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ARMY MEDICAL LOGISTICS

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Army Medical Logistics

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Preface

This Field Manual (FM) addresses the role of medical logistics (MEDLOG) in the Army's distribution-based supply system. It covers MEDLOG operations from the support battalions at the tactical level to the medical command (deployment support) (MEDCOM [DS]) and theater sustainment command (TSC) (where the critical crossover occurs between strategic Army Health System [AHS] agencies and commands and the operational units performing Army distribution in-theater).

The target audience for this manual is commanders, their staffs, medical planners, and MEDLOG officers and personnel at all levels. This publication applies to the Active Army, Army National Guard (ARNG)/Army National Guard of the United States (ARNGUS), and United States Army Reserve (USAR) unless otherwise stated.

Due to changing terminology, the term *level of care* is replaced by *role of care.* The term *role of care* is the North Atlantic Treaty Organization (NATO) and American, British, Canadian, Australian, and New Zealand (ABCA) term used to describe successive levels of medical capabilities. The terms *health service logistics* and *combat health logistics* are replaced by *medical logistics*.

This FM is in consonance with the tasks outlined in the Universal Joint Task List (refer to Chairman, Joint Chiefs of Staff Manual 3500.04C) and the Army Universal Task List (see FM 7-15) that apply to MEDLOG operations.

This publication implements or is in consonance with the following NATO International Standardization Agreements (STANAGs) and ABCA standards:

NATO STANAG	ABCA STANDARDS	ABCA PUBLICATION	TITLE
2060	248		Identification of Medical Material for Field Medical Installations.
		256	Coalition Health Interoperability Handbook.
	815		Blood Supply in the Area of Operations.
2406			Land Forces Logistics Doctrine.
2827			Materials Handling in the Field.
2828			Military Pallets, Packages and Containers.
2931			Orders for the Camouflage of the Red Cross and the Red Crescent on Land in Tactical Operations.
2939			Medical Requirements for Blood, Blood Donors and Associated Equipment.
2961			Classes of Supply of NATO Land Forces.

The organizational structures presented in this manual are reflected in base tables of organization and equipment (TOEs) in effect on the date of publication. However, staffing is subject to change to comply with manpower requirements criteria outlined in Army Regulation (AR) 71-32 and can be modified if and when those changes occur.

Unless otherwise stated, the use of masculine nouns and pronouns in this publication do not refer exclusively to men.

Use of trade or brand names in this manual is for illustrative purposes only and does not imply endorsement by the United States (US) Army or the Department of Defense (DOD).

Comments and recommendations for improving this publication are welcome. When submitting comments include the page, paragraph, and line numbers of the text where the change is recommended. The US Army Medical Department Center and School (USAMEDDC&S) is the proponent for this publication. Send comments and recommendations on Department of the Army Form 2028 (Recommended Changes to Publications and Blank Forms) directly to the Commander, USAMEDDC&S, ATTN: MCCS-FCD-L, 1400 East Grayson Street, Fort Sam Houston, Texas 78234-5052 or e-mail to medicaldoctrine@amedd.army.mil.

Introduction

The AHS is a component of the Military Health System (MHS) that is responsible for operational management of the health service support (HSS) and force health protection (FHP) missions for training, predeployment, deployment, and postdeployment operations.

The Army's MEDLOG system (including blood management) is an integral part of the AHS in that it provides intensive management of medical products and services that are used almost exclusively by the AHS and are critical to its success. Also key to this success is the delivery of a MEDLOG capability that anticipates the needs of the customer and is tailored to continuously provide end-to-end sustainment of the AHS mission throughout full spectrum operations. Providing timely and effective AHS support is a team effort which integrates the clinical and operational aspects of the mission. The provision of MEDLOG support requires collaboration between the medical logisticians, clinicians, and other health care providers within the operational environment and encompasses the following functions:

- Medical materiel procurement and distribution (acquisition, receiving, shipping, storage, and stock record/property accounting).
- Medical equipment maintenance and repair.
- Optical fabrication and repair.
- Management of patient movement items.
- Production of medical gases.
- Blood storage and distribution.
- Medical hazardous waste management.
- Management of medical facilities and infrastructure.
- Medical contracting support.
- Total product life-cycle management of medical materiel and equipment.

