walking wounded who do not require EMT. Once their protective clothing has been removed, they may have to be placed in a patient protective wrap (or casualty bag) which converts them to a litter patient. Likewise, stable litter patients who do not require urgent treatment should be considered for evacuation without removing individual protective equipment.

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Decontamination should be selective forward of the hospitals.

COLLECTIVE PROTECTION

COLPRO Shelter. If an injury or illness requires immediate attention, the patient should be moved into a COLPRO shelter after prompt and complete decontamination.

Protective Environment. The COLPRO shelter provides a protected environment where the patient can be adequately examined, resuscitation can proceed in an orderly fashion, and the health care provider can function unencumbered by exhausting protective clothing and mask.

Location. The COLPRO shelter can either be a free-standing mobile module, a field shelter especially adopted for this purpose, or an existing building modified to keep out contamination. The COLPRO shelter, in most places and climates, will need to be environmentally controlled for temperature and humidity in order that the patient's condition stabilizes prior to evacuation.

Other Protection. If COLPRO is not immediately available, then other measures, such as a patient protection wrap or casualty bag, are necessary to protect the patient from further contamination until space is available or the patient can be evacuated out of the contaminated area.

Contamination Monitors. Contamination monitoring is necessary to conserve manpower and avoid unnecessary decontamination.

Arrival Monitors. Monitors, therefore, must be available to scan patients on arrival to determine whether or not they are contaminated. If clear of contamination, patients can pass directly into the COLPRO shelter. Separate monitors to detect radioactive contamination and CW and BW agents are required. These monitors should be available within the current time frame.

Shelter Monitors. Inside the COLPRO shelter, a monitor or detector is required that can be set at a predetermined threshold which activates when the integrity of the shelter is breached by leakage from the outside or by entry of a contaminated patient. Individual protection can then be donned until integrity is restored.

Line Monitors. Monitors are also required to protect the line between contaminated and uncontaminated areas and to verify when complete decontamination of equipment and vehicles has been accomplished.

COMMAND AND CONTROL

Medical Units. The requirement for health services to directly control medical units in the TO and the evacuation of patients is essential.

NBC Environment. In an NBC environment, this assumes even greater significance. For maximum efficiency, units and vehicles must be kept free from contamination for as long as possible. To accomplish this, it is necessary to have greater flexibility in rapidly changing evacuation routes and the units receiving patients.

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Staff/Cell Liaison. Close liaison must be maintained with operations staffs and NBC cells to ensure that the HSS plan conforms to the operational plan. At times, it may also be necessary to depart from the normal evacuation chain and to use adjacent MTFs or to bypass units in the evacuation process.

Evacuation. Because all modes of evacuation are likely to be severely disrupted in NBC operations, an efficient system of control to enable coordination and use of all available transport resources (land, sea, and air) is essential.

Medical Units. To facilitate patients' evacuation both intra- and intertheater, dedicated communications nets are required for medical commanders to effectively and efficiently control deployment of medical units and maintain a functional patient evacuation and regulating system.

Nonmedical Personnel. Additional nonmedical personnel are required for patient decontamination operations. These personnel require training in decontamination and basic patient handling procedures. In some situations, within the constraints of the Geneva Conventions, this may involve using civilians as well as military personnel if the strategic situation does not allow their evacuation from the AO.

CHAPTER FIVE

UNITED STATES ARMY HEALTH SERVICE SUPPORT ORGANIZATIONS AND FUNCTIONS

GENERAL

This chapter provides the field commander and his staff with a narrative and graphic portrayal of the US Army's HSS system. It also includes a discussion on the roles of care that is required to meet emergency wartime requirements.

THEATER OF OPERATIONS

HSS within the TO is organized into roles of care that extend rearward throughout the TO. The capability of each role is designed to--

- Meet the characteristics of the operational environment.
- Play a specific part in the progressive (phased) treatment, hospitalization, and evacuation of the wounded, injured, or ill soldier.

Roles. Each higher role of care contains the same treatment capability as those roles forward of it, plus new capabilities that differentiate it from the lower role of care. The organization of HSS resources enables higher roles to reconstitute lower roles and to provide HSS on an area support basis. Timely, efficient evacuation plays an important role in a carefully developed treatment sequence. Responsibility for patient evacuation is from the higher role to the lower one.

Evacuation. Maximum effort is devoted to stabilizing patients and evacuating them to the rear. Patients who cannot RTD within the stated TO evacuation policy are evacuated to the continental United States (CONUS) or

facilities in a neutral country, using qualified medical personnel and medical evacuation platforms. Patients from Allied countries evacuated to US facilities are provided the same care as US patients. At the earliest possible time, but not prior to complete stabilization, patients are transferred to facilities operated by their country. Medical liaison teams coordinate transfers.

Communications Zone. As a major command of the theater Army (TA), the medical command (MEDCOM) provides Role 4

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Chapter Five

US Army HSS Organizations and Functions

(COMMZ-level) HSS. The type and number of medical units assigned to the MEDCOM depend upon a number of factors, such as--

- Size, composition, and location of forces to be supported.
- Type of operations being conducted.
- TO evacuation policy.

Combat Zone. CZ HSS is provided by Roles 1, 2, and 3 (also referred to as unit-, division-, and corps-level HSS). The medical brigade provides Roles 1, 2, and 3 on an area basis in the corps and provides technical control over division and nondivisional MTFs. The type and number of medical units assigned to the medical brigade are dependent upon the size of the corps, type of operations being conducted, and the corps evacuation policy.

PRINCIPLES OF EMPLOYMENT

HSS in Offensive Operations.

HSS Resources. Maximum emphasis is placed on locating HSS resources as far forward as the tactical situation permits. Medical units, particularly those of the divisions, forward surgical teams (FSTs), and combat support hospitals (CSHs), arrange for medical evacuation of their patients to maximize beds available for their anticipated patient workloads.

HSS Evacuation. Battalion aid stations (BASs) advance with the support maneuver battalion to provide HSS on a continuous basis. The BAS provides only that EMT and ATM necessary to stabilize patients for further evacuation to the rear. Ground ambulance

teams from the division medical companies are pre-positioned with those of the BAS and evacuate patients to the supporting Role 2 facility (clearing station). To enhance ambulance turnaround time and to maintain the BAS's mobility, ambulance exchange points (AXPs) designated by the supporting medical company may be established along the evacuation routes between the BASs and the medical companies. Corps air ambulances supporting the division will be used to the maximum extent to evacuate patients.

Medical Companies. The medical companies of the forward support battalion (FSB) initially move as far forward as the tactical situation permits, reducing the length of evacuation routes from the supported BASs. The medical companies establish the minimum-sized MTFs required to meet the anticipated patient workload. Ground ambulances from the corps medical evacuation battalion are pre-positioned with the medical companies to evacuate patients to the CZ hospitals as soon as they are treated and stabilized. Corps air ambulances are used to the maximum extent to evacuate patients. When medical evacuation routes become excessively long, as in the case of deep battles, medical companies move forward by Role to provide continuous HSS. The main support medical company (MSMC), main support battalion (MSB) can reinforce FSB medical companies when required.

HSS in Defensive Operations.

Sectors. BASs that support the covering force establish minimal MTFs or provide EMT and ATM from their treatment vehicles. Maximum use is made of patient collecting points. FSB ground ambulances are pre-positioned with the

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covering force BASs in their sector of responsibility. Sectors are determined in coordination with the corps surgeon and are based on the overall corps OPLAN. Air ambulance assets are used to the maximum extent feasible. Nonmedical transportation is used when necessary to transport casualties during mass casualty situations.

Ambulance Location. BASs supporting units employed in the main battle area (MBA) establish minimal MTFs or provide EMT and ATM from their treatment vehicles. Because of possible interruption in the LOC, HSL materiel is stockpiled forward. BAS staffing may be augmented with division or corps assets. Minimum medical company ambulances are pre-positioned. Once the enemy's main effort is determined, ambulance assets are allocated. Air ambulance evacuation is the preferred method. Nonmedical transportation assets may be used for soldiers sustaining minimal injuries.

Forward Position. During the covering force battle, medical companies may deploy an element forward along the forward edge of the battle area (FEBA) to support the covering force. Treatment platoons from the MSMC may be moved forward and temporarily assume the FSB medical company's area support mission within the brigade support area (BSA). As the covering force hands off the battle to brigades in the MBA, FSB medical companies deployed along the FEBA withdraw and assume their original BSA mission. FSMCs and MSMCs will position further to the rear than normal. This positioning allows sufficient maneuver room if enemy penetrations occur. Corps ground ambulances are pre-positioned with medical

company resources for rapid patient evacuation. Once the main attack avenue and areas of greatest patient densities are determined, HSS assets, particularly air ambulances, are reallocated.

HSS in Retrograde Operations.

Rear Position. Orientation of MTFs is to the rear in a split or role movement. Minimum facilities are established.

Delay Position. The BAS splits and relocates one element rearward of the successive delay position. The remaining element continues to provide EMT and ATM from the treatment vehicle to the forces fighting in the delaying action. At a predesignated time or as the tactical situation dictates, the *HSS* responsibility is handed off to the rear element. Division medical company ambulances are pre-positioned with BAS elements, with the majority of the resources allocated to the element in contact. Nonmedical transportation is used to transport the less seriously injured soldiers. Air ambulances are used to the maximum extent possible.

Bypass Position. Medical companies echelon elements to locations to the rear of successive delay positions, taking patients awaiting evacuation. Timing is critical in that a rear element must be operational prior to the closing and withdrawal of the forward treatment element. If the operation is such that the medical companies continuously operate in a split mode and leapfrog, the elements moving to the rear will evacuate as many patients as possible when they bypass other HSS elements. HSS elements will provide only that emergency treatment necessary to stabilize

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patients for further evacuation. Corps ground ambulances will be pre-positioned with the medical companies to expeditiously evacuate patients and maintain mobility. AME will be used to the maximum extent possible. Nonmedical transportation assets will be used to transport the less seriously injured soldiers.

HSS of Other Operations.

Movement to Contact. BASs provide HSS from their treatment vehicles. Sufficient medical company ambulances are pre-positioned forward to evacuate patients and maintain BAS mobility. Medical treatment facilities of a minimum size are established when required. If geographically feasible, a single MTF may support more than one brigade. Corps ground ambulances are pre-positioned forward to evacuate patients and maintain mobility.

Withdrawal. HSS is similar to that provided in the delay, except that units normally withdraw to assembly areas rather than subsequent defensive positions. A maneuver element left in contact is used to deceive the enemy. Because of enemy pressure and possible loss of freedom of action, every means of transportation to the rear may be used for patient transport. Treatment may be limited to that performed by the combat medic. Because overwhelming odds may preclude the evacuation of all patients, the tactical commander must stay apprised of the situation. If the decision is made to abandon patients, medical personnel and supplies must remain to care for them.

Pursuit. The delivery of HSS is much like that of a movement to contact. Ambulances are

positioned well forward to rapidly evacuate patients generated by suddenly occurring contact. BASs and clearing stations are echeloned forward to intercept patients being evacuated to the rear for treatment. After necessary emergency treatment, and if medical evacuation routes are open, the patient is transported to a CZ hospital by accompanying corps ambulances.

If isolated, the patient is carried forward with the medical company to its next treatment site. Less seriously injured soldiers may be transported by nonmedical vehicles, if dedicated medical evacuation vehicles are not available. Halts at assembly areas and phase lines are used to coordinate security for ground ambulance convoys moving to the rear or for patients being evacuated by air ambulance.

River Crossing. HSS must be provided during the--

- Preliminary Phase: Advance to the river line. March collecting points are established along the main approaches to the crossing site.
- Phase I: Crossing of the river and the capture of the initial objective. BASs are established to render routine support in the area of each crossing. Ambulances are advanced as near the river as possible. Medical platoon aide/evacuation teams cross with the assault troops and establish a jump treatment element on the far bank.
- Phase II: Operations incident to the seizure of the intermediate objective. Medical company evacuation elements provide evacuation on both banks of the

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river. MTFs displace forward to a point nearer the river.

- Phase III: Attack to gain the bridgeheads. Division medical companies are moved across the river and resume normal operations.

Mountain Operations. Patient evacuation is hampered by terrain and is primarily dependent upon air ambulances and litter teams. MTFs are more closely located to the supported units and there is a need for many nonmedical litter bearers. Also because of limited evacuation routes, medical units may be required to support on an area basis as opposed to being in direct support of specific units.

Passage of Lines/Relief in Place. The participating division surgeons coordinate for the units in place to accept the initial patients of the attacking unit in order to allow the treatment elements of the latter to maintain mobility and initially locate further forward. The ensuing combat mission of the passed unit dictates the extent to which this cross-support can be provided. A withdrawing unit will evacuate patients from a unit it withdraws through.

MEDICAL TREATMENT

There are numerous medical treatment units operating at the various roles of care as part of the US Army HSS system. In the TO, these units and hospitals are numbered and are designed, organized, staffed, and equipped according to regularly established tables of organization and equipment (TOE) that prescribe the normal mission, organizational

structure, and personnel and equipment authorizations for a military unit. At any point in the HSS system, a patient can be RTD when his condition permits. US Army HSS units include--

Command and Control. The major C2 units in the TO are the MEDCOM, the medical brigade, and the medical group.

Headquarters and Headquarters Company, Medical Command. The mission of the headquarters and headquarters company (HHC), MEDCOM is to provide C2, administrative assistance, technical supervision, and consultation services for assigned and attached units in the TO. A wiring diagram of a MEDCOM is depicted in the Chapter Annex, Figure 3-1. The basis of allocation for this unit is one MEDCOM per TA. This organization is assigned to the TA and provides--

- C2 of units providing HSS in the TO.
- Task organization for all TO HSS assets to meet the patient workload. Medical assets are designed by duty functions and are interchangeable throughout the TO to meet workload requirements.
- Advice to senior commanders on the medical aspects of their operations.
- C2, staff planning, supervision of operations, and administration of the assigned and attached units. These functions include coordination for employment, patient evacuation, supply and equipment management, administrative services for the headquarters, and coordination between

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medical units operating in the MEDCOM's area of responsibility (AOR).

- Medical regulating and evacuation scheduling for patient movement to and between assigned and attached MTFs.
- Consultation services and technical advice in PVNTMED, environmental health, medical entomology, epidemiology, radiological health, sanitary engineering, nursing, dentistry, VET services, NP and social work, medicine and internal medicine, surgery, dietetics, optometry, and pharmacy to supported units. PVNTMED consultative services include assessment of the health threat, evaluation of TO PVNTMED program, technical advice on medical aspects of NBC and directed-energy weapons, and staff coordination of TO PVNTMED services.
 - NP and social work services include the recommendations for regulating the combat stressed soldier, psychiatric consultation, alcohol and drug prevention/control programs, and providing advice on the coordination of operations of the CSC medical companies in the MEDCOM's AOR.
 - Dietary services and technical assistance include advice on nutrition in relation to health and fitness and medical food service consultation.
 - VET services and technical advice include status of approved sources of food for local procurement, status of food in storage, incidence or prevalence of zoonotic diseases,

and wholesomeness determination of NBC-decontaminated food.

- Advice and assistance in facility site selection and preparation.
- Supervision of Class VIII and general supply usage and resupply movement.
- Unit-level vehicle, communications, weapons, and power generation equipment maintenance advice and management.
- Food service personnel for dining facility support for the HHC, MEDCOM.

HHC, Medical Brigade (Corps or COMMZ). Medical brigade commanders have the ability to task-organize HSS assets to meet the patient workload. The medical assets are modularly designed by duty functions and are replicated throughout the TO to meet these requirements. Wiring diagrams of the medical brigade are shown in Figures 5-2 and 5-3. The mission of the unit is to provide C², administrative assistance, and technical supervision of assigned and attached medical units. This company is assigned to the corps support command (COSCOM) or the MEDCOM.

This unit is allocated as follows: HHC, medical brigade (corps)--one per corps.; HHC, medical brigade (COMMZ)--0.2 per area support medical battalion (ASMB); 0.2 per HHC, medical evacuation battalion; 0.2 per hospital.

Generally, there is one medical brigade allocated per three to seven battalion-sized units. At full strength, this unit provides--

- C2 of all medical units in its AO.
- Task organization of HSS assets to meet the patient workload demand. HSS assets

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are modularly designed by function and replicated throughout the TO.

- Advice to senior commanders on the *HSS* aspects of their operations.
- Medical regulating of patient movements to and between assigned and attached MTFs.
- Coordination with the MEDCOM and/or the TO Patient Movement Requirements Center for all medical regulating for evacuation from the medical brigade facilities to supporting MTFs in the COMMZ and CONUS.
- Consultation services and technical advice in PVNTMED, environmental health, medical entomology, radiological health, sanitary engineering, nursing, dental services, VET services, and NP and social work to supported units.
- Advice and assistance in facility site selection and preparation.
- Control and supervision of Class VIII (medical) supply and resupply.

Medical Group. The mission of the medical group is to provide C2 and administrative supervision of assigned and attached corps medical units. The medical group is assigned to the medical brigade. As a general rule of thumb, there are three medical groups per corps. The commander of the medical group can task-organize his medical assets to meet patient workloads. This unit's capabilities include--

- C2, staff planning, supervision of operations, and administration of the assigned and attached units which include ASMBs, hospitals, evacuation battalions, CSC units, dental battalions, and PVNTMED detachments. The command

of the assigned medical units includes coordination for employment, patient evacuation, supply and equipment management, and various other headquarters requirements. This command coordination exists between its units and other medical elements operating in the medical group's AOR. Units of the medical group may be task-organized to support close, deep, and rear operations.

- Medical regulation for evacuation and the scheduling of medical group facilities in coordination with brigade medical regulating office to hospitals assigned to other medical brigades. This includes coordination with the division medical operations center to regulate the patient evacuation from the division's AO. It also coordinates with the medical brigade all medical regulating for further evacuation from the medical group facilities to the supporting MTFs in the COMMZ.
- Consultation services and technical advice in PVNTMED, environmental health, sanitary engineering, nursing, mental health, and facility site selection and preparation to supported units. PVNTMED consultative services include—
 - Assessment of the health threat.
 - Evaluation of TO PVNTMED programs.
 - Technical advice on medical aspects of NBC and directed-energy weapons.
 - Staff coordination on employment of TO PVNTMED assets.
 -
- Mental health consultation, to include monitoring the distribution and treatment

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of NP and battle fatigue casualties (BFCs), alcohol and drug misuse, the prevention and reconditioning programs, and the supervision of the medical company (CSC) in the medical group's AO.

- Supervision of Class VIII and general supply usage and resupply and movement.

HOSPITALIZATION SYSTEM

The current hospitalization system is composed of three hospitals and an FST. The three hospitals are the CSH, the field hospital (FH), and the general hospital (GH). The CSH, FH, and GH are designed using a four-module concept. This concept includes the hospital unit, base (HUB); hospital unit, surgical (HUS); hospital unit, medical (HUM); and hospital unit, holding (HUH). The HUB can operate independently, is clinically similar, and is located in each hospital as the initial building block. The other three mission-adaptive modules are dependent upon the HUB. This capability may be further enhanced by medical detachment augmentation.

Role 3 Hospitals and Organizations. The CSH, FST, and medical company, holding, are at this role.

Combat Support Hospital. The mission of this 296-bed hospital is to stabilize patients for further evacuation and to RTD those soldiers who fall within the corps evacuation policy. This hospital is capable of handling all types of patients and will normally be employed in the corps area. The CSH is assigned to a medical brigade and may be further attached to a headquarters and headquarters detachment (HHD), medical group.

The CSHs are allocated 2.4 per division or 4.223 per 1,000 occupied beds in the CZ. At full strength, this unit provides--

- Hospitalization for up to 296 patients consisting of eight wards providing intensive nursing care for up to 96 patients, seven wards providing intermediate nursing care for up to 140 patients, one ward providing NP care for up to 20 patients, and two wards providing minimal nursing care for up to 40 patients.
- Surgical capacity based on eight operating room (OR) tables for a surgical capacity of 144 OR table hours per day.
- Consultation services for patients referred from other MTFs.
- Role 1 HSS for organic personnel.
- Pharmacy, clinical laboratory, blood banking, radiology services, and nutrition care services.
- Physical therapy support to patients.
- Medical administrative and logistical services to support workloads.
- Dental treatment to staff and patients and oral surgery support for military personnel in the immediate area, plus patients referred by the area HSS units.

Forward Surgical Team. The FST is a 20-man team providing far forward surgical intervention to stabilize nontransportable patients. This team will collocate with a medical company when operational.

Medical Company, Holding. The medical company, holding, provides a holding capability within the CZ for up to 1,200 minimal care patients. It provides minor medical treatment and rehabilitation for

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patients being held. The medical company, holding, is assigned to a medical brigade. If a medical brigade is not yet established, it will be assigned to the senior medical C2 headquarters in the corps. This unit is allocated on the basis of .50 per 1,000 inpatients in the CZ. The rule of thumb is 4 per a five division corps. This unit--

- Provides five holding platoons, each capable of operating a holding facility with 240 supplemental cots for minimal care type patients. Platoons are organized consisting of six holding squads, each having a capacity of 40 patients, and one treatment squad.
- May be employed by the platoon to expand hospital minimal care ward facilities.
- May be employed by the platoon in conjunction with CSC squads to hold combat fatigue casualties.
- May be employed to augment United States Air Force (USAF) mobile aeromedical staging facilities (MASFs).
- May be assigned responsibility for providing limited area HSS.

Role 4 Hospitalization Units. The GH and FH are at this role. The FH may also be employed in the CZ. The CSH and medical company, holding, may also be deployed in the COMMZ to support rear operations or contingency operations.

Field Hospital. The 504-bed FH provides hospitalization for general classes of patients and reconditioning and rehabilitating services for those patients who can RTD within the TO evacuation policy. The majority of patients within this facility will be in the reconditioning and rehabilitating category. The FH will

normally be located in the COMMZ; however, circumstances may direct that this hospital be employed in the corps. The FH is assigned to a MEDCOM. It may be further attached to a medical brigade.

FHs are allocated two per division, or 1.462 per 1,000 occupied beds in the COMMZ. At full strength, this unit provides--

- Hospitalization for up to 504 patients consisting of two wards providing intensive nursing care for up to 36 patients, seven wards providing intermediate nursing care for up to 140 patients, one ward providing NP care for up to 20 patients, two wards providing minimal nursing care for up to 40 patients, and seven patient support sections providing convalescent care for up to 280 patients.
- Surgical capability based on two OR tables for a surgical capacity of 24 OR table hours per day.
- Consultation services for patients referred from other MTFs.
- Role 1 HSS for organic personnel.
- Pharmacy, clinical laboratory, blood banking, radiology, and nutrition care services.
- Physical and occupational therapy support.
- Medical administrative and logistical services.
- Dental treatment to staff and patients and oral surgery support for military personnel in the immediate area, plus patients referred by area HSS units.

General Hospital. The 476-bed GH provides stabilization and hospitalization for general classes of patients. The GH serves as the

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primary conduit for patient evacuation to CONUS or other safe haven. The GH will be located in the COMMZ. The GH is assigned to a MEDCOM and may be further attached to a medical brigade. The GH is allocated one per division supported or 0.829 per 1,000 occupied beds in the COMMZ. At full strength, this unit provides--

- Hospitalization for up to 476 patients--consisting of eight wards providing intensive nursing care for up to 96 patients, sixteen wards providing intermediate nursing care for up to 320 patients, one ward providing NP care for up to 20 patients, and two wards providing minimal nursing care for up to 40 patients.
- Surgical capability based on eight OR tables for a surgical capacity of 144 OR table hours per day.
- Consultation services for patients referred from other MTFs.
- Role 1 HSS for organic personnel.
- Pharmacy, clinical laboratory, blood banking, radiology, and nutrition care services.
- Physical and occupational therapy support.
- Medical administrative and logistical services.
- Dental treatment to staff and patients and oral surgery support for military personnel in the immediate area, plus patients referred by the area dental companies.

Medical Company, Holding. The staffing for a medical company, holding mirrors the GH staffing.

Various Hospital Configurations. As stated earlier, all of the hospitals are configured using

various combinations of modules. The CSH and the GH consist of a base component that is clinically similar in all hospitals and one or more mission-adaptive component(s) to meet workload requirements. The components are the HUB, HUS, HUM, and HUH (see Figure 5-3).

Surgical Service Teams. The mission of these teams is to provide surgical augmentation to CZ and COMMZ hospitals. These teams are assigned to a MEDCOM, medical brigade, or a medical group and may be further attached to subordinate hospitals as required.

Medical Team, Head and Neck Surgery. This team provides initial and secondary maxillofacial and ear, nose, and throat surgery in support of TO hospitals. This team is allocated one per division in the CZ and one per corps supported in the COMMZ.

Medical Team, Neurosurgery. This team provides initial and secondary neurosurgery in support of TO hospitals. This team is allocated one per division in the CZ and one per GH in the COMMZ.

Medical Team, Eye Surgery. This team provides initial and secondary ophthalmologic surgery in support of TO hospitals and consultative services as required on an area basis. This team is allocated one per division in the CZ and one per corps supported in the COMMZ.

Medical Service Teams. The mission of medical service teams is to provide medical augmentation to CZ and COMMZ hospitals. These teams are assigned to a MEDCOM, a medical brigade, or a medical group and may

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be further attached to subordinate hospitals as required.

Medical Team, Pathology. This team provides investigative pathology support. This team is allocated to the COMMZ on the basis of one per corps supported from the COMMZ.

Medical Team, Renal Dialysis. This team provides renal hemodialysis care for patients with acute renal failure and consultative services on an area basis. One team is allocated per TO.

Medical Team, Infectious Disease. This team provides infectious disease investigative and consultative services to the hospital to which attached. One team is allocated per corps.

HEALTH Service LOGISTICS SUPPORT

The HSL mission is an essential part of the overall HSS system. The HSL mission is to provide--

- Class VIII supplies and equipment (medical materiel to include medical-peculiar repair parts).
- Optical fabrication.
- Medical equipment maintenance and repair.
- A Single-Integrated Medical Logistics Manager for joint operations.
- Blood management for Army, joint, or combined operations.
- Contracting support.

HSL Organizations. The HSL organizations which provide this support include—

Forward Medical Battalion. The mission of this organization is to provide Class VIII supplies, optical fabrication, medical equipment maintenance support, and blood storage and distribution to divisional and nondivisional units operating in the supported corps. This unit is assigned to a medical brigade and is allocated on a basis of one forward medial logistics (MEDLOG) battalion per corps or three division equivalent-size force. The capabilities of this unit are to--

- Provide C2, staff planning and supervision of operations, and administration of assigned or attached units engaged in providing Class VIII supplies, optical single lens fabrication, medical equipment maintenance support, and blood storage and distribution.
- Provide Class VIII supply based on 10 days of supply for the supported corps.
- Provide Class VIII supply, optical single lens fabrication, and medical equipment maintenance support to a maximum force of 160,252 troops.
- Receive, classified, and issue up to 122.4 short tons of Class VIII supplies per day.
- Provide storage of up to 1,224.0 short tons of Class VIII supplies.
- Provide unit and intermediate direct support medical equipment maintenance on an area basis.
- Provide for blood processing, storage, and distribution within the corps and division medical units.

Rear Medical Battalion. The mission of this unit is to provide Class VIII supplies, optical fabrication, medical equipment maintenance support, and blood storage and distribution to roles above corps units and the corps-level

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forward MEDLOG battalion. This unit is assigned to a MEDCOM and is allocated on the basis of one rear MEDLOG battalion per three corps supported. This unit--

- Provides C2, staff planning and supervision of operations, and administration of assigned or attached units engaged in providing Class VIII supplies, optical multivision lens fabrication, medical equipment maintenance support, and blood storage and distribution.
- Provides Class VIII supply support based on a TO stockage objective of 60 days of which 50 days are found at the rear MEDLOG battalion.
- Provides Class VIII supply, optical multivision lens fabrication, and medical equipment maintenance support to a maximum force of 653,000 troops.
- Receives, classifies, stores, and issues up to 276.9 short tons of Class VIII supplies per day.
- Provides storage for up to 16,614 short tons of Class VIII supplies.
- Provides unit maintenance support for medical equipment to supplement additional units not otherwise provided such support.
- Provides for blood processing, storage, and distribution within the roles above corps and provides backup blood support for the forward MEDLOG battalion.
- Provides direct support maintenance for medical equipment located in roles above corps and backup support to corps.

Theater Medical Materiel Management Center. The theater medical materiel management center (TMMMC) provides centralized, TO-level inventory management of Class VIII

materiel according to the TA surgeon's policy. One TMMMC is assigned to the MEDCOM as an attached unit to the rear MEDLOG battalion. This unit is allocated to the MEDCOM on the basis of one per MEDCOM. The capabilities of this unit are to-

-
- Monitor the operation of MEDLOG units under the jurisdiction of the TA.
- Monitor the receipt and processing of Class VIII requisitions from MEDLOG units.
- Review and analyze demands and compute TO requirements for Class VIII supplies, medical equipment, optical fabrication, medical equipment maintenance, and blood processing, storage, and distribution.
- Monitor and evaluate the workload, capabilities, and asset position of the supported forward and rear MEDLOG battalions and recommend cross-leveling of workload or resources to achieve compatibility and maximum efficiency.
- Implement plans, procedures, and programs for medical materiel management systems.
- Provide medical materiel management data and reports required by the MEDCOM and TA surgeon.
- Function as the management interface with CONUS-base Class VIII national inventory control points and service item control centers.
- Provide management of critical items and analysis of production capabilities.

Medical Detachment, Logistics Support. This unit is assigned to either the forward MEDLOG battalion or the rear MEDLOG battalion and is allocated as required. The

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mission of this unit provides Class VIII supply, optical fabrication, and medical equipment support functions and tailors the capabilities of forward or rear MEDLOG battalions where workload or special operations require an increment of less than a battalion-sized unit. The mission of this unit is to—

- Provide augmentation to the unit of attachment for Class VIII, optical single-vision lens fabrication, and medical equipment maintenance support.
- Receive, classify, and issue Class VIII supplies.
- Fabricate optical single-vision lens spectacles and protective mask inserts.
- Provide intermediate direct support maintenance for medical equipment.

MEDICAL LABORATORY SERVICES

Theater Army Medical Laboratory. The theater army medical laboratory (TAML) is a 75-person unit which will provide medical laboratory procedures and data for the evaluation of environmental issues, including health of soldiers within the TO. These services will require skilled personnel and sophisticated high-technology equipment.

The TAML will have the ability to send specialty teams forward into the corps area to handle unique problems. Although staffing for the TAML is austere, it will be adequate to allow for 24-hour operations. It will have the capability to analyze--

- Samples to assist in definitive treatment of biological and chemical agent effects.

- Food, water, and other environmental samples and specimens from animals to assist VET and PVNTMED personnel in identifying and assessing NBC agents.

The TAML will have the following limitations:

- It will be dependent upon appropriate elements of TA for health, finance, religion, mess, legal, personnel, and administrative services and for organizational, communications-electronics, and vehicle maintenance.
- It will have limited mobility. Organic vehicles will be required for day-to-day administrative and logistical functions and for task organizing teams.

The TAML will have the capability to perform--

- Investigative biochemical and toxicological analyses.
- Microbiological identification and characterization.
- Serological testing related to disease diagnoses and prevention.
- Analyses of food items suspected of contamination.
- Detection and diagnoses of zoonotic diseases.
 - Entomological analyses and limited pesticide adequacy assessments.
 - Epidemiological analyses.
 - Evaluation of environmental and clinical samples for NBC contamination.

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The TAML will have the following sections:

- Headquarters section.
- Biochemistry section.
- Anatomical pathology section.
- Microbiology section.
- VET laboratory section.
- Entomology section.
- Epidemiology section.

Medical Laboratory Services in Roles Above Corps. Unlike laboratories organic to hospitals, the TAML will perform functions with a much broader scope related to the health of the force as a whole. The TAML will perform sample analyses to determine the process of disease or to evaluate contamination from NBC agents. To accomplish these analyses, the laboratory will require high technology identification kits and monitoring devices. Because of dangers inherent in analyzing contaminated samples, strict protection procedures will be implemented by the laboratory. Once the identification is made, samples will be forwarded to CONUS for confirmation. Samples which are beyond the analytical capabilities of the TAML will be forwarded to the appropriate higher level laboratories for more detailed analyses.

VETERINARY SERVICES

Medical Detachment, VET Service (Headquarters). The mission of this unit is to provide C2, administrative assistance, and technical guidance of assigned and attached

VET units in the TO. This unit is assigned to a medical brigade (corps or COMMZ); this unit may also be directly assigned to a MEDCOM. One unit is allocated per four to eleven VET detachment-sized units. The services of VET service (headquarters) include--

- Providing C2 of all VET functions within the AO and implementing VET policies established by the medical brigade.
- Establishing communications and directing necessary coordination with supported logistical organizations of all uniformed Services and other federal agencies for all VET activities within the AO. This includes procurement of subsistence for Department of Defense (DOD) personnel and animals to serve as military working dogs (MWDs).
- Coordinating VET support for military units with government-owned animals.
- Coordinating required VET support with HN public health officials.
- Monitoring and evaluating environmental and zoonotic diseases and food safety data, to include those foods exposed to NBC agents. Apprises the medical brigade commander of those factors posing a potential adverse effect on the overall HSS mission.

Medical Detachment, VET Service. The mission of this unit is to provide VET services for all branches of the uniformed Services throughout the TO. This unit is assigned to a medical brigade (corps or COMMZ). The unit may be placed under the C2 of the medical detachment, VET service, headquarters. This unit may also be assigned to a MEDCOM.

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This unit is allocated as one per every 70,000 Army personnel in the CZ, one per every 140,000 Army personnel in the COMMZ, and one per every 140,000 US Navy (USN), US Marine Corps (USMC), and USAF personnel in the TO. These services include--

- Sanitary inspections of approved food source facilities.
- Procurement and surveillance inspections of foods.
- Environmental and zoonotic disease surveillance.
- VET care for government-owned animals.
- Nation assistance, humanitarian assistance, and disaster relief operations.
- VET PVNTMED.
- Public health functions.
- Wholesomeness determination of food in an NBC environment.

The capabilities of this unit include--

- Providing C2 of all VET functions within the AO and implementing VET policies established by the medical brigade until such time that the TO progresses to a level requiring assignment of the medical detachment, VET service (headquarters).
- Providing a highly flexible organization consisting of six mobile VET survey squads which can operate independently and maintains 100 percent visibility within the VET survey squad at all times. Squads can be task organized across squad lines or subdivided to meet a variety of functional scenarios within the stated mission. They are equipped to meet the travel requirements dictated by the assigned mission.

- Providing inspection services for commercial food sources in support of procurement organizations. This unit publishes and distributes a directory of approved establishments; it inspects all government food storage facilities.
- Providing inspections of all food at time of receipt. Performing surveillance inspections of all foods in storage and at time of issue or resale.
- Monitoring and evaluating environmental and zoonotic diseases and food safety data, to include data on foods exposed to NBC agents. Apprising the medical brigade commander of those factors posing a potential adverse effect on the overall HSS mission.
- Providing limited VET care to DOD units with government-owned animals and VET support for nation assistance, humanitarian assistance, and disaster relief operations.
- Establishing communications and directing necessary coordination with supported logistical organizations of all uniformed Services and other federal agencies.
- Coordinating VET support for military units with government-owned animals.
- Coordinating required VET support with HN public health officials.

Medical Detachment, VET Medicine. The mission of this unit is to--

- Provide definitive comprehensive VET medical care to government-owned animals.
- Provide VET support for nation assistance, humanitarian assistance, and disaster relief operations.
- Conduct VET PVNTMED to control zoonotic diseases.

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- Conduct public health functions in support of the overall HSS system.

The unit is assigned to a medical brigade (COMMZ). It may be placed under the C2 of the medical detachment, VET service (headquarters) or VET service. This unit may also be assigned to a MEDCOM. It is allocated one per seven military police companies (heavy security) and MWD sections and one per 200 dogs in support of all branches of the uniformed Services.

This unit provides--

- Comprehensive VET medical care to government-owned animals. This includes long-term hospitalization for MWDs.
- Comprehensive VET medical care in support of nation assistance, humanitarian assistance, and disaster relief operations.
- A mobile team deployable to high-casualty areas for short durations.
- Procurement of military animals, to include MWDs.

Medical Detachment, VET Service (Small). The mission of this unit is to provide VET services for all branches of the uniformed Services and other federal agencies throughout the TO. These services include--

- Sanitary inspections of approved food source facilities.
- Procurement and surveillance inspections of foods.
- Environmental and zoonotic disease surveillance.
- Wholesomeness determination of food in NBC environment.

- Limited VET care for government-owned animals.
- Nation assistance, humanitarian assistance, and disaster relief operations.
- VET PVNTMED.
- Public health functions.

This unit is assigned to a medical brigade (corps or COMMZ). It may be placed under the C2 of the medical detachment, VET service or the medical detachment, VET service (headquarters). This unit may also be assigned to a MEDCOM.

This unit is allocated one per every 10,000 Army personnel in the CZ; one per every 20,000 Army personnel in the COMMZ; or one per every 20,000 USN, USMC, and USAF personnel in the TO.

The unit--

- Provides inspection services for commercial food sources in support of procurement organizations; it publishes and distributes a directory of approved establishments, and inspects all government food storage facilities.
- Provides inspections of all food at time of receipt.
- Performs surveillance inspection of all foods in storage and at time of issue or resale.
- Monitors and evaluates environmental and zoonotic diseases and food safety data, to include data on foods exposed to NBC agents. Apprises the medical brigade commander of those factors posing a potentially adverse effect on the overall HSS mission.
- Provides limited VET care to government-owned animals in DOD units.

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- Provides VET support for nation assistance, humanitarian assistance, and disaster relief operations.
- Maintains 100 percent mobility within the unit at all times to meet the travel requirements dictated by the assigned mission to the combat units.
- Establishes communications and directs necessary coordination with supported logistical organizations of all uniformed Services and other federal agencies.
- Coordinates VET support for military units with government-owned animals.
- Coordinates required VET support with allied or HN public health officials.

PVNTMED Detachments

Entomology. The mission of this medical detachment is to provide PVNTMED support and consultation in the areas of entomology, DNBI prevention, field sanitation, sanitary engineering, and epidemiology to minimize the effects of vectorborne diseases, enteric diseases, environmental injuries, and other health threats on deployed forces in the CZ and COMMZ.

This unit is assigned to a medical brigade or a medical group, and is normally attached to an ASMB. One unit is allocated per 66,000 personnel and one per 100,000 EPW. This unit--

- Provides surveillance and control of disease vectors and reservoirs in assigned areas, to include area and aerial spraying.
- Monitors vector control, field sanitation, water treatment and storage, waste disposal, and DNBI control practices of

units in assigned areas. Provides advice and training as necessary.

- Investigates and evaluates vector control, sanitation, water supply and waste disposal practices, and other environmental health-related problems. Recommends corrective measures as necessary.
- Collects medical data to assist in evaluating conditions affecting the health of the supported military and civilian population.
- Conducts epidemiological investigations.
- Collects environmental samples and specimens and performs selected analyses or evaluations to assist in assessment of the medical threat.
- Coordinates NBC-related biological specimen collection and specimen evaluation with treatment, NBC, laboratory, and intelligence personnel.
- Divides into three teams, as necessary, to perform assigned missions.
- Monitors casualties, hospital admissions, and reports of autopsy for signs and confirmation of CW or BW agent use.

Sanitation. The mission of this unit is to provide PVNTMED support and consultation in the areas of DNBI prevention, field sanitation, entomology, sanitary engineering, and epidemiology to minimize the effects of environmental injuries, enteric diseases, vectorborne disease, and other health threats on deployed forces in the TO.

This unit is assigned to a medical brigade or a medical group. It is normally attached to an ASMB or other medical units. One unit is allocated per 28,000 personnel and one per 50,000 EPW. This unit--

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- Monitors field sanitation, water treatment and storage, vector control, and DNBI control practices of units in assigned areas. Provides advice and training as necessary.
- Investigates and evaluates field sanitation, water supply and waste disposal practices, and other environmental health-related problems. It recommends corrective measures as necessary.
- Provides limited control of disease vectors and reservoirs in assigned areas.
- Collects medical data to assist in evaluating conditions affecting the health of the supported military and civilian population.
- Conducts epidemiological investigations.
- Collects environmental samples and specimens and performs selected analyses or evaluations to assist in assessment of the medical threat.
- Coordinates NBC-related biological specimen collection and specimen evaluation with treatment, NBC, laboratory, and intelligence personnel. Monitors casualties, hospital admissions, and reports of autopsy for signs and confirmation of CW or BW agent use.

Medical Battalion, Area Support. PVNTMED support is also provided by the PVNTMED section of the ASMB. Organizationally, the ASMB includes a PVNTMED section identical to that found in the divisional HSS structure. The section is capable of providing PVNTMED support and advice similar to that described above for the sanitation PVNTMED detachment.

This section's staffing permits it to have a more extensive capability than the PVNTMED detachments in epidemiological (infectious

disease) investigations and sanitary engineering support. Support provided by this section in these areas is in coordination with PVNTMED detachments and other medical or nonmedical units within the ASMBs.

This section assumes technical supervision of the attached detachments to coordinate assignment of specific missions, as PVNTMED detachments are normally attached to an ASMB.

PVNTMED detachments are attached to, rather than being organic to, the ASMB. The ASMBs are allocated based on medically related requirements. PVNTMED support is normally allocated based on the anticipated health threat.

DENTAL SUPPORT

Dental support is arranged into roles, reflecting an increase in capability at each succeeding role. The functions of each lower role of dental support are contained within the capabilities of all higher roles. There are six dental units that offer one or more of the following care:

- General care.
- Specialty care.
- Emergency care--expedient dental treatment directed toward the relief of pain and management of infection and oral trauma.
- Sustaining care--routine dental treatment to prevent future dental emergencies using the modular dental equipment available to Role 2 dental support personnel.