This manual describes the capabilities of the MEDLOG system and its role in sustaining the AHS mission. Medical logistics support for deployed forces is the primary focus of this manual. However, generating force or national strategic-level MEDLOG support is also addressed to present a clear picture of the processes involved and resources expended to guarantee a Class VIII support infrastructure. This Class VIII infrastructure ensures the seamless delivery of health care from the point of injury through successive roles of care to the continental US (CONUS) support base.

This publication opens with an overview of Army MEDLOG, followed by a description of each MEDLOG unit, the capabilities available, and role of care where each element may be employed. This manual also covers the information systems and enablers available to facilitate the flow of supplies and equipment throughout the area of operations (AO), as well as the current force (Medical Force 2000, Medical Reengineering Initiative, modular division, and brigade combat team [BCT] force designs) and emerging concepts scheduled to occur as part of current and future force fielding events.

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Chapter 1

Overview of Army Medical Logistics

The AHS is extremely intensive in its use of specialized materiel and support services that are collectively managed within the field of medical logistics. Medical logistics encompasses the planning and execution of all Class VIII supply support operations to include medical materiel procurement and distribution, medical equipment maintenance and repair, optical fabrication and repair, blood management support, centralized management of patient movement items, medical contracting support, medical hazardous waste management, distribution of medical gases, management of medical facilities and infrastructure, and the total product life-cycle management of medical materiel and equipment.

SECTION I — SUSTAINMENT

1-1. The sustainment warfighting function is one of six Army warfighting functions (movement and maneuver, fire support, protection, sustainment, command and control, and intelligence) that produce combat power. Field Manual 3-0 defines the sustainment warfighting function as the related tasks and systems that provide support and services to ensure freedom of action, extend operational reach, and prolong endurance. The endurance of military forces is primarily a function of their sustainment. Sustainment is the provision of logistics, personnel services, and HSS necessary to maintain operations until mission accomplishment.

ARMY HEALTH SYSTEM SUPPORT

1-2. The AHS is responsible for operational management of the HSS and FHP missions for training, predeployment, deployment, and postdeployment operations. The AHS includes all mission support services performed, provided, or arranged by the AMEDD to support HSS and FHP mission requirements for the Army and as directed, for joint, intergovernmental agencies, coalition, and multinational forces. With the institution of the warfighting functions, the casualty care (treatment aspects), medical evacuation, and MEDLOG functions of HSS are included in the sustainment warfighting function while the FHP (casualty prevention aspects) are included in the protection warfighting function. While MEDLOG is a part of sustainment under HSS, it also supports FHP. See FM 4-02.17 for more information on FHP.

LOGISTICS

1-3. Logistics is the science of planning, preparing, executing, and assessing the movement and maintenance of forces. *Line logistics* encompasses the following tasks:

- Supply.
- Field Services.
- Maintenance.
- Transportation.
- General engineering support.

MEDICAL LOGISTICS

1-4. Medical logistics is distinguished from *line logistics* in that its products and services are used almost exclusively by the medical system and are critical to the success of the AHS mission. These products and services are used to provide medical support and are subject to strict standards and practices that govern the health care industry in the US. Medical logistics is focused on the specialized requirements of a multifunctional MHS in order to reduce morbidity and mortality among Soldiers, whereas *line logistics* is focused upon the sustainment of major end items and general troop support in order to maximize combat power.

SECTION II — MEDICAL LOGISTICS SUPPORT

1-5. The office of the Deputy Chief of Staff Army (Logistics) is the proponent office for all Army logistics policy. The Office of The Surgeon General (OTSG) has the responsibility for development and management of MEDLOG business processes. The Defense Logistics Agency (DLA) is the Executive Agent (EA) for Class VIII and is designated as the DOD single point of contact to establish the strategic capabilities and systems integration necessary for effective and efficient Class VIII supply chain support to the geographic combatant command (GCC). The Defense Medical Standardization Board collaborates with the Service medical departments for joint standardization of medical materiel within the DOD. The Assistant Chief of Staff for Logistics, US Army Medical Command (USAMEDCOM), has primary staff responsibility for developing policies and procedures and providing guidance in the area of medical materiel management.

1-6. The Surgeon General (TSG), as the Army's medical combat developer and medical materiel developer, is responsible for developing requirements and providing materiel acquisition and total product life-cycle management for medical materiel and equipment. The combat developer function is further delegated to the USAMEDDC&S, while the US Army Medical Research and Materiel Command (USAMRMC) serves as the medical materiel developer and life-cycle management command responsible for managing strategic Army programs to field, project, and sustain the Army medical force. The US Army Medical Materiel Agency (USAMMA) and the US Army Medical Materiel Development Activity, both subordinate units of the USAMRMC, are responsible for executing the materiel development function within the command. The USAMMA executes the life-cycle management function for Class VIII and serves as the materiel developer for commercial and nondevelopmental items, while US Army Medical Materiel Development Agency serves as the materiel developer for military unique items. The USAMMA is also responsible for the implementation and management of medical materiel readiness programs in support of Armywide MEDLOG.

1-7. Medical logistics follows the policies of the AR 700-series with exceptions provided in AR 40-61. The policies and procedures covered in AR 40-61 are unique to medical materiel and operations that are subject to regulations and standards of the Food and Drug Administration, the Environmental Protection Agency, the Drug Enforcement Agency, and the Joint Commission on Accreditation of Healthcare Organizations. Class VIII supplies and equipment are also afforded protective status under the provisions of the Geneva Conventions. Refer to FM 4-02 for a detailed discussion of the Geneva Conventions.

1-8. Logistics support may be executed on a strategic, operational, or tactical level. These three levels of logistics support correlate to the three levels of war (FM 3-0) and are dependent on DOD/Army distribution management systems and platforms for the physical movement and handling of Class VIII supplies.

- Strategic logistics supports the attainment of broad goals and objectives established by the President and Secretary of Defense in national security policies. It includes special activities under the Department of the Army (DA) control and the national inventory control points; national maintenance points; and depots, arsenals, data banks, plants, and factories associated with the US Army Materiel Command (USAMC). Strategic functions are performed in CONUS and at the GCC level.

- Operational logistics supports the commander's plan in either a mature or austere theater. Operational logistics links strategic logistics to tactical logistics on the battlefield, ensuring support and success at the tactical level. Operational support attempts to balance the strategic planning requirements with the needs of tactical operations in joint, major, and other military operations within an AO. Operational logistics are conducted by echelons above brigade (EAB) organizations to support tactical logistics at the BCT level.
- Tactical logistics supports the commander's plan at the operational level. At this level, the essential functions of supply, maintenance, transportation, technical assistance, human resources support, AHS support, and field services are delivered to Soldiers to permit them to accomplish their mission. During the tactical phase, the medical logistician primarily focuses on the procurement, management, and accountability of medical materiel to support and sustain the Soldier.

1-9. Medical logistics support is characterized by goals, policies, procedures, and organizational structures and is directly related to overall AHS support. It interfaces as a facilitating-type subsystem responsive first and foremost to patient care and secondly to the Army's logistics system.

SIGNIFICANCE OF THE MEDICAL COMMODITY

1-10. The materiel system has long recognized that certain commodities possess peculiarities or characteristics that make them sufficiently distinctive, requiring that they be managed by specially trained personnel. Class III and Class V are typical examples, as is Class VIII. For this reason, on 20 July 1967 the Joint Chiefs of Staff directed that medical materiel be removed from Class III and Class IV and designated as a separate class of supply (Class VIII).