Medical Battalion. The mission of the medical battalion is to provide maintaining, sustaining,

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and emergency dental care on an area basis within a TO.

This unit is normally assigned to the senior medical headquarters in the TA or corps area (MEDCOM, medical brigade, or medical group). This unit provides--

- Maintaining, sustaining, and emergency dental care on an area support basis in the TO.
- Mobile dental treatment teams.
- Field dental clinics.
- Dental treatment modules to reinforce or reconstitute the unit dental modules when necessary.
- Dental treatment modules performing dental services for small or forward troop concentrations.
- Prosthodontics support to troops, dental units, and facilities.
- Emergency medical augmentation to the ATM capabilities of other MTFs during mass casualty situations.

This organization's basis of allocation of organizational components is--

- One HHD, medical battalion allocated per three to eight subordinate dental service organizations.
- One medical company allocated per 20,000 US Army troops supported.
- One medical detachment allocated per 8,000 US Army troops supported.
- One medical team, prosthodontics allocated per 40,000 troops supported.

Headquarters and Headquarters Detachment, Medical Battalion. The headquarters provides C2 to assigned and attached dental

organizations. The operations and administrative section provides administrative, logistical, and personnel support to the headquarters. It also provides technical guidance on medical equipment maintenance and Class VIII supply.

This unit is organic to the medical battalion. This unit--

- Provides for C2 three to eight assigned or attached units.
- Furnishes current information concerning the dental aspects of the HSS to higher headquarters.
- Plans and allocates dental resources (personnel and equipment) to ensure adequacy of dental treatment to all units within the assigned AOR.
- Provides technical expertise, coordination, and support to subordinate units for accomplishing their medical equipment maintenance and Class VIII supply.

Medical Company. This unit provides maintaining, sustaining, and emergency dental care on an area support basis within a TO.

This unit is organic to the medical battalion. This unit provides--

- Maintaining care on an area basis for 20,000 troops.
- Sustaining care on an area basis for 30,000 troops.
- One field dental clinic.
- Dental treatment modules to reinforce or reconstitute the unit dental modules when necessary.
- Unit maintenance for the HHD, medical battalion.

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- Up to six dental treatment modules performing dental services for small or forward troop concentrations.
- Prosthodontics support to troops, dental units, and hospitals.
- Augmentation to the ATM capabilities of other MTFs during mass casualty situations.

Medical Detachment. This unit provides maintaining, sustaining, and emergency dental care on an area support basis within a TO.

This unit is assigned to the medical battalion. This unit provides--

- Maintaining care on an area basis for 8,000 troops.
- Sustaining care on an area basis for 12,000 troops.
- A field dental clinic.
- Dental treatment modules to reinforce or reconstitute the unit dental modules when necessary.
- Up to three dental treatment modules performing dental services for small or forward troop concentrations.
- Augmentation to the ATM capabilities of other MTFs during a mass casualty situation.

Medical Team, Prosthodontics. The prosthodontics augmentation teams may be attached to dental companies or hospitals to assist in providing maintaining dental care when required by the patient workload. This team can provide fixed and removable prosthodontics support.

The team is normally assigned to the medical battalion with further attachment to the

medical company or an existing hospital organization. This unit provides additional fixed and removable prosthodontics support for up to 40,000 personnel.

Role 3 Hospital Dental Support. This support is provided by the dental service organic to the HUB. The dental service consists of an oral surgeon, a comprehensive dental officer, an enlisted preventive dentistry specialist, and an enlisted dental specialist. The dental service provides oral and maxillofacial surgery specialty care and consultation, as well as maintaining dental care for hospital personnel.

COMBAT STRESS CONTROL SERVICES

Medical Company, CSC. The mission of the medical company, CSC is to provide combat stress casualty prevention, treatment, and management on an area basis.

The unit is assigned to a MEDCOM or a medical brigade. It may be further attached to a medical group. This unit provides--

- Planning and staff advice to C2 headquarters regarding the stressors affecting the troops such as combat intensity and sleep deprivation; their mental readiness, morale, and cohesion, and the potential for and status of treatment of battle fatigue and other NP and alcohol or drug abuse casualties.
- A preventive section (with psychiatrists and social work officers and enlisted) that may divide into six 4-person CSC preventive teams, each providing consultation, NP triage, reconstitution support, and medical supervision and RTD

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coordination for restoration and reconditioning programs.

- A restoration section (with psychiatric nurses, clinical psychologists, occupational therapy officers, plus enlisted) that may divide into four 11-person CSC restoration teams, each providing stabilization and restoration or reconditioning for up to 50 BFCs, plus consultation, reconstitution support, and NP triage support.
- The preventive and restoration teams may be employed separately, but more commonly are combined into task-organized sections to staff restoration or reconditioning facilities.
- The CSC teams are 100 percent mobile and can provide austere shelter, heat tray packs, and water for field hygiene for a limited numbers of BFCs. These teams depend on the units to which they are attached for logistical and communications support. Large restoration or reconditioning centers require augmentation with patient holding assets.
- A company is allocated to the corps on the basis of one medical company, CSC per two divisions for high-intensity conflict and one per four or five divisions for mid-intensity conflict. The headquarters section of the medical company, CSC usually collocates with its higher medical headquarters or with the headquarters and support company (HSC) of an evacuation battalion or ASMB which provides staff coordination, communication, and logistical support. Depending on availability and phase of conflict, a CSC company or elements thereof may also be assigned to the COMMZ.

Medical Detachment, CSC. The mission of the medical detachment, CSC is to provide forward combat stress casualty prevention, treatment, and RTD.

This unit is assigned to a medical brigade. It may be attached to a medical group or to a medical company, CSC. It is routinely attached to the MSB operational control to the division mental health section. At full strength, this unit provides--

- Planning and staff advice to C2 headquarters regarding the stressors affecting the troops such as combat intensity and sleep deprivation; their mental readiness, morale, cohesion, morals, and spiritual welfare; and the potential for and status of treatment of BF and other NP casualties including substance abuse casualties.
- A preventive section that divides into three CSC preventive teams; each provides consultation, combat NP triage, reconstitution support, and medical supervision and RTD coordination for restoration in a brigade support area.
- One CSC restoration team that provides stabilization, restoration, and reconditioning for up to 50 BFCs, plus consultation, reconstitution support, and combat NP triage support, usually in the division support area.
- One medical detachment, CSC is allocated per division or allocated per two to three separate brigade-sized forces not otherwise provided CSC support.

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AREA MEDICAL SUPPORT

Medical Battalion (Support Command, Corps, or COMMZ). Area medical support in the CZ and the COMMZ is provided by the ASMB.

The ASMB provides HSS for Roles 1 and 2 and medical staff advice and assistance, as required, for all assigned and attached elements of the corps and COMMZ.

The ASMB is assigned to the medical brigade or the medical group depending on the density of HSS organizations in a TO. This unit provides--

- HSS planning, policies, support operations, and coordination of HSS in an AO within the CZ or the COMMZ.
- Advice to commanders and their staffs on the health of their commands.
- Current information concerning HSS to higher headquarters.
- Role 2 MTFs for receiving, sorting, and administering medical treatment for all classes of patients.
- Reinforcements, reconstitution, or replacement of Roles 1 and 2 HSS assets.
- Ground evacuation for patients from Role 2 treatment squads to the area support treatment squads and from other units in the CZ or the COMMZ operating in this battalion's AO.
- Management of HSL materiel and supervision of maintenance on medical equipment.
- Laboratory, pharmacy, and radiological services commensurate with Role 2 medical treatment.
- Emergency dental care, to include stabilization of maxillofacial injuries,

sustaining dental care designed to prevent or intercept potential dental emergencies, and limited preventive dentistry.

- Mental health services and management of combat stress casualties.
- Eye examinations, management of ocular injuries and diseases, spectacle frame assembly using presurfaced single-vision lenses, and repair services for CZ or COMMZ units assigned in this battalion's AO. For greater optical fabrication and resupply of the optical MES, requisitions will be supported by the forward MEDLOG battalion.
- PVNTMED consultation and support.
- Patient holding for up to 160 patients.
- The ASMB is allocated using a basis of .014 per 1,000 troops supported in the corps (generally is .75 per division) and .018 per 1,000 troops supported in the COMMZ (rule of thumb is three per COMMZ). Figure 3-5 depicts the organization of an ASMB.

HSC, ASMB (Support Command, Corps, or COMMZ). The mission of the HSC is to provide C2 for the ASMB and to provide Roles 1 and 2 HSS to units assigned in the battalion's AO.

The HSC is organic to the ASMB and is allocated on a basis of one per ASMB. This unit provides--

- C2 of organic or attached units to include HSS planning, policies, and support operations within the battalion's AO.
- Information to commanders and their staffs on the health of their command.
- Current information concerning HSS to higher headquarters.

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- Allocation of HSS resources (personnel and equipment) to ensure adequate medical treatment to all assigned or attached units operating in the battalion's AO in either the corps or COMMZ.
 - Triage and treatment to patients generated in the HSC AOR.
 - Evacuation of patients from units within the HSC's AOR to the treatment squads of the HSC.
 - Treatment squads which are capable of operating independently of the HSC for limited periods of time to provide EMT, ATM, and sick call medical support to forces involved in combat or to perform reinforcement, reconstitution, or replacement to forward medical units.
 - HSL support, to include medical resupply, medical repair parts, and medical maintenance support to units assigned or attached to the battalion's AOR. The medical supply office (MSO) of the HSC will maintain a 3-day stockage level. Resupply of the MSO will be by line item requisition to the supporting forward MEDLOG battalion.
 - Three days of supply level for all subelements of the HSC upon deployment and during routine operations.
 - Laboratory, pharmacy, and radiological services commensurate with Role 2 medical treatment.
 - Emergency dental care, to include stabilization of maxillofacial injuries, sustaining dental care designed to prevent or intercept potential dental emergencies, and limited preventive dentistry.
 - Mental health and CSC services, to include preventive consultation, NP triage, stabilization, and restoration of small numbers of BFCs. It also coordinates operations of attached CSC unit teams.
 - Optometry support limited to eye examinations, spectacle frame assembly utilizing presurfaced single-vision lens, and repair services for corps or COMMZ units assigned in the battalion's AO. For greater optical fabrication and resupply of the optical MES, requisitions will be supported by the forward MEDLOG battalion.
 - PVNTMED consultation and support and coordinating operations of attached PVNTMED detachments operating in the battalion's AO.
 - Patient holding for up to 40 patients.
 - Outpatient consultation services for patients referred from Role 1 HSS facilities.
 - Unit-level maintenance for the battalion's wheeled vehicles. The consolidated maintenance section uses contact teams to provide unit maintenance to assigned subunits. Performs unit-level maintenance on organic communication and electronic equipment of the HSC.
 - Unit-level administration for elements of the battalion.
 - Food service support to staff and patients of the HSC and to other medical elements dependent upon the HSC for field feeding support.
- Area Support Medical Company, ASMB (Support Command, Corps, or COMMZ).* The mission of the area support medical company (ASMC) is to provide Roles 1 and 2 HSS to units assigned in the ASMC's AO.

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The ASMC is organic to the ASMB. Three ASMCs are allocated per ASMB. This unit provides--

- Treatment of patients with disease and minor injuries, triage of mass casualties, initial resuscitation and stabilization, ATM, and preparation for further evacuation of ill, injured, and wounded patients who are incapable of being RTD within 72 hours.
- Treatment squads which are capable of operating independently of the ASMC for limited periods of time.
- Evacuation of patients from units within the ASMC's AO to the treatment squads of the ASMC.
- Emergency medical supply and resupply to units operating within the AO of the ASMC.
- Three days of supply level for all elements of the ASMC upon deployment and during routine operations.
- Laboratory, pharmacy, and radiological services commensurate with Role 2 HSS treatment.
- Emergency dental care to include stabilization of maxillofacial injuries, sustaining dental care designed to prevent or intercept potential dental emergencies, and limited preventive dentistry.
- Patient holding for up to 40 patients per ASMC.
- Outpatient consultation services for patients referred from Role 1 HSS facilities.
- Food service support to staff and patients of the ASMC and to other HSS elements dependent upon the ASMC for field feeding support.

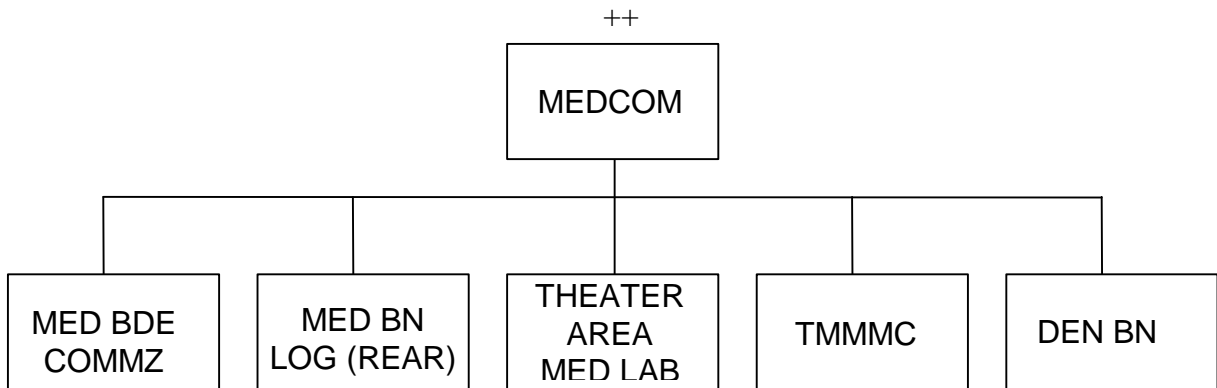
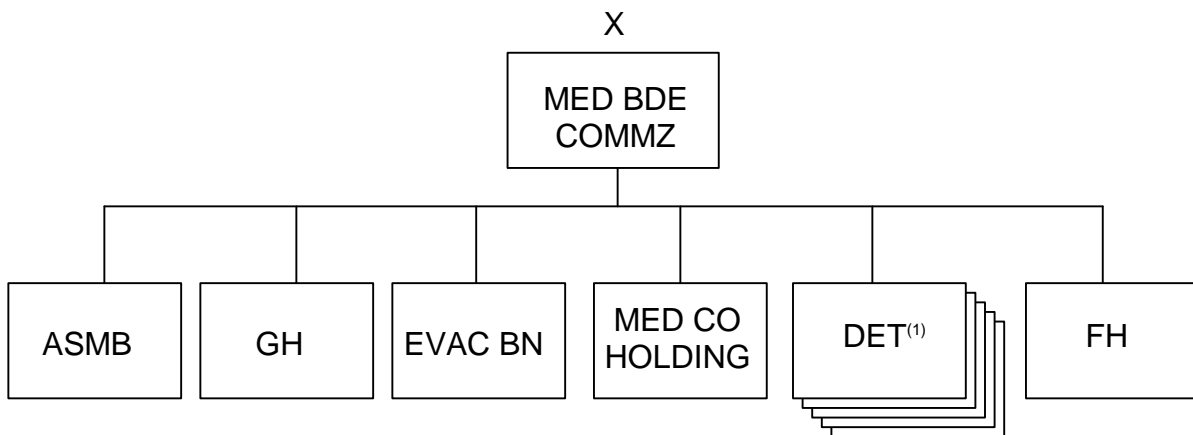
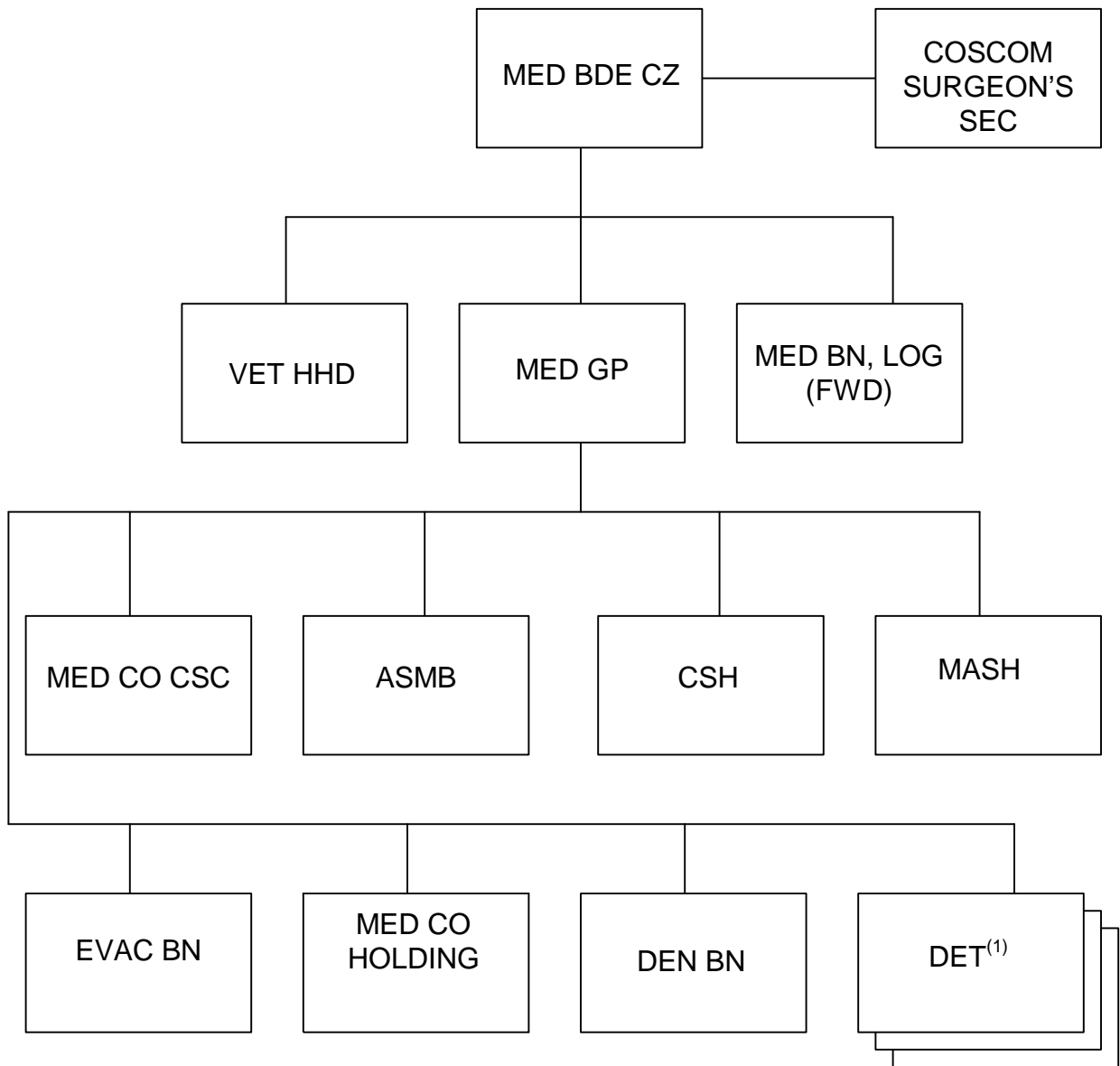


Figure 5-1.
The Medical Command



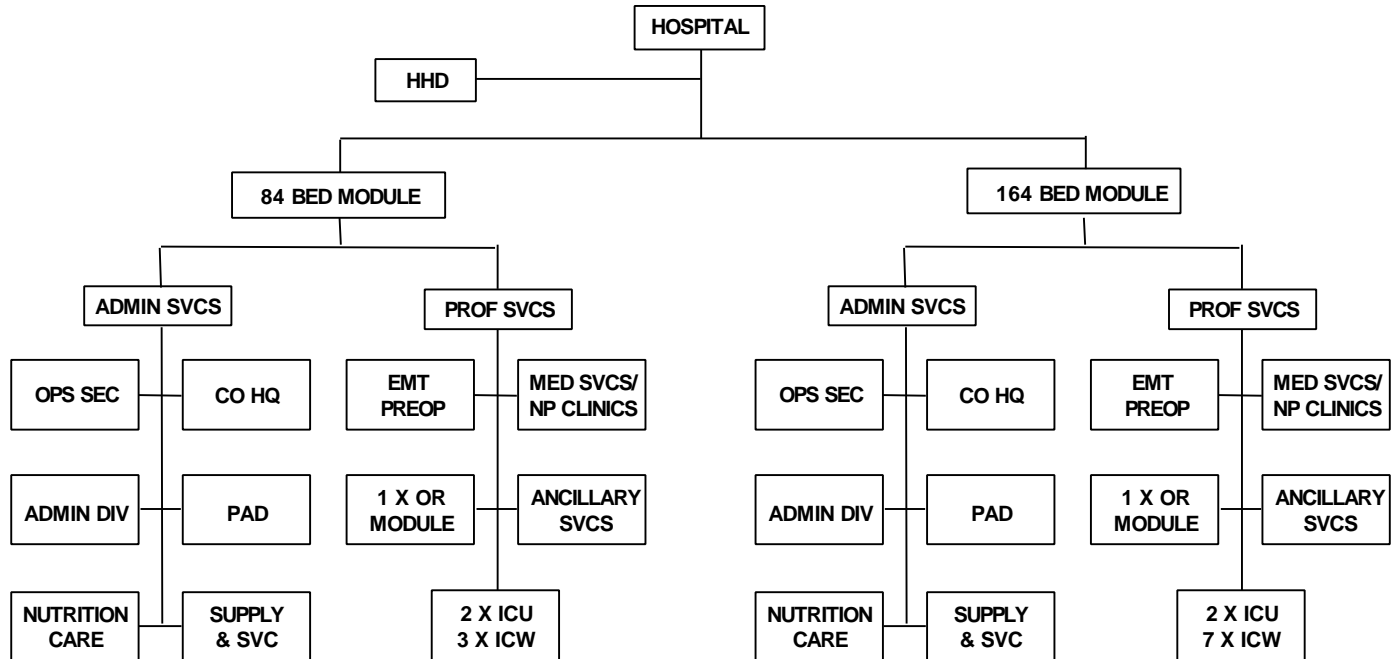
(1) MAY INCLUDE ASSIGNED OR ATTACHED VET, SURGICAL, DENTAL, PVNTMED, CSC, AND PROFESSIONAL SERVICES DETACHMENTS.

Figure 5-2.
Medical Brigade - Communications Zone



⁽¹⁾ MAY INCLUDE ASSIGNED OR ATTACHED VET, SURGICAL, DENTAL, CSC, PVNTMED MEDICINE, AND PROFESSIONAL SERVICES DETACHMENTS.

Figure 5-3.
Medical Brigade - Combat Zone



(1) Medical Force XXI combat support hospital (248 bed) serves as both the corps and echelon above corps (EAC) hospital. The EAC hospital lacks organic transportation to move the unit. An 84-bed, completely functional module can be echeloned forward. Surgical capabilities, with six OR tables, include general, orthopedic, thoracic, urological, gynecological, and oral maxillofacial. Outpatient consultation services are provided. The following hospital augmentation teams, when required, will provide increased HSS capabilities: head and neck team, minimal care team, pathology team, dialysis team, infectious disease team, special care team, and FST.

Figure 5-4.
Component Hospital System

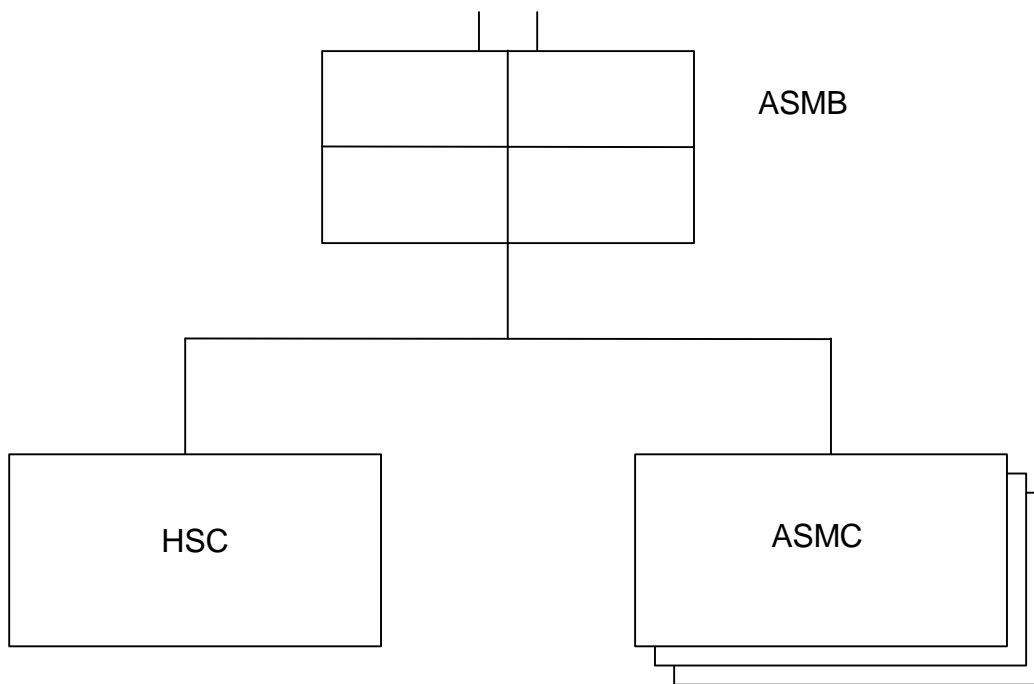


Figure 5-5.
Organization of the Area Support Medical Battalion

CHAPTER SIX

BRITISH ARMY HEALTH SERVICE SUPPORT ORGANIZATIONS AND FUNCTIONS

GENERAL

This chapter portrays the UK's HSS system operating within the ABCA Armies.

THEATER OF OPERATIONS

HSS within a TO is organized into roles of care which extend, normally rearward, throughout the AO providing progressively higher roles of medical care. The capability of each role is designed to--

- Suit the characteristics of the particular operational environment.
- To play a specific role in the progressive phased treatment, evacuation, and hospitalization of the sick and wounded.

Roles. All areas within a TO will have Role 1 and Role 2 support and access to Role 3 support. Role 3 support is usually found in the rear areas but may be located forward depending on the operational situation. The HSS organizations are, however, sufficiently flexible to allow a rear area facility (hospital) or function (surgery) to be moved forward. The responsibility for evacuation is from higher to lower roles.

Evacuation. All allied casualties and sick or injured EPWs receive exactly the same treatment as UK personnel. Allied patients are transferred back to their own national system as soon as possible.

MEDICAL TREATMENT

General. Medical care/treatment is organized into roles of support which are designed to provide continuous care and protection for all military personnel (including allied, EPWs and affected civilians) entering the casualty evacuation chain. All military personnel are taught basic first-aid during training and are subject to annual revision and retesting. They all carry first-aid dressings, self-injectable morphine, and drugs for the prophylaxis and first-aid for injuries due to CW agents. All treatment during hostilities are standardized through officially laid down regimes known as CTRs and issued to the medical staff at every role of care.

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Company/Squadron Aid Post. All casualties should self-administer first-aid or have it administered by their buddy. The casualty is then evacuated by a company (squadron in the case of an armored unit) ambulance (these are tracked in armored or mechanized infantry units) manned by one or more of the company's medical assistants. The ambulance may go to the company aid post (CAP) where the medical assistant checks first-aid, particularly splintage and dressings, and may start an IV infusion. The casualty may alternatively go directly to the regimental aid post (RAP).

RAP. The RAP is commanded by the regimental medical officer (RMO). The RMO has a small staff and two vehicles (tracked in armored/mechanized units), one of which is an ambulance. The RAP is usually reinforced by a medical-section (med-sect) from the supporting field ambulance (Fd Amb). This section is transported in two vehicles (tracked in armored/mechanized divisions). As well as enhancing the treatment capability of the RAP, these vehicles also provide direct communications with the Fd Amb. At the RAP, first-aid is refined or modified, resuscitation begun or continued (including IV infusion, chest drainage, and intubation), and the casualty is allocated a priority for evacuation.

Role 1 Medical Care. Role 1 medical care includes the company/squadron aid post and the RAP.

Role 2 Medical Care. The main Role 2 MTF is the dressing station (DS), which is provided by the Fd Amb. Fd Ambs are divisional assets.

A Fd Amb is affiliated to each brigade and two more Fd Ambs are allocated to the division as reserve/maneuver units under the control of the divisional Commander Medical. At the DS the casualties are centralized, further resuscitated, and sorted into priorities for further evacuation. If chemical agents have been used, the casualty is decontaminated at this point. During mass casualty situations, the DS is capable of processing up to 100 casualties an hour for 6 hours; its standard rate is 60 per hour under normal conditions. The DS is fully mobile and can move at 1-hour notice, although 4 hours notice is preferable. There are no laboratory, x-ray, or surgical facilities at the DS (except in the parachute or airmobile Fd Ambs) although field surgical teams (FSTs) can be moved forward if warranted.

Role 3 Medical Care. Role 3 care is provided by FH. The FH normally has 200 beds, eight general surgical teams (four in the TA), and a variable number of specialty surgical teams. The FH is configured into four 50-bed hospital squadrons, which allows modularity enabling subunit deployment if necessary. FHs are generally deployed in at least echelons: in intimate support, located in the divisional rear area, and in general support, located behind the forward divisions.

Role 4 Medical Care. The NHS is responsible for the definitive treatment of casualties evacuated to UK in general war. The patients, however, remain under the administrative control of the Army Medical Service (AMS) and are returned to them for rehabilitation

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Battleshock Rehabilitation Units. Battleshock rehabilitation units (BRUs) are deployed throughout the CZ. In the forward divisions, the BRUs are formed from the field psychiatric team (FPT) that is deployed with each of the divisional Fd Ambs (two per division). They provide a period of rest and activity for those able to RTD. The corps BRU is located in the rear combat zone (RCZ) and provides definitive treatment for those not recovering in the divisional BRU. Those casualties not recovering within 3 to 5 days in the corps BRU are evacuated to a hospital as casualties.

EVACUATION AND MEDICAL REGULATING

Point-of-Wounding to RAP. The responsibility for evacuation from point-of-wounding to the RAP rests with the battlegroup commanding officer. He ensures that the unit ambulances are distributed to the CAPs and the RAP. There may also be a number of ambulances from the supporting Fd Amb med-sect available to assist with evacuation to the RAP from the forward areas.

RAP to Dressing Station. The Fd Amb is responsible for bringing the wounded to the DS. Some ambulances are pre-positioned with RAPs while the remainder are pooled at the forward squadron (Fwd Sqn) headquarters which controls ambulance deployment. When a pre-positioned ambulance leaves the RAP, it is automatically replaced by one from the Fwd Sqn, thus maintaining a supply of empty ambulances in forward areas. If tracked ambulances are required, they transfer casualties to a wheeled ambulance at an AXP.

The AXP is controlled by the Fwd Sqn headquarters.

Dressing Station to Field Hospital. This is a divisional responsibility and is accomplished by ambulance regiments from the Royal Logistics Corps. One ambulance squadron will deploy to each division, a troop from each squadron to each DS. An ambulance that leaves the DS for the FH is automatically replaced by an empty one from the ambulance squadron headquarters, while the original ambulance returns to the squadron head-quarters after it has unloaded its patients at the hospital. This ensures that there is always a supply of empty ambulances in forward areas.

Field Hospital to Evacuation Hospitals, Ports, or Airheads. This evacuation is accomplished by a mixture of ambulance regiments, ambulance trains, helicopters, and aircraft. The exact mix of these evacuation platforms depends on the particular terrain and operational scenario in which the troops are deployed.

AME. The use of AME at all roles is preferred as it increases the responsiveness and flexibility of the system. AME within the CZ is provided primarily by helicopters although fixed-wing (FW) aircraft may be used if suitable airfields exist and there are large distances involved. AME out of the TO to definitive care in the UK is accomplished by FW aircraft. Elements of the Royal Air Force Medical Services are, therefore, normally deployed at evacuation airheads to coordinate this intertheater transfer.

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ADDITIONAL MEDICAL SERVICES

Dental Services. Routine dental support is provided by Royal Army Dental Corps personnel in Fd Ambs and in hospitals. Maxillofacial surgeons are deployed in selected FHs and GHs to provide specialist treatment as required. Dental technicians not required to perform dental services in war are employed as transfusion assistants and provide supervisors for casualty decon-tamination teams.

PVNTMED Services. All personnel are taught elementary hygiene during basic training. Refresher training is provided yearly. The RMO is the commanding officer's adviser on PVNTMED, although a specified number of regimental officers and other personnel in all units are given further training in specific duties (e.g., rodent control, water purification, and malaria prevention). Providing specialized PVNTMED consultation and support is a Role 2 responsibility. Each divisional Fd Amb and some brigade Fd Ambs have a number of environmental health inspectors and assistants. The section provides specialist advice and some assistance in--

- Rodent and sanitary control.
- Disinfestation and disinfection.
- Food sanitation and water potability.
- PVNTMED aspects of NBC operations.
- Selection of bivouac sites, refugee camps, and EPW compounds.

Laboratory Services. Laboratory facilities are found in hospitals only. Specialized laboratory services remain in the UK in war.

Blood Supply Services. All hospitals have blood storage facilities and a small local bleeding capability. The field medical equipment depots (FMEDs) have organic blood supply sections that store and issue blood. Supply to the TO is via the Army blood supply depot in the UK, to airheads detachments at airfields, by air to airhead detachments in the TO, to the FMEDs, and then to the hospitals. Transport is in insulated polystyrene containers or in electrically operated containers that can hold up to 3,000 units each.

Pharmaceutical Services. The UK does not employ separate pharmaceutical services; rather, each medical organization is responsible for providing a pharmaceutical service. The supply of drugs, dressings, and medical equipment is the responsibility of Fd Amb quartermasters, hospital pharmacists, and qualified pharmacy technicians in the medical supply organization.

MEDICAL MATERIEL AND SUPPLIES

General. Health services materiel support (logistics) is an integral part of the HSS system. Included under the broad heading of medical materiel is medical equipment (e.g., surgical instruments and panniers), major items (e.g., x-ray machines), and consumable medical items (e.g., pharmaceuticals, dressings, blood substitutes, and medical gases). The medical materiel support units are under the control of the medical commander at each level and are established forward along the patient evacuation routes to control the storage and distribution of medical materiel.

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British Army HSS Organizations and Functions

The medical materiel replenishment system is managed separately from the general supply system, so that patient evacuation transportation can be used for both the delivery and the backloading of health services materiel.

Medical Materiel Resupply. Replenishment of materiel is done by the next rearward MTF and/or an FMED using returning evacuation transport, both air and ground. To minimize depletion of forward stocks, the principle of property exchange applies throughout the evacuation system for fast moving items like blankets, stretchers, and splints. They resupply the hospitals and Role 2 units, which in turn, are responsible for resupply to the forward divisions. Resupply is directed forward to the Fd Amb DS by the ambulance squadrons. The DS resupplies forward deployed units by using their returning ambulances for backhaul of supplies.

Stocks Held in TO. Fd Ambs hold 7 days of supply while the hospitals maintain 10 days of supplies. Each FMED hold sufficient stocks to bring all units in its area up to 20 days of supplies.

Maintenance of Specialized Medical Equipment. The Royal Electrical and Mechanical Engineers provide specialized medical equipment technicians who are assigned to all hospitals and FMEDs. The technicians are responsible for maintenance of any specialized medical equipment.

COMMUNICATIONS/LIAISON

Communications.

The medical staff at headquarters establishes and maintains communications with--

- G1--G4 headquarters elements in their own headquarters.
- Medical staffs in the next higher and lower level headquarters.
- Medical staffs in adjacent headquarters at the same level.
- Medical staffs of the same level headquarters of other national forces operating in their areas.

Liaison.

Allies. The provision of HSS is in principle a national responsibility. However, QSTAGs, other bilateral or multilateral agreements, and published doctrinal literature state that allied nations will provide HSS to patients of other nations on the same basis that they would provide for their own personnel. These agreements include but are not limited to--

- Mutual assistance in patient care and evacuation.
- Transfer of patients to NHS facilities or installations.
- Mutual assistance with health services materiel.
- Coordinated actions in communicable diseases and vector control.
- NBC protection.
- Information and support by liaison teams.

Implementation. The implementation of these agreements will be effected by the senior

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British Army HSS Organizations and Functions

health services commander who will, where necessary, detail liaison teams. The transfer of casualties belonging to another member nation to their own national MTFs may be delayed, with the mutual consent of the countries involved, until the patient has arrived in the UK.

HSS IN AN NBC ENVIRONMENT

General. There are two particular aspects of HSS operations in a chemical environment that should be emphasized:

PVNTMED. The medical authorities continue to assist in developing measures to negate the effect of CW (prophylaxis, protection, and procedures) and to advise commanders of the problems inherent in CW (such as the adverse effects of some of the prophylactics and potential heat stress arising from some personal protective equipment).

Treatment of Chemical Casualties. Medical services must be able to manage both chemical casualties and those casualties with conventional wounds that have been contaminated by CW agents.

Treatment. Treatment of conventional injuries must still continue; this will be particularly difficult in frontline units where there is no COLPRO. Wounds require dressing and IV infusions need inserting while breaches in the individual protection suits must be repaired. The RAP and DS have a series of drugs to treat the effect of chemical agents but there may be cross-reactions with other drugs administered (particularly some anaesthetic

agents). Chemical agents may, therefore, result in a very complex clinical picture and physicians are assigned down to DS level in order to advise on general management. Positive pressure ventilation must be available in forward areas. All ambulances are being fitted with multioutlet ventilators and another version is in service with the Fd Ambs and hospitals.

Management in the Field. A casualty is given both conventional and chemical first-aid. If necessary, he is placed in an NBC casualty bag or half bag (the latter allows the casualty to walk) and evacuated to the RAP and then to the DS. At the DS, the casualty is monitored for contamination and, if necessary, is decontaminated. If resuscitation is required and the DS itself is in a contaminated area the casualty is transferred to the major treatment area, which is inside an inflated COLPRO shelter, before being placed inside a casualty bag for evacuation to the hospital. The hospital also has COLPRO shelters to protect its essential areas if it is sited in a contaminated area.

Evacuation. Once the enemy has used chemical agents, all ambulances forward of the DS or those definitely known to be operating in a contaminated area are presumed to be contaminated. Strict controls may be imposed from the rear of the divisional area to prevent any "dirty" vehicles spreading contamination to hitherto clean areas. These strict controls will lengthen and complicate the evacuation plans.

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VETERINARY SERVICES

The UK VET service is part of the AMS. The Royal Army Veterinary Corps is headed by the Director, Army Veterinary and Remount Service in the Ministry of Defense. In war, they can provide VET hospitals, remount depots, meat inspection sections, and animal purchasing commissions by the redeployment of personnel from peacetime establishments.

CHAPTER SEVEN

CANADIAN ARMY HEALTH SERVICE SUPPORT ORGANIZATIONS AND FUNCTIONS

GENERAL

This chapter portrays CA's HSS system operating within the ABCA Armies and the roles of support.

THEATER OF OPERATIONS

The CA HSS system within a TO is organized into roles which extend rearward throughout the AO. The capability of each role is designed to--

- Meet the characteristics of the operational environment.
- Play a specific role in the progressive treatment, evacuation, and hospitalization of sick and injured personnel.

Roles. The responsibility for evacuation of patients is from higher roles to lower roles (the more rearward role collects from forward roles). The organization for all aspects of HSS is designed to be flexible. The higher roles of HSS provide replacement personnel to forward HSS units when required. Roles of HSS for the CA brigade group (Bde Gp) are illustrated in the Chapter Annex, Figure 7-1.

Evacuation. Owing to the anticipated high casualty rates in a general war, HSS doctrine is designed to provide sustaining care and evacuation to those sick and injured who cannot be RTD quickly. EPW are treated in the same manner as other patients and are evacuated out of the CZ as soon as possible. Patients are cared for and evacuated through the combined HSS system until they can safely be transferred to their own national system. Strategic evacuation can be accomplished by national, allied, or a combination of resources.

Communications. The commanding officer of the Fd Amb is also the brigade surgeon (Bde Surg) and is the HSS adviser to the Bde commander.

Combat Zone. The CZ HSS is provided by a two-tier system: the unit and the Bde Gp. Each role has its own evacuation resources and is responsible for evacuation from forward MTFs. The Fd Amb provides Role 2 support to units of the Bde Gp and Role 1 support to units without organic HSS elements.

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PRINCIPLES OF EMPLOYMENT

General. The HSS system employed during all phases of war is designed to provide patient treatment facilities as far forward as possible, rapid evacuation of patients, and sufficient health services materiel to support the operation. HSS at Roles 1 and 2 provides patient management and lifesaving treatment for the sick and injured.

HSS in the Advance to Contact.

General. HSS units are deployed before the attack in accordance with the overall operational plan. Prior deployment permits the uninterrupted HSS of forces moving in the advance to contact. When the vanguard force is battalion size or larger, organic HSS resources are normally reinforced by supporting second-line elements.

Unit Medical Platoon. A unit medical platoon (Med Pl), commanded by a medical officer, is organic to all combat arms units. The unit Med Pl receives additional HSS from the Fd Amb which may include medical company (Med Coy) elements and ambulance resources. Patients are evacuated to a designated CCP or to the nearest treatment element. The unit Med Pl normally carries out *tailgate* treatment. In fast-moving operations, patients may be "nested" along the evacuation route, to be received by the advancing unit medical station (UMS).

Fd Amb. Patients from the advancing force are normally evacuated directly to a brigade medical station (BMS). Supporting air ambulances are used whenever possible. The establishment of the BMS is dictated by

factors such as terrain, weather, and road networks. Such facilities may be established by one or more platoons of the Med Coy of the Fd Amb.

Med Coy. HSS facilities should be sited well forward during the advance-to-contact phase; however, should the distance become too great between the MTFs, a Fd Amb Med Coy may move elements forward in support of the advancing formation.