1-11. Basic to any logistics plan are the principles of anticipated user needs and continued support. These principles imply that the individual directing this support must have a thorough knowledge of the system being supported, as well as an understanding of how and why the particular item being supplied is used. Medical logistics cannot operate on the basis of historical data alone. Many external factors—the judgment of the physician, environmental factors, and the peculiarities of the patient's medical condition—affect the demand for an item. The nonavailability of certain pieces of equipment or supply items can cause an interruption in the support being provided.

1-12. Specific commodity peculiarities include—

- Items subject to deterioration (short shelf life and dated items).
  - Subject to damage by freezing or high heat.
  - Subject to damage if not properly refrigerated or frozen for preservation.
- Flammable and corrosive items.
- Controlled medical items or controlled substances to include alcohol, narcotics, and precious metals.
- Radioactive materials.
- Fragile items requiring special storage, handling, and packaging.
- Medical gases.

1-13. Considerations governing inventory management of the medical commodity include, but are not necessarily limited to, the fact that—

- Request for and actual use of Class VIII is preceded by a professional decision.
- Choice of substitution is extremely limited, professionally directed, and controlled and monitored by technical specialists.
- Nonstandard items are an integral and significant element of the logistical management effort.
- Inherent to medical materiel management are the functions of medical equipment maintenance and repair parts support, as well as optical fabrication and repair services.
- Strict adherence to the provisions of the Geneva Conventions precludes the storage of medical materiel with other commodities.

1-14. In comparison with some commodities, it is not the significant number of medical items being managed, but rather the criticality, specialization, and unique handling requirements of medical items that differentiate the management effort. Medical tonnage is not a major consideration. The significance of the medical commodity lies in the number of line items shipped and the criticality of those items which will many times *cube out* before *weighing out* and its relegation to a lower level of movement priority within a theater.

SECTION III — TRANSFORMATION OF MEDICAL LOGISTICS PROCESSES

1-15. Medical logistics has undergone significant changes since Operation Desert Storm (and during Operation Enduring Freedom and Operation Iraqi Freedom) to improve the efficiency and effectiveness of the medical supply chain and improve capabilities for transition to and sustainment of wartime operations. These emerging concepts and initiatives have been undertaken jointly by the Services in partnership with DLA and have resulted in fundamental changes in the overall framework with which the DOD supports military medicine. These changes are distinguished by a shift to commercial industry rather than government depots for national-level support, the adoption of industry best business practices for information and distribution management, and the development of a DOD standard automated information system (AIS) under the Defense Medical Logistics Standard Support (DMLSS) program.

DEFENSE MEDICAL LOGISTICS STANDARD SUPPORT

1-16. The DMLSS AIS is a jointly developed application approved by the Joint Readiness Oversight Council. This application was designed to provide the MHS with a single solution for joint MEDLOG to meet both generating and operating force requirements. Planned product improvements to the DMLSS application will incorporate a net-centric, Service-oriented architecture that provides an enterprise view of all materiel inventories and equipment assets held by the MHS. It will be accessible to operational units through a web-enabled browser-based portal and will link the medical supply chain at the operational level directly to the commercial sources at the national level, with *store and forward* capability to continue local performance of core processes when communications are interrupted. The DMLSS AIS uses interfaces with MHS clinical information systems and maturing technologies such as *point-of-use* to sense and initiate replenishment requirements based upon actual or anticipated medical procedures or patient encounters. The application enables every medical treatment facility (MTF) in the MHS to serve as a supply distribution node or source of local procurement in support of operational MEDLOG units at home station. This provides access to clinical, as well as logistical expertise of the AMEDD generating force in resolving materiel requirements. The DMLSS application centralizes information processing for MEDLOG, minimizing layers of materiel management and reducing complexity and workload of logistics processes at forward operational levels. The DMLSS application will be supported in theater by the Army Medical Communications for Combat Casualty Care (MC4) as the Army component of the Defense Health Information Management System (DHIMS) (formerly referred to as the Theater Medical Information Program). The DMLSS application will be aligned and interfaced with supporting enterprise systems of the DLA, as well as with supporting sustainment enterprise solutions such as the Single Army Logistics Enterprise (SALE) and the Global Transportation Network (GTN). See Chapter 4 for a complete description of the DMLSS application including the Defense Medical Logistics Standard Support Customer Assistance Module (DCAM) implemented in support of deployed medical units.