HSS in the Attack.

General. The attack normally produces the heaviest patient workloads. HSS elements must maintain close contact with the attacking forces. HSS elements are normally located on the flanks of the attacking forces. Patients are evacuated in order to clear forward MTFs, ensuring that evacuation does not cross a route designated for combat traffic.

Unit Med Pl. To enhance its capabilities, the unit Med Pl of the attacking battalion may be augmented from the Fd Amb. Company medical assistants must continue to provide EMT to patients awaiting evacuation when companies are temporarily isolated from their HSS. The Med Pl uses unit resources to transport casualties from the CCP to the UMS.

Fd Amb. Elements of the Fd Amb deploy to a designated area rear of the forward brigade being supported. The ambulance company commander establishes a pool of ambulances at an ambulance relay point (ARP) along the evacuation route to provide a flexible time element during evacuation.

Bde Surg. The Bde Surg may allocate a greater number of his resources in support of

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maneuver formations on the attack. The control of air ambulances and their priorities of evacuation will depend on availability and the tactical situation.

HSS in Retrograde Operations

General. HSS in retrograde operations may vary widely depending upon the operations and enemy reaction. Elements moving to the rear must carry their patients with them. Combat units moving to the rear may bring patients in batches and be required to drop them off at the first MTF.

Evacuation. Successful evacuation of casualties on MSRs requires the operational commander to include ambulances on the list of priority movements. Special emphasis on proper sorting and rapid evacuation of patients lessens the need for establishing complete medical stations en route. Additionally, formation commanders make the decision as to whether or not patients are to be left behind. HSS personnel and supplies are left with patients who cannot be evacuated.

Unit Med Pl. The unit Med Pl may have ambulance resources attached from the Fd Amb to transport patients rearward. In some cases, patients are left at designated CCPs to be evacuated by an element of the Fd Amb. The Fd Amb may assign a medical section and ambulance resources to the rear of the main body. These elements collect patients at collecting points designated in the formation HSS and evacuate them to the next BMS.

Bde Surg. The Bde Surg establishes as many MTFs as required along the evacuation route. Evacuation is directed to a CCP along the

main withdrawal route. The HSS plan should include the requirement for MTFs to leapfrog to ensure that the next rearward location is always occupied by a facility prepared to function before the forward location closes down. Should the OPLAN include the rearward passage of lines, the HSS plan for both formations should specify that the passing formation shall transport its own patients to the rear.

Withdrawal Preparation. The Bde Surg ensures that the preparation for the withdrawal includes distribution of extra consumable health service supplies and nonexpendable exchange items to each HSS unit or element. This special allotment is required to overcome abnormal isolation of treatment elements and the intermittent operation of the evacuation system in the withdrawal. The Bde Surg allocates a greater portion of ambulance resources forward and coordinates the contingency plans to augment evacuation with nonmedical transportation. All available air ambulances are used to reduce the time between injury and treatment.

HSS in the Defense.

General. Defensive operations are varied actions to prevent, resist, repulse, or destroy an enemy attack. The fundamental forms of defense are mobile with no fixed front and static area defense. HSS during the defense must be flexible and mobile due to the depth and dispersion of the mobile defense. Planning must ensure that the different zones of operations have sufficient HSS resources, including reserves, until areas of casualty density are defined.

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Unit Med Pl. The unit Med Pl is centrally located for protection and for shorter evacuation routes. The normal evacuation sequence is maintained with unit resources bringing the patients to the UMS. Ambulances from the ambulance company collect the casualties from the UMS and transport them to the BMS. The unit Med Pl is mobile and can provide basic tailgate support.

Fd Amb. The Fd Amb establishes one or more BMS to the rear to avoid interference with the reserve force. The commanding officer initially sends out staging facilities formed from sections of the Med Coy until casualty densities are established. A reserve of ambulances is retained until the direction and scale of the enemy attack is known.

Bde Surg. The Bde Surg assesses the importance of the reserve combat forces role in the defense and includes that assessment in the HSS plan. Some of the resources from the Fd Amb are withheld initially for immediate commitment in support of the reserves or to upgrade the BMS. Should the evacuation system be disrupted, surgical and patient holding teams are detached forward from a FH to form an advanced surgical center (ASC) at the BMS.

HSS in Parachute Operations.

Role 1. The parachute companies of the light infantry battalions have organic HSS. Evacuation vehicles are light and have the capability to be air-dropped along with pallets of HSS supplies. Company medical assistants treat patients at the drop zone and leave markers to identify their locations. Casualties

are moved to a CCP or UMS by stretcher bearers in nonmedical vehicles, as required. During the initial assault phase, patients requiring evacuation from the airhead are gathered on the landing strips in the brigade area and are airlifted to MTFs in the CZ or COMMZ.

Role 2. Once an airhead has been established, the supporting Fd Amb employs a medical station near the landing zone located centrally in the force sector. The Fd Amb may be reinforced by other second- or third-line HSS resources to assist in holding, stabilizing, and loading patients.

HSS in Other Operations.

Assault River Crossing. To provide treatment and reduce cross-river evacuation, elements of the Fd Amb cross as soon as operations allow. Maximum use of AME resources prevents excessive build up of patients in far-shore medical stations. Near-shore medical stations are placed as far forward as the assault operations permit.

Operations in a Special Environment.

- Mountain. HSS is characterized primarily by the difficulties encountered in movement. The inaccessibility of certain regions restricts evacuation and treatment capabilities. AME is the primary means for safe and rapid HSS.
- Cold weather and arctic. Combat troops and HSS personnel should have training, experience, and self-confidence in their ability to work in adverse weather conditions. Through practice and experience, many cold weather injuries can

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Canadian Army HSS Organizations and Functions

be prevented. Provisions are made for heated shelters at frequent intervals along the evacuation route. Special over-snow vehicles for surface evacuation are required when air transport is not feasible. Heated panniers are used to protect HSS supplies.

Fighting in Built-up Areas. These operations are dominated by the influence of man-made features concentrated along natural terrain corridors that offer the defender an in-depth system of battle positions. This leads to communication and transport difficulties, resulting in the separation and isolation of units. Normal organic HSS resources and area support are augmented with personnel, equipment, and increased HSS supply levels. Personnel are assigned to restore public facilities to alleviate some of the HSS required for civilian casualties.

Units and Formations Detached to Other National Forces.

Attached Units. When a unit or formation of one nation is attached to another nation's forces, it should be self-sufficient. Problems that may occur with incompatible systems or communications must be resolved prior to the operation. The social medical officer of the detached unit must liaise with the commander of the HSS unit to which the unit is attached.

Any additional transportation required by the detached unit is provided by its parent formation.

Evacuation. Doctrinal differences in patient evacuation between the nations may cause a break in the evacuation system. This situation

must be resolved prior to the commencement of the operation.

MEDICAL TREATMENT

Medical care/treatment is organized into roles of support. It is designed to provide continuous care, protection, and hospitalization of all military personnel, both allied and EPW, and affected civilians. Treatment begins at the point-of-injury with buddy aid or self-aid. All military personnel are trained in combat first-aid. Treatment facilities may be bypassed at any time during the evacuation process depending on the patient's condition. HSS organizations/treatment facilities within the CA treatment and evacuation system are--

Unit Med Pl. The unit Med Pl (Figure 7-2) is an integral medical element in major units, capable of providing Role 1 treatment from a UMS. Patients are initially given first-aid/buddy aid, then collected together, sorted into priorities for treatment and evacuation, provided with EMT, and prepared for evacuation. An important part of this preparation includes the prevention and treatment of shock. Treatment at this role includes the beginning of IV fluid administration, the control of hemorrhage, and the establishment of an airway.

Fd Amb. The Fd Amb is the main second line health services organization. The Fd Amb is tailored to provide Role 2 support to a Bde Gp. The Fd Amb Med Coy (Figure 7-3) has four Med Pls, each of which is capable of operating a BMS. One or more of the Med Pls may deploy forward to maintain appropriate intervals between staging facilities.

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Medical Sections. Each Med Pl has two medical sections, each of which may operate a staging facility. Patients requiring resuscitative and stabilizing treatment before proceeding further in the evacuation chain will be treated at this role. The BMS has a limited evacuation policy of up to 72 hours capability which is dictated by its required mobility and the tactical situation. An ASC may be located at the BMS from a FH to provide surgical support as required.

EVACUATION AND MEDICAL REGULATING

Ground Evacuation. Evacuation of patients is normally accomplished by the next higher role of HSS. However, the unit is responsible for moving patients from the point-of-wounding to a UMS, where Role2 evacuation elements from the Fd Amb take over. The key to this evacuation system is the strict control of ambulance movement through an ambulance shuttle system. Ambulances must not be permitted to sit idly in the rear area while patients accumulate in either the UMS or the BMS. Patients are transported to the BMS for stabilization or resuscitation if required, or to a Role 3 treatment facility should immediate lifesaving surgery be required. Figure 7-4 shows how evacuation resources are utilized and Figure 7-5 depicts a medical evacuation in a CZ.

AME. The use of air evacuation is the preferred method of evacuation as it increases the responsiveness and flexibility of the system. The primary mission of the air ambulance units is to provide AME for selected patients. The secondary mission is to

provide emergency movement of HSS personnel and equipment and the uninterrupted delivery of blood and medical supplies.

AME within the CZ is provided primarily by helicopters. Patient destination is based on patient needs and the location of supporting MTFs.

Medical Regulating. Medical regulating within a TO--

Controls, reports, coordinates, and processes requests for patient movement to patient treatment facilities. It is most effectively accomplished when it functions from the headquarters, which controls the evacuation means and the destination MTF. Thus, medical regulating to Role 3 MTFs supporting the CA Bde Gp would be accomplished by allied resources.

ADDITIONAL MEDICAL SERVICES

Dental Services. A dental platoon is integral to the Fd Amb, providing Role 1 and 2 dental support to the brigade group. Dental services promote and maintain a high standard of oral hygiene. During combat, dental emergencies, including both disease and trauma, are treated on a continuing basis. Treatment of maxillofacial wounds is undertaken in cooperation with the medical services at MTFs. Prior to and after combat, routine dental treatment is provided to eliminate dental disease and restore optimum function. The dental platoon provides paramedical assistance during periods of intense combat when medical resources are likely to become overextended.

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PVNTMED Services. The CA Forces train its personnel in personal hygiene and provide basic PVNTMED training in environmental and occupational hazards. Included in each major Role 1 field unit is a PVNTMED technician to provide--

Advice on PVNTMED matters to the unit.

Technical supervision of PVNTMED measures used in the unit.

Control of vectorborne and foodborne diseases.

Professional supervision of communicable programs such as immunizations.

Testing of water sources and recommending methods of purification.

Technical advice on PVNTMED aspects of NBC operations.

Technical consultation concerning selection of bivouac sites, refugee camps, and EPW compounds.

Technical supervision of the disposal of all forms of waste.

Laboratory Services. Laboratory services are a third-line resource and therefore not included in the CA ABCA structure.

Blood Bank Services. Blood bank services are a third-line resource and are therefore not included in the CA ABCA structure.

Optometric/Optical Services. Optometric/optical services area a third-line resource and are therefore not included in the CA ABCA structure.

Pharmaceutical Services. The CA HSS system does not employ separate pharmaceutical units. The medical materiel support for each unit is an integral part of the HSS system and is managed by pharmacists. The pharmacist in Role 2 facilities provides specialty services in HSL.

HEALTH SERVICE LOGISTICS

General. Health services materiel support is an integral part of the HSS system. Included under the broad heading of medical materiel is medical equipment (e.g., surgical instruments and panniers), major items (e.g., x-ray machines), and consumable medical items (e.g., pharmaceuticals, dressings, blood substitutes, and medical gases). The HSL units are under the control of the medical commander at each role and are established forward along the patient evacuation routes to control the storage and distribution of medical materiel. The medical materiel replenishment system is managed separately from the general supply system, so patient evacuation transportation can be used for both delivery and backloading of health services materiel.

Medical Stores/Resupply. Replenishment of materiel is normally done by the next rearward treatment facility and/or a HSL facility using returning evacuation platforms. To minimize the depletion of forward health services stocks, the principle of property exchange applies throughout the evacuation system for

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Canadian Army HSS Organizations and Functions

fast moving items (e.g., litters, blankets, and splints). The following is the unit health services materiel resupply procedure:

Unit Med Pl. The unit Med Pl holds a basic load of 3 days and receives resupply from the Fd Amb.

Fd Amb. The Fd Amb holds a basic load of 3 days, plus 1 day of resupply for each Med Pl supported, and receives supplies from a supporting HSL facility. Thus, a total of 4 days of health services materiel is held organic to the Bde Gp.

Medical Equipment Preventive Maintenance and Repair. HSS units are capable of providing routine preventive maintenance for medical equipment. Equipment beyond their capability is backloaded to a supporting ABCA HSS maintenance facility.

COMMUNICATIONS/LIAISON

Communications.

Medical Headquarters. Medical headquarters establish and maintain communications from higher to lower headquarters and from left to right adjacent headquarters at the same level. Additionally, these headquarters have the capability to establish communications with airmobile rescue operations and the medical services of other allied units and national forces.

Combined Force. When operating as part of a combined force the communication electronic instructions are exchanged, radio and field telephone systems are checked to ensure

compatibility, and headquarters communications staffs coordinate and ensure that sufficient frequency and band spectrum are available.

Liaison.

Allies. The provision of HSS is in principle a national responsibility. However, it has been agreed that ABCA nations will provide HSS to patients of other nations on the same basis as they would provide for their own personnel. The agreements include, but are not limited to--

- Mutual assistance in patient care and evacuation.
- Transfer of patients to NHS facilities/installations.
- Mutual assistance with health services materiel.
- Coordinated actions in communicable diseases and vector control.
- NBC protection.
- Information/support by liaison teams.

Implementation. The implementation of these agreements is affected by the HSS commander who will, where necessary, detail liaison teams. For other member nation's casualties in the CA system, transfer of patients to national medical facilities or installations may be delayed until arrival in continental North America.

Communications Between ABCA Armies Medical Services. CA has a mixture of secure and unsecure sets similar to the US. The UK has a grid system covering their AO that allows automatic re-routing of transmissions outside the grid system. CA radio

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Canadian Army HSS Organizations and Functions

communications systems are generally unsecured in HSS facilities in the FCZ. However, CA is capable of providing secure communications as required.

HSS IN AN NBC ENVIRONMENT

General. The tasks of the HSS in NBC environments are the same as in conventional warfare. HSS elements carry out the same functions with significant modifications that include--

- Management of patients to minimize disease and injuries from NBC weapons.
- Provision of HSS under mass casualty situations.
- Protection of HSS personnel.

Treatment. Basic buddy/self-aid is still essential in NBC environments. Initiating wound dressings, IV fluids, pain management, and the reduction of shock can still be managed in the forward areas, taking into account the time needed to partially decontaminate patients. Complete decontamination at formation facilities allows HSS personnel to carry out more comprehensive lifesaving medical treatment.

Management in the Field. Decontamination of patients using formation resources is required before any significant treatment or evacuation can take place. Partial decontamination may be required in order to give emergency treatment, with complete decontamination to follow. HSS resources are not used to decontaminate other units or those casualties who are capable of doing so themselves. The NBC full or half bags may be

used as far forward as the UMS for partially decontaminated patients. An NBC decontamination unit may be attached to a Fd Amb. This unit normally carries certain specialty items such as detection devices, COLPRO shelters, NBC suit shears, electronic heart sensor for use outside of the suits, and blood pressure clamps. It may also include an enlarged treatment facility with COLPRO.

Evacuation. Ambulances forward of the BMS or in an area of NBC attack are presumed to be contaminated. Patients being evacuated in clean vehicles must remain protected against recontamination or chemical attack. Ambulance, both tracked and wheeled, should have the capability of providing this protection through positive pressure and filtered ventilation. Evacuation may be contraindicated during a biological attack in order to restrict the spread of contamination.

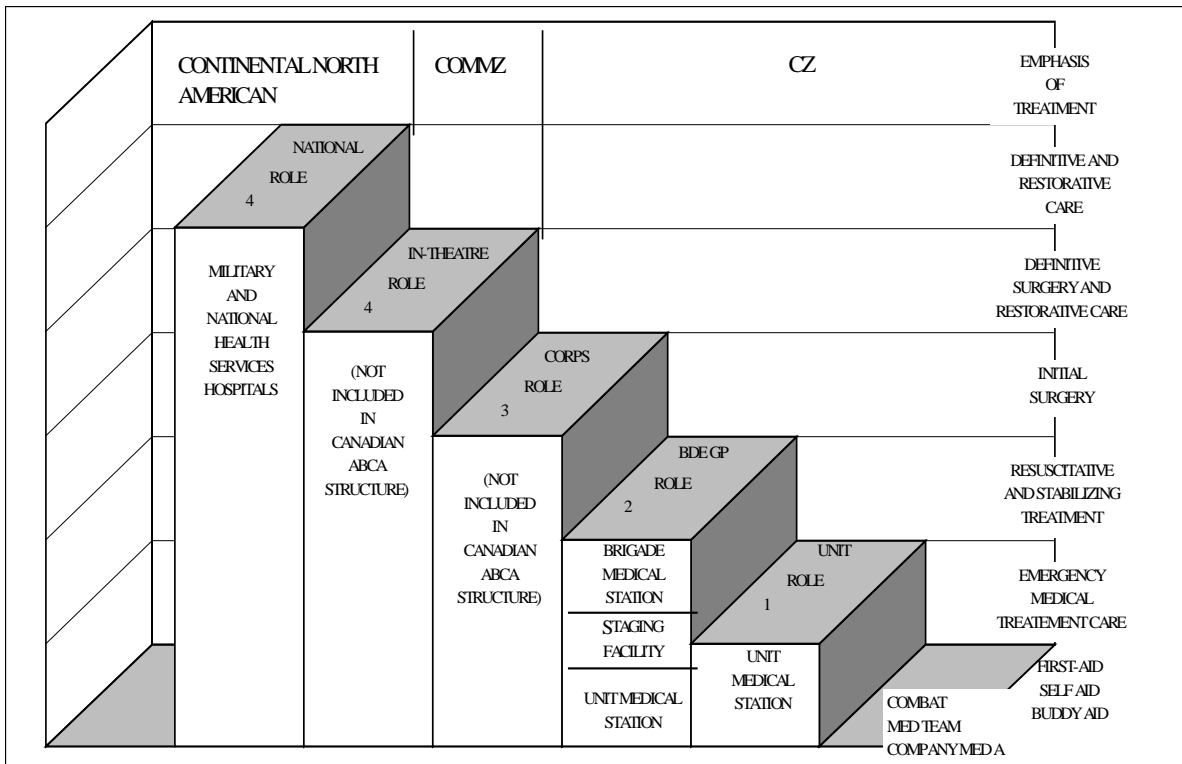


Figure 7-1
Canadian Roles of Care

NOTES:

- 1 UMS
 - ONE MEDICAL OFFICER
 - ONE SGT MEDICAL ASSISTANT
 - ONE MCPL PREVENTIVE TECHNICIAN
 - TWO MCPL MED A
 - TWO CPL MED A
 - FOUR C/P DVR
- 2 CBT MED TEAMS
 - TWO MCPL MED A
 - FOUR CPL MED A
 - FIVE C/P DVR
- 3 STRETCHER BEARERS
 - 2 PER PLATOON
 - 4 AT UMS
- 4 VEHICLES
 - 1 21/2T VAN WITH TLR
 - 1 CARGO
 - 5 TRUCK LT VAN AMB
 - CARRIER AMB