EXECUTIVE AGENT FOR MEDICAL MATERIEL

1-17. The transformation of theater-level MEDLOG will continue through the joint implementation of DOD Directive (DODD) 5101.9 designating the DLA as the EA for medical materiel. As the EA, the DLA is designated the DOD single point of contact to establish the strategic capabilities and systems integration necessary for effective and efficient Class VIII supply chain support to the GCC. The EA formalizes the roles and responsibility necessary to leverage the strategic acquisition framework established by the DLA that enables the Services to obtain materiel support directly from industry

sources, rather than a national depot system. The EA will strengthen GCC and Service collaboration for requirements planning and synchronize DLA and Army medical capabilities to improve end-to-end supply chain management in support of joint HSS/FHP.

1-18. As part of this directive, Army MEDLOG units may be tasked to provide support to all Services and designated multinational partners (in accordance with applicable contracts and agreements) under the joint concept of single integrated medical logistics manager (SIMLM), as well as the emerging concept of theater lead agent for medical materiel (TLAMM). The TLAMM is designated by the combatant commander to provide the operational capability for medical supply chain management and distribution from strategic to tactical levels. In a land-based theater, the Army will normally be designated as the TLAMM, consistent with its traditional designation as SIMLM. Within the theater, these capabilities are provided by modular and scalable operational medical units that are task-organized under the control of the MEDCOM (DS).

1-19. The AMEDD will provide both operational and generating force capabilities necessary for projection and sustainment of joint medical forces. Operational medical units will project the core MEDLOG capabilities required to be part of the theater medical system. Generating force capabilities will provide direct support to mobilization and deployment activities at Army installations and serve as a source for materiel, as well as technical support to operational medical units. Medical logistics support will be coordinated and executed by organizations within the USAMRMC to leverage the strategic acquisition framework established by the EA, linking operational forces directly with national-level industry partners. The USAMRMC will also synchronize MEDLOG support provided by US Army Regional Medical Commands that execute direct support to mobilization and deployment operations at Army installations.

1-20. The MEDLOG centers in Europe and Korea will provide direct support to theater joint medical organizations and missions and serve as stable operational platforms to project all core MEDLOG functions (materiel, medical equipment maintenance and repair, optical fabrication, and blood storage and distribution) in full spectrum operations from peacetime to major combat operations (MCO). This may include extending support to Army Service component commands (ASCC) in other supported GCCs to enable the execution of SIMLM or TLAMM responsibilities. They may be augmented, as required, by operational MEDLOG units in order to rapidly expand and scale capabilities. The MEDLOG centers will be linked through the DOD standard medical enterprise information architecture provided by DMLSS/MC4 to deployed operational medical units, national industry partners in the US, and with theater sustainment organizations for coordination of intratheater and strategic transportation. The MEDLOG centers and MTFs of the USAMEDCOM will operate within the Defense Working Capital Fund of the EA, enabling movement of materiel without financial transaction until point of sale to the customer.

ENABLING ARMY HEALTH SYSTEM SUPPORT

1-21. The Surgeon General provides operational forces with state-of-the-art clinical capabilities necessary to achieve the standard of care expected by warfighting commanders and the American people. The Defense Medical Standardization Board and Service Medical Departments will promote commonality of techniques and materiel. Equipment and materiel allowances for deployable medical units will provide core capabilities for operational medicine, but will be augmented through rapid acquisition and fielding of technologies tailored to missions and requirements beyond organic medical capabilities. Collaboration among the ASCC surgeon, the MEDCOM (DS), and subject matter experts within the USAMEDCOM will rapidly assess and validate medical materiel solutions to ensure they are appropriate for the mission and composition of the medical force.