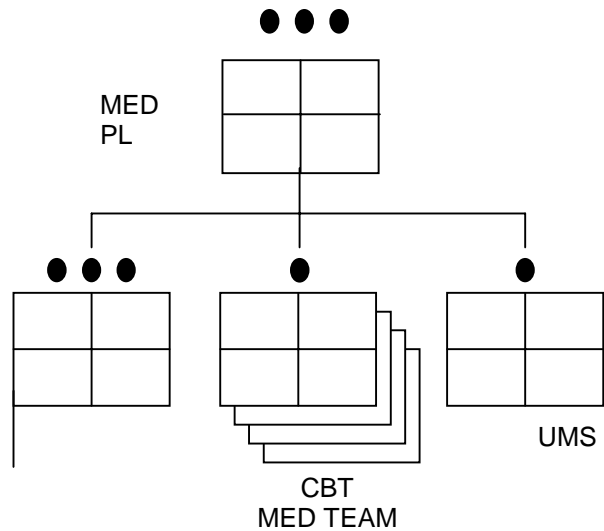


Figure 7-2
Unit Medical Platoon

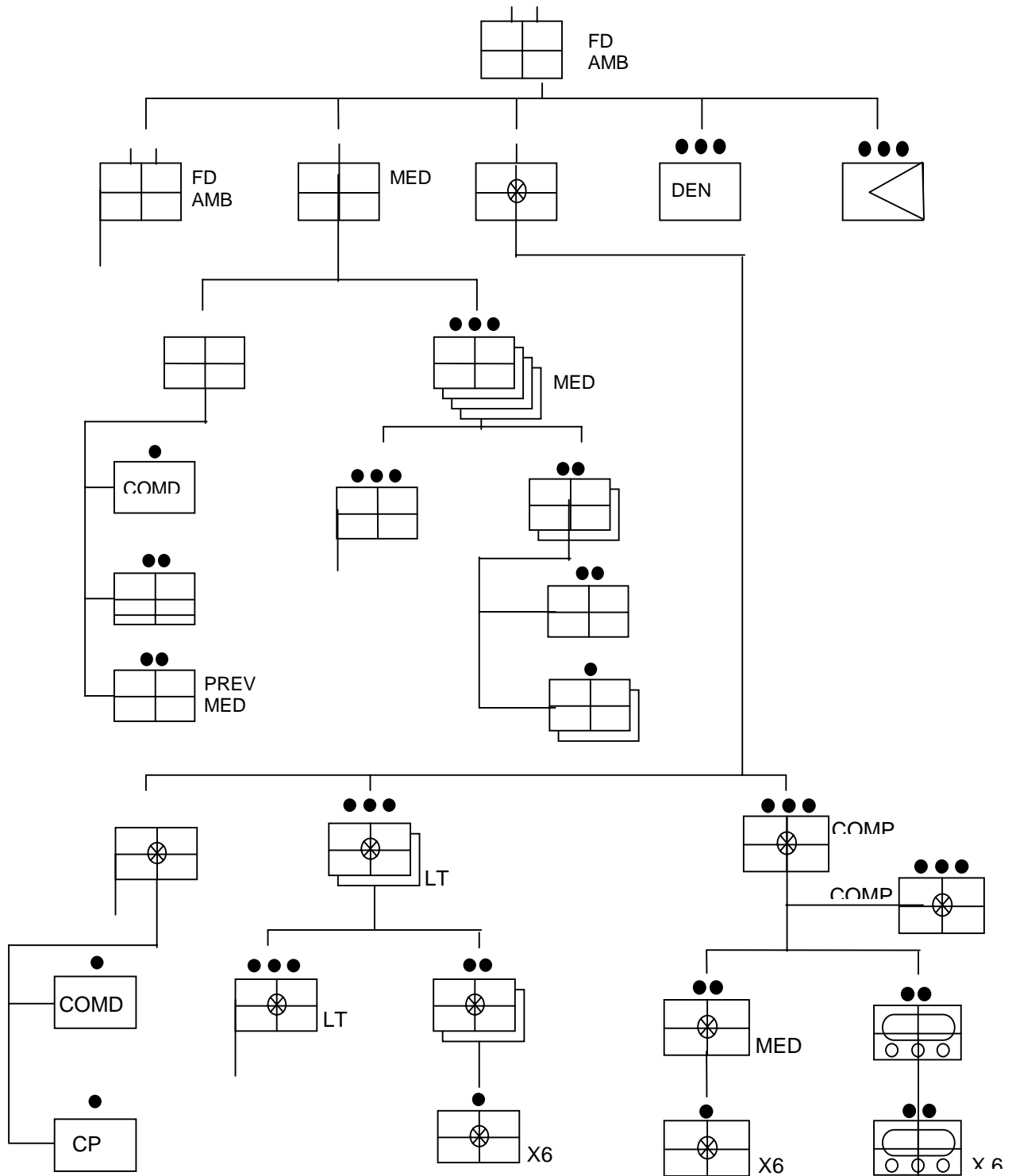


Figure 7-3
Field Ambulance Medical Company

VEHICLE/AIRCRAFT	GROUND		AIR	
	STRETCHER	SITTING	STRETCHER	SITTING
AMB M113A (TRACKED)	4	or 6		
AMB BISON	4	or 6		
AMB ILTIS (11/4T 4 x 4)	2	or		
AMB VAN (11/4T 4 x 4)	4	or 6		
AMB CUCV (11/4T 4 x 4)	4	or 6		
AMB UNIMOG (2T 4 x 4)	4	or 6		
AMB BUS	18	or 36		
2 1/2T VEHICLE	20	or		

Figure 7-4
Evacuation Resources

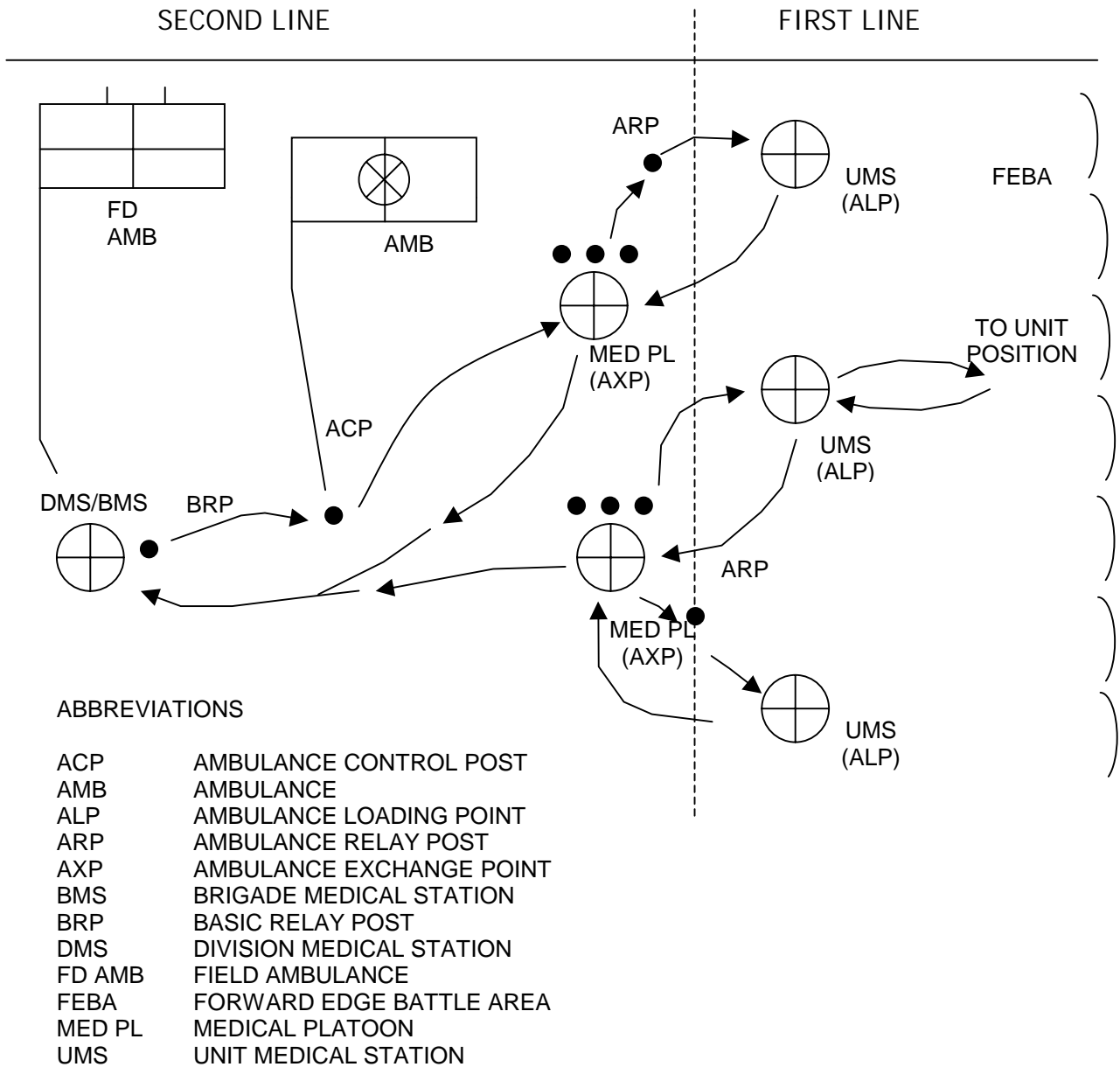


Figure 7-5
Medical Evacuation

CHAPTER EIGHT

AUSTRALIAN ARMY HEALTH SERVICE SUPPORT ORGANIZATIONS AND FUNCTIONS

GENERAL

This chapter portrays the AS Army’s HSS system operating within the ABCA Armies and the roles of support.

REGIMENTAL AID POST

Role. A RAP provides Role 1 medical support to its parent unit.

Characteristics. The size of the RAP varies with the type and size of the unit of which it is part. In an infantry battalion, the RAP is staffed by the medical platoon of the administrative company.

Tasks. The medical platoon of an infantry battalion has the following tasks:

Maintenance of health within the battalion.

Treatment of the minor sick.

Collection, documentation and provision of essential first aid to casualties.

Preparation of casualties for evacuation from the battalion area.

Capability. A RAP is capable of providing Role 1 medical support to its parent unit.

Allocation. All major units have a RAP. Smaller units normally have some integral medical support. Where this is not the case, personnel utilize other medical units for Role 1 medical care.

Organization. See Figure 8-1 in the Chapter Annex.

BRIGADE ADMINISTRATIVE SUPPORT BATTALION MEDICAL COMPANY

Role. The brigade administrative support battalion (BASB) Med Coy is a Role 2 subunit, which provides collection, evacuation, and treatment of casualties. The BASB Med Coy also provides advice to supported commanders on measures designed to promote health and to prevent disease in independent brigade operations.

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Chapter Eight

Australian Army HSS Organizations and Functions

Tasks. The tasks of the BASB Med Coy in independent brigade operations are--

Evacuating casualties from unit medical establishments (RAPs).

Acting as a RAP for local units without an RMO on establishment.

Treating and RTD those personnel who are fit for duty.

Holding minor sick and injured, when necessary.

Preparing patients for further evacuation.

Providing technical supervision of preventive health personnel assigned in support.

Capabilities. BASB Med Coys can provide Role 2 HSS to an independent brigade but, to remain effective during prolonged periods of intense activity, require--

Rapid and continual evacuation from treatment sections.

Augmentation of personnel, equipment, evacuation transport, and stretcher and blanket pools at evacuation loading and unloading terminals.

Guaranteed resupply of medical stores.

Characteristics. The characteristics of the BASB Med Coy are as follows:

It is not administratively self-contained.

It is a mobile subunit with the capacity to hold 75 patients on stretchers for short periods.

The unit has no surgical capacity, but it may foster a parachute surgical team (PST) for short periods pending deployment of a FH.

The treatment sections can operate independently and include limited diagnostic facilities, but when deployed, sections require administrative support.

The evacuation section with its ambulance vehicles provides a limited casualty evacuation capability.

A health officer is included in the establishment to advise units on preventative health measures.

Organization. See Figure 8-2.

FIELD AMBULANCE

Role. A Fd Amb is a Role 2 unit which provides collection, evacuation and treatment of casualties, and advice to supported commanders on measures designed to promote health and to prevent disease in operations other than independent brigade operations.

Characteristics. A Fd Amb is a mobile, self-contained unit with the capacity to hold 75 patients on stretchers for short periods. This capacity may be varied by the attachment or detachment of treatment sections. Other major characteristics include the following:

The unit has no surgical capacity. However, in exceptional circumstances, it may foster a surgical element for short periods pending deployment of a FH.

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The treatment sections can operate independently; they include limited diagnostic facilities. When deployed, the treatment sections require administrative support.

The evacuation section with its ambulance vehicles provides a limited casualty evacuation capability.

A health officer is included in the establishment to advise units on preventive health measures.

Tasks. Fd Ambs are responsible for--

Evacuating casualties from unit medical establishments (RAPs).

Acting as a RAP for local units without a RMO on establishment.

Treating and RTD those personnel who are fit for duty.

Holding minor sick and injured, when necessary.

Preparing patients for further evacuation.

Providing technical supervision of preventive health personnel assigned in support.

Capabilities. Fd Ambs can provide Role 2 HSS to a brigade; however, to remain effective during prolonged periods of intense activity, they require--

Rapid and continual evacuation from treatment sections.

Augmentation of personnel, equipment, evacuation transport and stretcher and

blanket pools at evacuation loading and unloading terminals.

Guaranteed resupply of medical stores.

Organization. See Figure 8-3.

FIELD HOSPITAL

Role. A FH is a Role 3 medical unit that provides first formal surgery, including IWS and hospitalization for the SI in the joint force area of operations (JFAO).

Characteristics. A FH is a mobile, self-contained unit without sufficient transport to move itself. It does not have the ambulance resources to participate in the casualty evacuation plan. Major characteristics are--

The medical company contains both medical and surgical elements. It has four treatment sections and an intensive care section totaling 110 beds.

The treatment sections may be detached or supplemented from other sources, varying the total bed capacity. Care must be exercised to ensure that the effectiveness of the hospital is not diminished by detaching components.

The unit has three operating teams. In emergency situations, one may be detached to support other field medical units.

The diagnostic facilities (pathology and x-ray) are available and can be included in any detachment to support another field medical unit.

Tasks. FHs are to--

Receive casualties evacuated from Fd Ambs, BASB Med Coy, and other sources.

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Treat and care for sick and injured patients so that they can be RTD, or stabilize them for further evacuation.

Provide a limited central sterilizing service for other field medical establishments and a laundry service for hospital lines.

Act as a RAP for local units without an RMO on establishment.

Provide support to Fd Ambs and BASB Med Coy by augmenting them with surgical and patient care facilities in exceptional circumstances.

Provide dental services.

Capabilities. In conjunction with a Fd Amb, the FH can provide support to a brigade under normal activity rates.

Organization. See Figure 8-4.

FORWARD GENERAL HOSPITAL

Role. A forward general hospital (FGH) is a Role 4 HSS unit that provides comprehensive medical and specialist services in the AO.

Characteristics. A FGH is a self-contained unit capable of deployment. Its other major characteristics are--

It has a capacity of 300 beds for the more SI and injured.

It may be augmented, after deployment, to a total capacity of 500 beds.

It is transportable, but not self-mobile, requiring logistic support for movement.

It can be accommodated in a mix of expandable shelters, tentage, and fixed buildings.

Tasks. FGHs are to provide comprehensive medical and specialist surgical treatment within a JFAO, prepare casualties for evacuation, and provide a specialist referral service for other medical units and a RAP for local units without an RMO on establishment.

Capability. FGHs are capable of providing medical and specialist surgical support in a JFAO.

Allocation. One per brigade deployed.

Organization. See Figure 8-5.

FORWARD SURGICAL TEAM

Role. A FST is a Role 3 HSS unit that provides forward surgical support in the JFAO.

Characteristics. A FST is a lightly scaled, rapidly deployable unit with the following characteristics:

It will normally be attached to a Role 2 medical facility such as a Fd Amb or BASB Med Coy; it relies on the host unit to provide administrative and logistic support.

It has limited pathology and x-ray services and has no evacuation capacity.

It can receive and treat small numbers of surgical casualties on an ongoing basis, or manage a casualty surge for a period not normally exceeding 24 hours.

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It can perform up to 12 IWS operations or resuscitate up to 36 priority one or two casualties in a 24-hour period.

Casualties treated by an FST will normally require subsequent evacuation to and further treatment in a FH.

It is deployable by air, land, or sea.

Tasks. An FST provides Role 3 HSS facilities to independent brigade operations where LOC extend casualty evacuation times to Role 3 medical care, beyond normally accepted limits. Tasks are likely to include triage and resuscitation, IWS, short-term post-operative holding, treatment of post-operative surgical and emergency medical patients, and preparation of patients for evacuation.

Allocation. An FST can be allocated on the basis of one per independent brigade deployed.

Organization. See Figure 8-6.

PARACHUTE SURGICAL TEAM

Role. A PST provides Roles 1 and 2 medical support to an independent parachute battalion group.

Characteristics. A PST is an airborne, lightly scaled unit, which is rapidly deployable by air, land, or sea and has the following characteristics:

It is medically self-sufficient for periods of up to 72 hours but requires local administrative support for its members and patients and, therefore, would normally be attached to the battalion RAP or

collocated with administrative support elements.

For planning purposes, its surgical section is capable of performing up to 70 operations in a 72-hour period.

It has the capacity to hold and treat up to 70 surgical and medical patients for short periods pending their evacuation from the battalion AO.

It has limited sterilizing, radiography, and pathology capability.

It has only limited mobility using organic vehicles.

Tasks. A PST provides--

Role 2 HSS to an independent battalion group by assisting the battalion's Med Pl with the evacuation of casualties within the battalion AO and augmenting the RAP in the treatment of minor sick and injured.

Role 3 HSS to an independent battalion group, including triage and resuscitation, IWS, post-operative holding and treatment, and holding and treatment for medical patients, including the minor sick.

Allocation. A PST is allocated on the basis of one per parachute battalion group.

Organization. See Figure 8-7.

PREVENTIVE MEDICINE COMPANY

Role. A preventive medicine company (PMC) assists in the conservation of manpower by promoting prevention of disease through study, evaluation, and control of environmental factors affecting the health of troops in a JFAO.

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Characteristics. A PMC is a specialist unit staffed and equipped to provide professional technical advice and preventive/remedial measures associated with the promotion of health and prevention of disease. Further characteristics are that--

The PMC is mobile and self-contained.

The hygiene sections can operate independently.

The laboratory section has the capacity to carry out occupational health and entomological investigations and analytical chemistry.

The field epidemiological section can conduct surveys and investigate specific health problems.

Tasks. A PMC undertakes tasks which include--

Surveying and investigating in its AOR.

Advising on local health problems and supervising sanitary engineering works necessary for disease control.

Collecting, collating, analyzing, and disseminating health intelligence, in conjunction with formation medical staff.

Investigating the presence and local habits of disease-carrying insect and animal vectors and supervising and assisting with measures for their control, with special emphasis on malaria.

Investigating and advising on matters related to occupational health.

Conducting research when appropriate.

Assisting with the instruction of units in the principles and practice of health and disease prevention in the field.

Capabilities. The company can provide PHS of a technical nature within the JFAO.

Allocation. PMCs are allotted on the basis of one per brigade within the JFAO.

Organization. See Figure 8-8.

BRIGADE ADMINISTRATIVE SUPPORT, BATTALION DENTAL COMPANY

Role. A dental company provides up to Role 3 dental support to a brigade-sized formation.

Characteristics. The dental company is highly mobile and versatile in its capability to deliver dental care at different HSS roles. It requires administrative fostering by the unit or formation supported. Individual dental sections may be deployed in support of smaller units or battalion-sized groups.

Tasks. The tasks of a dental company are to establish and maintain dental health, minimize the loss of manpower through dental causes, and assist the medical services in emergency or disaster situations.

Capability. The dental company can provide up to Role 3 dental support dependent on its scaling of dental equipment.

Allocation. One dental company is allocated per brigade. Dental sections are allocated one section per 1000 dentally fit troops or one section per 650 dentally unfit

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troops. Dental sections are usually collocated with elements of the BASB, but may be deployed with other units or formations being supported.

Organization. See Figure 8-9.

STRESS MANAGEMENT TEAM

Role. A stress management team (SMT) provides psychological advice to commanders and their staffs within a JFAO.

Characteristics. The SMT is not administratively self-contained, is capable of operating with other HSS units or elements, and has limited diagnostic capability but can provide immediate crisis counseling.

Tasks. The SMT is tasked to provide advice and assistance in the identification and management of CSRs, psychological assistance in the treatment of medical casualties, the education of personnel in the prevention of CSRs, and conduct debriefings in accordance with critical incidence stress management procedures.

Organization. The SMT is comprised of one officer and four other ranks.