1-22. The USAMEDCOM, through its USAMRMC, will directly support force projection by providing the final equipping and provisioning of deploying medical units to ensure they arrive in theater fully prepared to perform their mission. The USAMEDCOM activities supporting power projection platforms will use acquisition tools such as prime vendor and contingency programs established by the EA to rapidly fill materiel shortages of deploying units.

MEDICAL FORCE SUSTAINMENT

1-23. The ASCC surgeon will develop the MEDLOG plan to meet joint HSS/FHP requirements that are specific to the region and medical concept of operations of assigned medical missions across full spectrum operations. The MEDCOM (DS) will execute and direct theater Class VIII support using modular MEDLOG capabilities assigned to the theater force pool and task-organized as required to the medical brigade (MEDBDE) assigned to the MEDCOM (DS) or attached to the ASCC. Medical logistics capabilities will be scaled with other joint HSS/FHP capabilities across the complete mission cycle, from the theater opening phase through expeditionary and follow-on operations. These capabilities will be a critical component of primary and casualty care for US and multinational forces, care for enemy prisoners of war and detained personnel, foreign humanitarian assistance, disaster relief, and assistance to improve or rebuild host-nation medical infrastructure.

1-24. The theater joint HSS/FHP mission will be supported by an end-to-end supply chain strategy that is integrated vertically from the national level to the medical elements in support of movement and maneuver units. It will be based upon almost immediate visibility of unit requirements and the ability to move and maintain medical materiel quickly enough to ensure uninterrupted capability for joint HSS/FHP and casualty care. It must also be robust and flexible enough to succeed when communications or distribution channels are interrupted. It will leverage information technology provided by MC4 and joint distribution capability to minimize layers of storage and materiel management in the theater, and will have the ability to reach directly to commercial sources.

1-25. Using DCAM, BCTs will have the ability to facilitate the delivery of Class VIII materiel and medical equipment maintenance and repair through the supporting medical logistics company (MLC). The medical equipment sets (MES) assigned to BCT medical units/elements are designed to sustain Class VIII requirements within the BCT for three days. However, brigades will rely on an overall theater supply chain that is sufficiently agile and responsive to allow them to remain mobile and focused on tactical operations. Modular MEDLOG units from the theater medical force pool will provide the capacity for theater storage necessary to meet joint HSS/FHP requirements within available strategic and intratheater distribution capabilities. The units will also provide medical maintenance, optical fabrication, and blood distribution on a direct support and area basis.

1-26. Theater-level commodity management will be accomplished by the Medical Logistics Management Center (MLMC), providing the MEDCOM (DS) with visibility and control of all Class VIII theater inventory and the ability to direct Class VIII supply chain and maintenance activities in support of joint operations. Theater inventories under control of the MEDCOM (DS) will normally be capitalized within the Defense Working Capital Fund of the EA. The integration of Class VIII materiel with joint HSS/FHP operations will enable the MEDCOM (DS) to achieve unity of effort within the overall theater medical system and enhance the potential for cross utilization of supplies for economy of scale and mass casualty situations.

MEDICAL LOGISTICS MANAGEMENT CENTER

1-27. The MLMC is a modular organization developed under the Medical Reengineering Initiative that is staffed with Regular Army and Reserve Component personnel. It operates in a split-based mode, deploying one MLMC forward support team per theater while maintaining base operations in CONUS. At home station, the MLMC base will be collocated with headquarters, USAMRMC, as well as the MEDLOG agencies of the US Air Force (USAF) and US Navy, the Defense Medical Standardization Board, and the Joint Medical Logistics Functional Development Center of the DMLSS program.

1-28. In the theater, the MEDCOM (DS) commander is the MEDLOG process owner, while the MLMC forward support team is the supply chain manager responsible for executing and influencing theater Class VIII policies and command intent. The MLMC provides the MEDCOM (DS) the capability to manage and direct MEDLOG in support of joint HSS/FHP operations. It provides theater-level management and visibility of all Class VIII materiel held by MEDLOG units in the theater medical force pool and is the operational link to the TSC as well as USAMEDCOM organizations

providing national-level support. The MLMC may be augmented by personnel from other Services as required to facilitate support to joint HSS/FHP operations.