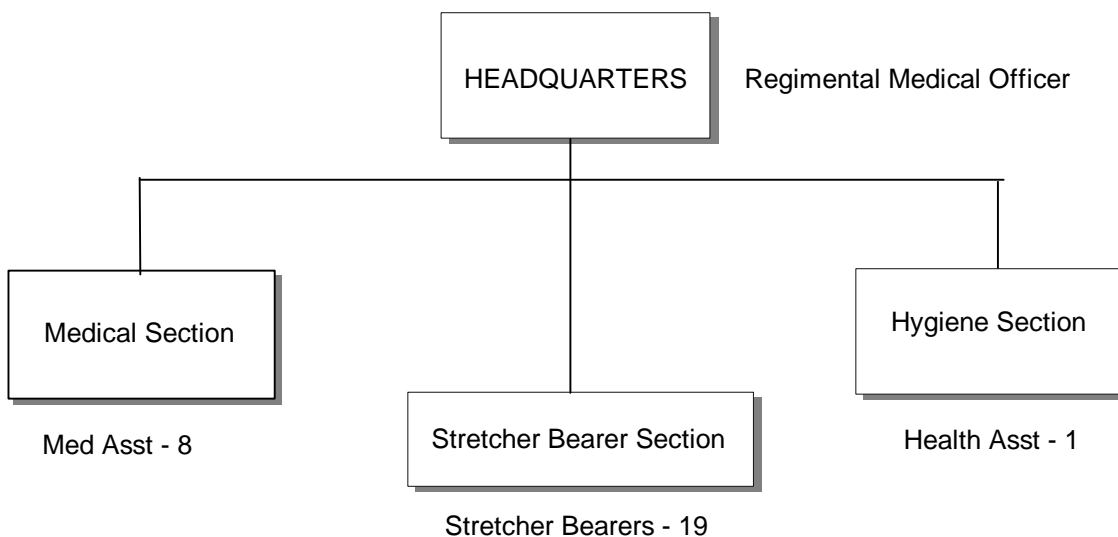


Figure 8-1.
Organization of the RAP of an Infantry Battalion

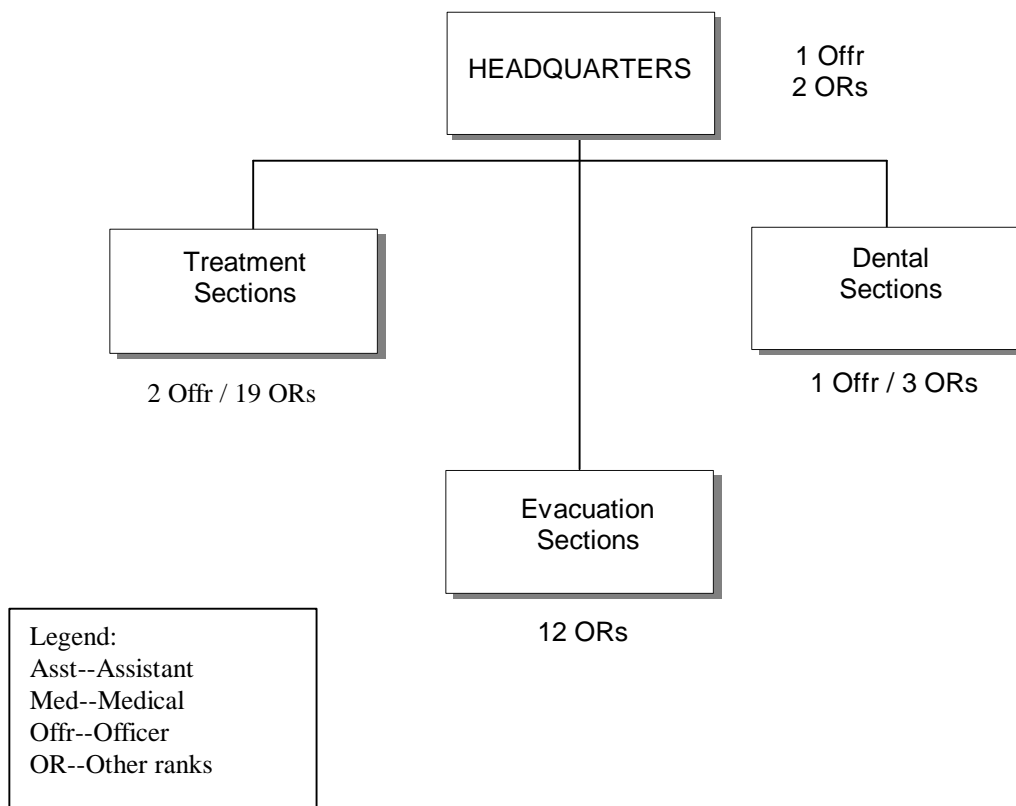


Figure 8-2.
Organization of a BASB Med Coy

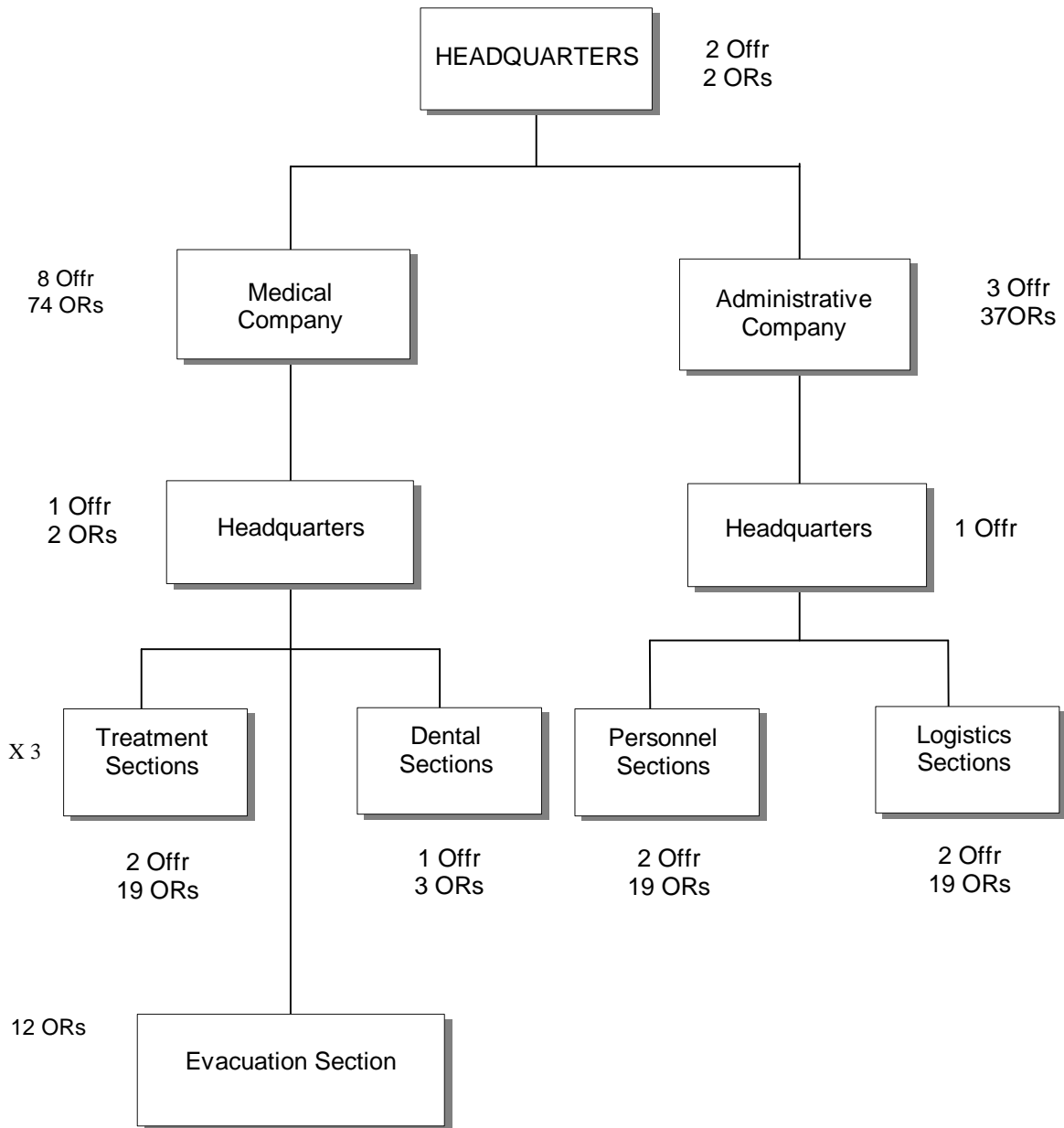


Figure 8-3.
Organization of a Field Ambulance

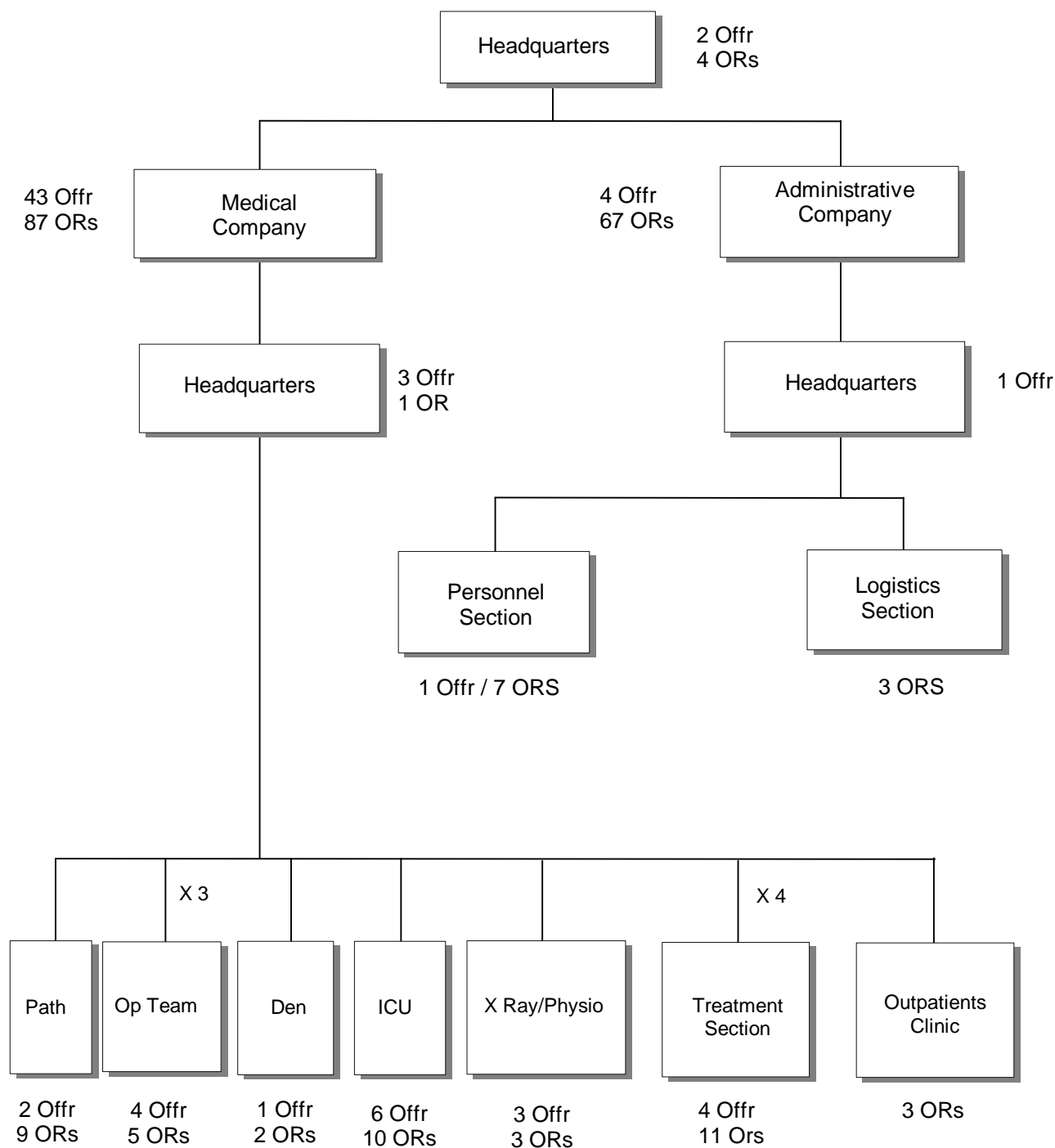


Figure 8-4.
Organization of a Field Hospital

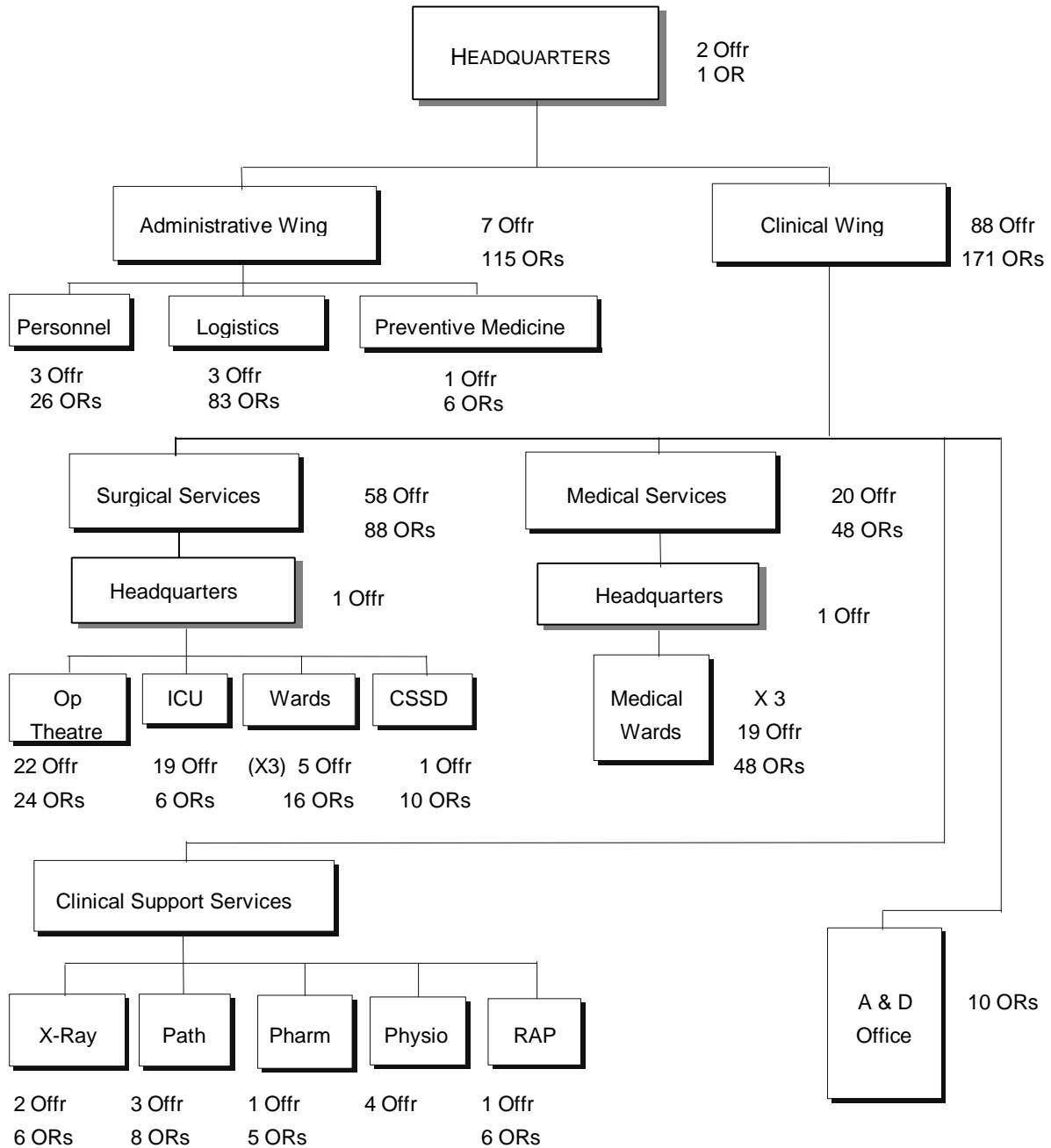


Figure 8-5.
Organization of a Forward General Hospital

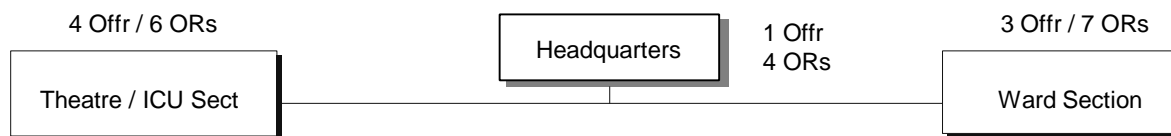


Figure 8-6.
Organization of a Forward Surgical Team

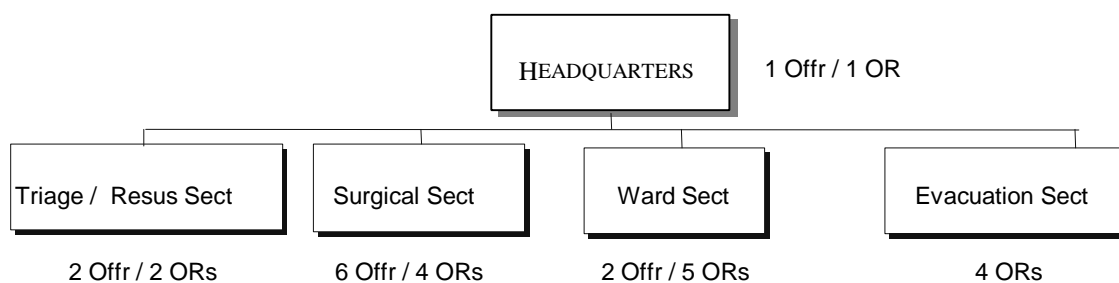


Figure 8-7.
Organization of a Parachute Surgical Team

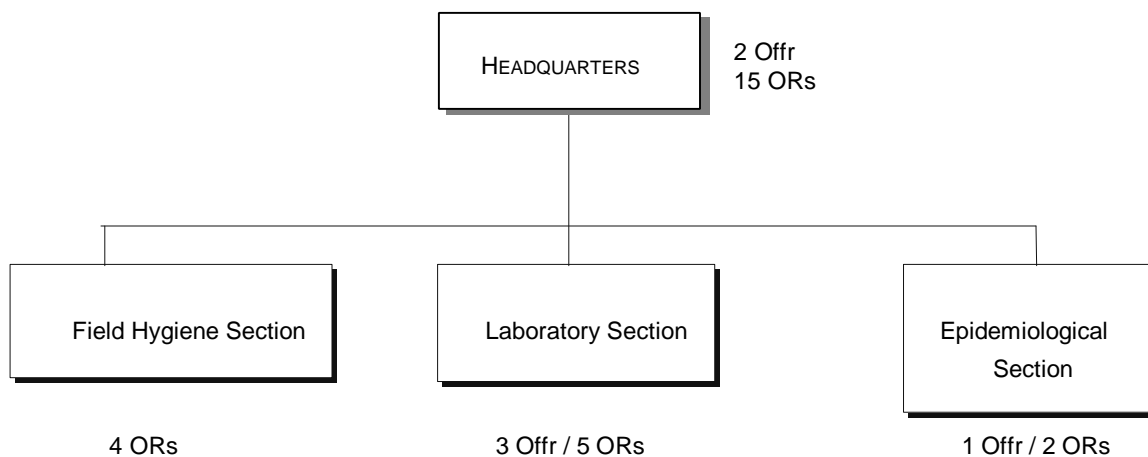


Figure 8-8.
Organization of a Preventive Medicine Company

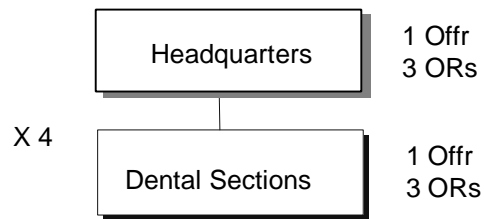


Figure 8-9.
Organization of a Brigade Administrative Support
Battalion Dental Company

APPENDIX A

DISEASE CODES

This appendix provides a listing of the disease codes used by the ABCA Armies. When using these codes, all three digits are to be used.