1-29. The MLMC forward support team normally collocates with the distribution management center (DMC) within the TSC/expeditionary sustainment command (ESC) and is subordinate to the MEDCOM (DS) commander. The MLMC support team exercises technical directive authority for MEDLOG units supporting theater-level operations. It has direct technical access to the MLMC base and is linked by MC4 in an information architecture that achieves a single presentation of theater medical requirements and assets. Through the MLMC base and MC4, the theater MLMC forward support team has seamless access to industry, as well as inventory held or acquired by available MEDLOG centers.

SECTION IV — MEDICAL LOGISTICS SUPPORT FOR ARMY FORCE GENERATION

1-30. The Medical Equipment Reset and Medical Left Behind Equipment (LBE) Programs are part of the USAMEDCOM's strategy to support Army force generation (ARFORGEN), which is an Army process that applies to all components across the operating and generating force. The Army will continue to adapt and improve the ARFORGEN process over time to generate ready forces that meet operational requirements more effectively and efficiently.

ARMY FORCE GENERATION

1-31. Army force generation is a cyclic training and readiness process that synchronizes strategic planning, prioritizing, and resourcing to generate trained and ready modular expeditionary forces tailored to joint mission requirements. Army units will be focused against future missions as early as possible in the ARFORGEN process and will go through the three force pools (Reset/Train, Ready, and Available Pools). Each of these pools will be tailored to their future mission.

1-32. The result of this iterative process is a unit that is task organized, equipped, manned, and trained to become an expeditionary force package. The Medical Equipment Reset and Medical LBE Programs are both relatively new and were implemented in support of ARFORGEN. They are also still subject to evolving DA Reset and LBE business rules, updates, and changes.

MEDICAL EQUIPMENT RESET PROGRAM

1-33. The Medical Equipment Reset Program is executed by the USAMRMC through its execution agency USAMMA. Army equipment reset is divided into two main levels or categories: sustainment- and field-level reset. The USAMMA maintains oversight of both sustainment and field-level Medical Equipment Reset Programs. Sustainment-level repairs, replacements, and refurbishments are completed as part of depot-level maintenance and are provided by USAMMA. Actions related to reset at the field level are those actions, less refurbishment, that are completed at the unit and/or local installation level. Field-level medical equipment reset consists of those actions, less refurbishment, that are to be executed by the units in conjunction with the regional medical commands via their installation medical supply activity.

1-34. The USAMMA is programmed to provide reset of sustainment-level medical line items (nonexpendable sets and equipment) for all units (regardless of component). These nonexpendable sets and equipment are selected based on their complexity and potential for recapitalization. The regional medical command/installation medical supply activity provides reset of field-level medical line items. The majority of the field-level medical line items are durable and expendable in nature and their potential for recapitalization is low. The USAMMA will provide disposition instructions for those maintenance significant items that the Army has designated for recapitalization (such as items that can be repaired or refurbished and inserted into future builds for fielding). These items are either turned in to the USAMMA Fielding Team during a reset fielding or are sent by units directly to a USAMEDCOM medical maintenance depot. The USAMMA continues to expand reset maintenance and production capabilities as funding and work-load capacity permit.

1-35. It is critical that any units requesting reset support build and execute their reset plans in the Army Reset Management Tool application managed by the Logistics Support Agency. According to current reset policy and guidance, all units must build Army Reset Management Tool field- and sustainment-level plans no later than return minus 120 days and execute those plans by return minus 90 days to be eligible for reset support (field or sustainment). Executing a plan in Army Reset Management Tool by return minus 90 gives support organizations adequate workload production and planning time to successfully reset units within the DA goal of 180 days after redeployment. Units who fail to build and execute their reset plans by return minus 90 are not guaranteed reset support in accordance with DA established timelines and may not be properly synchronized with the ARFORGEN cycle.