Table A-1. Disease Codes

DISEASE	CODE	DISEASE	CODE
Cholera	001	Rubella	056
Typhoid and paratyphoid fevers	002	Yellow fever	060
Other salmonella infections	003	Dengue	061
Bacillary dysentery	004	Viral encephalitis (unspecified)	065
Bacterial food poisoning	005	Infectious hepatitis	070
Amoebiasis	006	Epidemic parotitis	072
Other enteric infections	008	Mononucleosis	075
Pulmonary tuberculosis	010	Epidemic louseborne typhus	080
Plague	020	Rickettsiosis	082
Tularemia	021	Q-fever	083
Anthrax	022	Malaria	084
Brucellosis	023	Relapsing fever	087
Melioidosis	024	Syphilis	090
Diphtheria	032	Blennorrhoea (gonorrhoea)	098
Scarlet fever	034	Venereal ulcers	099
Erysipelas	035	Leptospirosis	100
Meningococcal infection	036	Schistosomiasis	120
Tetanus	037	Pediculosis	132
Acute poliomyelitis	045	Scabies	133
Smallpox	050	Influenza	487
Chicken pox	052	Other (If this code is used, give details)	989
Measles	055		

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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(J)	(K)
1	230	Morphia Dosage		US	Current	23 Jan 85 (Ed 2)	US X X X UK X X X CA X X X AS X X X NZ X - -	Associated with STANAG 2350	No	Amndt 1 dated 27 Feb 90
2	236	Medical Gas Cylinders	G8e(1)	US	Current	8 Apr 71	US X X X UK X X X CA X X X AS X X X NZ X - -	Associated with STANAG 2121	No	Amndt 3 dated 14 Aug 89
3	245	Minimum Requirements for Water Potability and Long-Term Use	H31(4)	US	Current	10 Sep 85 (Ed 2)	US X X X UK X X X CA X X X AS X X X NZ X - -	Associated with STANAG 2136	No	STANAG under review
4	248	Identification of Medical Materiel to Meet Urgent Needs		US	Current	27 Sep 88 (Ed 2)	US X X UK X X CA X X AS X R NZ X - -	Associated with STANAG 2060	No	This QSTAG has not been amended since the issue of Ed 2 in Sep 88.
5	287	Procedure for Reporting and Initial Disposition of Unsatisfactory Medical Materiel		AS	Current	15 Jul 87 (Ed 3)	US X X X UK X X X CA X X X AS X X X NZ X - -	Associated with STANAG 2907	Yes	
6	288	Intravenous Replacement Fluids	G8e(2)	CA	Current	16 Jan 74	US X X X UK X X R CA X X X AS X X NZ X - -		Yes	Amndt 3 dated 1 Aug 88
7	289	Minimum	G8g(2)	US	Current	12 Aug 91	US X X X		No	

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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(J)	(K)
		Essential Characteristics of Blood Produce Shipping Container				(Ed 3)	UK X X X CA X AS X X X NZ X - -			
8	290	Minimum Requirements for Controlled Temperature Storage and Transport of Medical Materiel		US	Current	16 Feb 89	US X X X UK X X X CA X X X AS X X X NZ X - -		No	Amndt 1 dated 7 Aug 89
9	291	Interface of Medical Materiel Procedures		AS	Current	5 Jun 74	US X X X UK X X X CA X X X AS X X X NZ X - -		Yes	Amndt 1 dated 14 Aug 89
10	292	Vaccination of Armed Forces		UK	Current	6 Aug 84 (Ed 2)	US X X X UK X X CA AS X X NZ - -	Associated with STANAG 2037	No	STANAG under review
11	322	Emergency War Surgery		UK	Current	19 Nov 73	US X X X UK X X X CA X X X AS X X X NZ X - -	Associated with STANAG 2068	No	Amndt 1 dated 19 Dec 86
12	344	Basic Voltage and Current Characteristics of Electro-Medical Equipment		AS	Current	7 May 85	US X X X UK X X X CA X X X AS X NZ X - -	Associated with STANAG 2905	Yes	Amndt 3 dated 27 Feb 90.To be reviewed upon cancellation of QSTAG 999

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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(J)	(K)
13	345	Essential Characteristics of High Pressure Steam Sterilizers		AS	Current	20 Jun 75	US X X X UK X X X CA X X X AS X R NZ X - -	Associated with STANAG 3906	Yes	Amndt 2 dated 14 Aug 89. To be reviewed upon cancellation of QSTAG 999
14	423	Equation of Medical Facilities in the Field		CA	Current	12 Aug 91 (Ed 2)	US X UK X X X CA X X X AS X X R NZ X - -	Associated with STANAG 2061	Yes	
15	433	Essential Performance Characteristics of Field Surgical Lights		CA	Current	28 Jun 77	US X X X UK R X X CA X X X AS X X NZ X - -		Yes	Amndt 1 dated 1 Jun 84. To be reviewed upon cancellation of QSTAG 999
16	434	Patient and Operator Protection from Failure of Electro-Medical Equipment		AS	Current	23 Jan 85	US X X X UK X X CA X AS X X NZ X - -		Yes	To be reviewed upon cancellation of QSTAG 999
17	435	Medical Materiel Management During Patient Evacuation		US	Current	12 Dec 78	US X UK X X X CA X X X AS X X X NZ X - -		No	Amndt 1 dated 2 Jun 84
18	436	Minimum		CA	Current	31 Jan 79	US X X		Yes	Amndt 1 dated 8 Oct 80

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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(J)	(K)
		Labeling Requirements for Medical Materiel					UK X X X CA X X X AS X X X NZ X - -			
19	440	Essential Characteristics of Electro-Surgical Apparatus		US	Current	20 Aug 79	US X X X UK X X X CA X X X AS X X X NZ X - -		No	Amndt 1 dated 14 Aug 89.To be reviewed upon cancellation of QSTAG 999
20	441	Essential Characteristics of Field X-Ray System		US	Current	20 Jul 79	US X X X UK X X X CA X X X AS X X X NZ X - -		No	To be reviewed upon cancellation of QSTAG 999
21	442	Essential Characteristics of Mobile and Portable Respirator/ Ventilators		US	Current	19 Aug 81	US X X UK X X X CA X X X AS X X NZ X - -		No	Amndt 1 dated 8 Nov 82. To be reviewed upon cancellation of QSTAG 999
22	444	Essential Characteristics of Mechanical Lung Ventilators		UK	Current	22 Apr 85	US X X X UK X X X CA X X X AS X X X NZ X - -		No	To be reviewed upon cancellation of QSTAG 999
23	470	Documentation Relative to		UK	Current	23 Feb 79	US R R R UK X R X	Associated with	No	STANAG under review

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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(J)	(K)
		Medical Evacuation, Treatment, and Cause of Death of Patients					CA X X X AS X X R NZ X - -	STANAG 2132		
24	471	Supplementary Labels for Dispensed Medicine		AS	Current	20 Jul 79	US X X X UK R R R CA X X X AS X NZ X - -		Yes	
25	519	Stretchers	G8b(1)	UK	Current	20 Nov 85	US X X X UK R R R CA X X X AS X X X NZ X - -	Associated with STANAG 2040	No	Amndt 1 dated 13 Sep 90
26	529	Medical Employment of Air Transport in the Forward Area	G8b(4)	UK	Current	24 Mar 80	US X X X UK X X X CA X X X AS R R R NZ X - -	Associated with STANAG 2087	No	Amndt 2 dated 14 Aug 89
27	535	Medical Training in First Aid, Basic Hygiene and Emergency Care		CA	Current	12 Nov 79	US X R X UK X R X CA X X X AS X X NZ - -	Associated with STANAG 2122	Yes	Amndt 3 dated 27 Feb 90
28	536	Medical, Surgical		CA	Current	17 Jan 80	US X X X	Associated	yes	Amndt 3 dated

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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(J)	(K)
		and Dental Instruments, Equipment and Supplies					UK X X X CA R R R AS R R R NZ X - -	with STANAG 2127		27 Feb 90
29	622	Essential Characteristics of Surgical Instruments		US	Current	9 Aug 79	US X X X UK X X X CA X X X AS X X X NZ X - -		No	To be reviewed upon cancellation of QSTAG 999
30	623	Standard Method of Writing Prescriptions for Spectacles		UK	Current	27 Feb 90	US X X X UK X X CA R R R AS X X X NZ X - -	Associated with STANAG 2436	No	STANAG under review (includes contact lens & NBC mask inserts)
31	624	Medical Design Requirement for Military Motor Ambulance	G8b(6)	UK	Current	23 Aug 84	US X X X UK X X X CA X X X AS R R R NZ X - -	Associated with STANAG 2872	No	STANAG under review
32	650	Chemical Casualty Evacuation Bag	F6h(6)	UK	Draft				No	US NPOC to provide comment to UK
33	677	Resuscitation Materiel for Field Use		CA	Current	12 Aug 91 (Ed 2)	US R R R UK X X X CA R R R	Associated with STANAGs	Yes	

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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(J)	(K)
							AS X X X NZ X - -	2342 and 2871. Related to QSTAG 288, Ed 2.		
34	815	Blood Supply in the Area of Operations	G8g(3)	AS	Current	21 Oct 91	US X X X UK X X X CA X AS X X X NZ - -		Yes	
35	816	Medical Aspects of Mass Casualty Situations		UK	Current	25 Jun 87	US X X X UK X X X CA X X X AS X X X NZ X - -		No	Amndt 2 dated 27 Feb 90
36	850	Blood, Blood Donor, and Transfusion Equipment Requirements	G8g(1)	CA	Current	16 Feb 89 (Ed 2)	US R R R UK R R R CA R AS X R R NZ X - -		Yes	To be covered under JMC Blood Conference
37	889	Essential Field Sanitary Requirements		AS	Current	27 Sep 88	US X X X UK X X X CA X AS X X X NZ X - -		Yes	Amndt 1 dated 27 Feb 90
38	892	Prevention of Cold Injuries		US	Current	21 Oct 91	US X X X UK X X X	Associated with STANAG	No	

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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(J)	(K)
							CA X AS X X X NZ - -	2981, Ed 1		
39	893	Patient Management in Cold Climate		CA	Current	21 Oct 84	US X X X UK X X X CA X AS X X X NZ - -	Associated with STANAG 2981	Yes	
40	907	Patient Management in a Hot Climate		AS	Draft				Yes	Encompasses QSTAG 891 Prevention of Heat Related Injuries
41	908	Medical Warning Tag		UK	Current	16 Feb 89	US X X UK X X X CA R AS X X X NZ - -	Associated with STANAG 2347		Amndt 2 dated 25 Sep 90
42	909	Principles of Prevention of Combat Stress Reaction		CA	Current	Oct 91 (Ed 1)	US X R X UK X X X CA X X X AS NZ - -	Associated with STANAGs 2061, 2087, 2132, 2879, 2977, NS 3204	Yes	
43	910	Medical Regulation	D1g	AS	Current	Oct 91 (Ed 1)	US X R X UK X X X CA X		Yes	

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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(J)	(K)
							AS X R X NZ - -			
44	956	Medical Situation Reporting		CA	Draft				No	To be added to QSTAG 831??
45	999	Minimum Essential Characteristics of Field Medical and Dental Equipment		US	Draft				No	
46	1170	Common Minimum Requirements for Evacuation Request Messages		UK	Draft				No	
47	1171	Compatible Monitoring and Resuscitation Equipment Carried by Casualty Evacuation Aircraft and Vehicles		CA	Draft				No	
48	1201	Monitoring and Resuscitation Equipment Carried by Casualty	G8b(5)	AS	Draft				No	

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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(J)	(K)
		Evacuation Aircraft and Vehicles								
49	1202	Common Minimum Requirements for Health Surveillance	E1e(1)	AS	Draft				No	Subsumed Sub-Tasks E1e(3), (4) & (5)
50	1205	Minimum Medical Treatment Training Procedures and Standards	F6h(7)	CA	Draft			STANAG 2957	No	
51	1206	Common Blood Screening Standards and Interoperable Procedures	G8g(5)	AS	Draft				No	
52	1218	Minimum Requirements for Evacuation Request Messages	G8b(2)	UK	Draft				No	
53	1263	Common	G8a(1)	AS	Draft				No	

APPENDIX B
 QSTAG & QAP REPORT - QWG HEALTH SERVICE SUPORT EFFECTIVE DATE - 22 APRIL 97

Serial No.	QSTAG No.	TITLE	SUB-TASK	CUSTODIAN ARMY	STATUS	DATE SIGNED	PARTICIPANTS A N AF	RELATED DOCUMENTS	RESUME	REMARKS
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(J)	(K)
		Principles and Interoperable Procedures for the Critical Aspects of the Medical and Dental Treatment of Personnel								

APPENDIX C

QSTAG & QAP REPORT - QWG HEALTH SERVICE SUPORT EFFECTIVE DATE - 22 APRIL 97

Serial No.	QSTAG No.	TITLE	SUB-TASK	CUSTODIAN ARMY	STATUS	DATE SIGNED	PARTICIPANTS A N AF	RELATED DOCUMENTS	RESUME	REMARKS
(a)	(b)	©	(d)	(e)	(f)	(g)	(h)	(i)	(J)	(K)
1	44	Techniques and Procedures for HSS Unit Umpiring		UK	Current	14 Dec 88		No		
2	45	System of Medical and Dental Supply in the Area of Operation	G8e(3)	UK	Current	26 May 88		No		
3	60	Insecticides and Rodenticides and Insect Repellents		UK	Current	2 Aug 89		No	Amndt 1 dated 25 Sep 90	
4	61	Medical Aspects of NBC Defensive Operations	F6h(5)	AS	Draft					
5	82	Medical Interoperability Handbook		US	Draft				STANAG 3204	
6	211	Health Surveillance Reporting Formats and Databases	E1e(2)		Draft				Replaced QSTAG 1203	

GLOSSARY

PART I. ABBREVIATIONS AND ACRONYMS

ABCA	American, British, Canadian, and Australian
ABO	A, B, and O blood groups
ALP	ambulance loading point
AME	aeromedical evacuation
Amndt	amendment
AMS	Army Medical Service
AO	area of operations
AOR	area of responsibility
ARP	ambulance relay point
AS	Australia/Australian
ASC	advanced surgical center
ASMB	area support medical battalion
ASMC	area support medical company
ATM	advanced trauma management
AXP	ambulance exchange point
BAS	battalion aid station
BASB	brigade administrative support battalion
Bcas	battle casualty
Bde Gp	brigade group
Bde Surg	brigade surgeon
BF	battle fatigue
BFC	battle field casualty
BMS	brigade medical station
BRU	battleshock rehabilitation unit
BSA	brigade support area
BW	biological warfare
C2	command and control
CA	Canada/Canadian
CAP	company aid post
CCP	casualty collecting point
CMG	Canadian medical group
COLPRO	collective protection
COMD	command
COMMZ	communications zone
COMP	composite
CONUS	continental United States

GLOSSARY

COSCOM	corps support command
Coy	company
CP	command post
C/P	corporal/private
CPL	corporal
CRT	casualty treatment regime
CSC	combat stress control
CSSD	central sterile and supply department
CSH	combat support hospital
CSR	combat stress reaction
CTR	casualty treatment regimes
CW	chemical warfare
CZ	combat zone
Den	dental
Div	division
DNBI	disease and nonbattle injury
DOD	Department of Defense
DOW	died of wounds
DS	dressing station
DTG	date time group
EMT	emergency medical treatment
EPW	enemy prisoner of war
EVAC	evacuation
FCZ	forward combat zone
Fd Amb	field ambulance
Fd Hosp	field hospital
FEBA	forward edge of the battle area
FGH	forward general hospital
FH	field hospital
FMC	field medical card
FMED	field medical equipment depot
FPT	field psychiatric team
FSB	forward support battalion
FSH	forward surgical hospital
FST	forward surgical team (US); field surgical team (UK, NZ)
FW	fixed-wing
Fwd Gen	forward general hospital

GLOSSARY

Fwd Sqn	forward squadron
G1	Assistant Chief of Staff, G1 (Personnel)
G2	Assistant Chief of Staff, G2 (Intelligence)
G3	Assistant Chief of Staff, G3 (Operations)
G4	Assistant Chief of Staff, G4 (Logistics)
GH	general hospital
HHC	headquarters and headquarters company
HHD	headquarters and headquarters detachment
HN	host nation
HNS	host nation support
HSC	headquarters and support company
HSL	health service logistics
HSS	health service support
HUB	hospital unit, base
HUH	hospital unit, holding
HUM	hospital unit, medical
HUS	hospital unit, surgical
IEG	information exchange group
IV	intravenous
IWS	initial wound surgery
JFAO	joint force area of operation
KIA	killed in action
Lab	laboratory
LOC	lines of communication
LOG	logistics
MASF	mobile aeromedical staging facility
MBA	main battle area
MCPL	master corporal
Med	medical
MEDCOM	medical command
Med Coy	medical company
MEDLOG	medical logistics
Med Pl	medical platoon

GLOSSARY

med-sect	medical section
MEDSITREP	medical situation report
MES	medical equipment set
MIA	missing in action
MIH	Medical Interoperability Handbook
MMR	medical materiel requirement
MSB	main support battalion
MSMC	main support medical company
MSO	medical supply office
MSR	main supply route
MTF	medical treatment facility
MWD	military working dog
NATO	North Atlantic Treaty Organization
NBA	nonbattle accident
NBC	nuclear, biological, and chemical
NBI	nonbattle injury
NHS	National Health Service
NP	neuropsychiatric
NPOC	national point of contact
NYD	not yet diagnosed
NZ	New Zealand
OMF	originating medical facility
OPLAN	operations plan
OR	operating room/other rank (AS)
PA	physician assistant
PHS	preventive health support
PMC	preventive medicine company
PST	parachute surgical team
PVNTMED	preventive medicine
QAP	Quadripartite Advisory Publication
QSTAG	Quadripartite Standardization Agreement
QWG	Quadripartite Working Group
RA	
RAP	regimental aid post
RBC	red blood cell

GLOSSARY

RCZ	rear combat zone
REST CODE	restriction code
RMO	regimental medical officer
RTD	return to duty
RUM	Reciprocal Use of Materiel
S/D	sick/disease
sec/sect	section
SI	seriously ill
SMT	stress management team
SRC	stress recovery center
STANAG	Standardization Agreement
STANLIST	Standardization List
SWP	special working parties
TA	theater army
TAML	theater army medical laboratory
TBSA	total body surface area
TMMMC	theater medical materiel management center
TO	theater of operations
TOE	tables of organization and equipment
UK	United Kingdom
UMS	unit medical station
US	United States
USAF	United States Air Force
USMC	United States Marine Corps
USN	United States Navy
VET	veterinary
VSI	very seriously ill
WHO	World Health Organization

GLOSSARY

PART II. DEFINITIONS

advanced trauma management	Resuscitative and stabilizing medical or surgical treatment provided to patients to save life or limb and to prepare them for further evacuation without jeopardizing their well-being or prolonging the state of their condition.
ambulance control point	The ambulance control point consists of a soldier (from the ambulance element) stationed at a crossroad or road junction where ambulances may take one of two or more directions to reach loading points. The soldier, knowing from which location each loaded ambulance has come, directs empty ambulances returning from the rear. The need for control points is dictated by the situation. Generally, they are more necessary in forward areas.
ambulance exchange point	A location where a patient is transferred from one ambulance to another en route to a medical treatment facility.
ambulance loading point	This is a point in the shuttle system where one or more ambulances are stationed ready to receive patients for evacuation.
ambulance relay point	This is a point in the shuttle system where one or more empty ambulances are stationed ready to advance to a loading point or to the next relay post to replace an ambulance that has moved from it. As a control measure, relay points are generally numbered from front to rear.
ambulance shuttle system	The ambulance shuttle system is an effective and flexible method of employing ambulances during combat. It consists of one or more ambulance loading points, relay points, and when necessary, ambulance control points, all roles forward from the principal group of ambulances, the company location, or basic relay points as tactically required.

GLOSSARY

brigade support area	A designated area from which combat service support elements from the division support command and corps support command provide logistics support to the brigade. The brigade support area normally is located 20 to 25 kilometers behind the forward edge of the battle area.
casualty	Any person who is lost to his organization by reason of having been declared dead, wounded, injured, diseased, interned, captured, retained, missing, missing in action, beleaguered, besieged, or detained.
combat service support	The assistance provided to sustain combat forces, primarily in the fields of administration and logistics. It includes administrative services, chaplain services, civil affairs, food service, finance, legal service, maintenance, combat health support, supply, transportation, and other logistical services.
combat zone	<ol style="list-style-type: none">1. That area required by combat forces to conduct operations.2. The territory forward of the Army's rear boundary.
communications zone	Rear area of the theater of operations (behind but not contiguous to the combat zone) which contains the lines of communication, establishments for supply and evacuation, and other agencies required for the immediate support and maintenance of field forces.
division support area	An area normally located in the division rear area positioned near airlanding facilities and along the main supply route. The division support area contains the division support command's command post, headquarters elements of the division support command battalions, and those division support command elements charged with providing backup support to the combat service support elements in the brigade support area and direct support units located in the division rear. Selected corps support command elements in the division may be located in the division support area to provide direct support backup and general support as required.

GLOSSARY

evacuation policy	A command decision indicating the length in days of the maximum period of noneffectiveness that patients may be held within the command for treatment. Patients, who, in the opinion of the responsible medical officers, cannot be returned to duty status within the period prescribed are evacuated by the first available means, provided the travel involved will not aggravate their disabilities.
first-aid	Urgent and immediate lifesaving or other measures which can be performed for casualties (or performed by the victim himself) by nonmedical personnel when medical personnel are not immediately available.
initial wound surgery	Urgent life- and limb-saving, hemorrhage- and infection-controlling, resuscitative, and stabilizing surgical intervention which must be expeditious and performed as far forward as the tactical situation permits.
medical treatment facility	Any facility established for the purpose of providing medical treatment.
medical warning tag	A tag, worn around the neck, displaying the wearer's names, service number, and any significant medical conditions.
passage of lines	Passing one unit through the position of another, as when elements of a covering force withdraw through the forward edge of the main battle area, or when an exploiting force moves through elements of the force that conducted the initial attack. A passage may be designated as a forward or rearward passage of lines.
patient	<ol style="list-style-type: none">1. A sick, injured, or wounded soldier who receives medical care or treatment from medically trained personnel.2. A casualty is reclassified as a patient when he is received for definitive treatment at a medical facility that provides at least Role 2, usually Role 3 care. Definitive treatment usually involves the provision of initial wound surgery which enables stabilization of the patient's condition and provides definitive diagnosis of his condition.
physician assistant	A health care provider who through training and clinical experience has become proficient in the general management of

GLOSSARY

certain patients. He is also proficient in the care of outpatients and, in the military version, is often used in field medical facilities.

triage

The medical sorting of patients according to the type and seriousness of injury, likelihood of survival, and the establishment of priority for treatment and/or evacuation. Triage ensures that medical resources are used to provide care for the greatest benefit to the largest number. The categories are—

MINIMAL--those who require limited treatment and can be returned to duty;

IMMEDIATE--patients requiring immediate care to save life or limb;

DELAYED--patients who, after emergency medical treatment, incur little additional risk by delay or further treatment; and

EXPECTANT--patients who are so critically injured that only complicated and prolonged treatment will improve life expectancy.

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