MEDICAL LEFT BEHIND EQUIPMENT PROGRAM

1-36. The Army Sustainment Command, the execution command subordinate to USAMC, is tasked to manage the maintenance, property accountability, and care of deployed unit equipment that is left behind. The USAMMA, as the Class VIII Life Cycle Manager, assists the Army Sustainment Command in executing the LBE Program for Class VIII. The LBE Program is being executed as part of the ARFORGEN process to ensure that critical equipment items are maintained during long unit deployments in order to ensure future capability and to create a National Equipment Pool for high demand items.

1-37. The Medical LBE Program is primarily focused on deploying units that typically fall in on theater provided equipment and leave a large amount of their medical equipment and sets at home station. The US Army Forces Command notifies USAMMA by deployment minus 180 days of those units eligible to receive support under the LBE program. Based on the complexity and density of equipment, USAMMA may provide a medical materiel and maintenance team to assist the unit in conducting a 100 percent joint inventory and maintenance cycle of their medical materiel sets (MMSs) and stand-alone equipment items. Once completed, the unit will laterally transfer all left behind sets and equipment to an Army Sustainment Command property book officer prior to deployment.

1-38. The USAMMA will continue to work with the Army Sustainment Command and provide guidance and technical expertise in order to assist in the management of medical equipment inducted into the Medical LBE Program. The USAMMA may also assist with the reintegration of equipment upon unit redeployment. Maximum use of organic and installation or local medical equipment repairers (MERs) is highly encouraged and fully supports ARFORGEN training goals. For the latest information and questions concerning the Medical LBE and Medical Equipment Reset (Sustainment) Programs, refer to the USAMMA website at www.usamma.army.mil/.

SECTION V — SYNCHRONIZING MEDICAL LOGISTICS FOR ARMY HEALTH SYSTEM SUPPORT

1-39. The provision of MEDLOG on the battlefield requires continuous synchronization within the theater medical system and with supporting capabilities of the USAMEDCOM and the DOD EA. Medical unit commanders interface with sustainment providers and coordinate across command and Service lines to ensure unity of medical effort and continuity of care. The ASCC surgeon ensures MEDLOG is fully integrated into joint HSS/FHP planning and contains appropriate MEDLOG units and capabilities in the theater medical force pool.

SCOPE OF ARMY HEALTH SYSTEM SUPPORT OPERATIONS

1-40. In an MCO scenario, the MEDBDE early-entry task force supporting the BCT will include modular MEDLOG elements scaled to the size and complexity of the medical task force and mission of maneuver and sustainment brigades being supported. In this type of scenario, the MLMC forward support team will collocate with the senior distribution manager to coordinate the movement of Class VIII within the AO. Early-entry operations will also be supported by MLCs located at or near theater ports of debarkation and under the control of the MEDCOM (DS). Early-entry joint HSS will include the preparatory tasks that are critical for shaping medical support to the theater. These tasks involve primary medical care for arriving forces so that organic medical supplies are not depleted during

reception, staging, onward movement, and integration (RSOI); medical equipment density, accountability, and maintenance; the hand-off of pre-positioned medical materiel and equipment; the management of special medical materiel, such as medical chemical defense materiel (MCDM) and vaccines; and handling of exception medical materiel under control of the ASCC surgeon or oversight by TSG. Early-entry operations also include the management and distribution of medical equipment necessary to replace patient movement items (PMI) that accompany patients during evacuation from the theater (see Appendix A).

1-41. The MEDCOM (DS) will also establish and direct theater-level MEDLOG capabilities for management, storage, and distribution of theater-level stocks of blood and medical materiel necessary to execute the joint HSS/FHP plan. These capabilities will normally be organized out of modular elements from a MLC, blood support detachment, and the forward support team of the MLMC. Theater distribution operations will be established at a strategic aerial port of debarkation that may be located in a safe haven that is within range of tactical aircraft to reach aerial ports of debarkation serving EAB force elements. While MEDLOG functions will be under the control of the MEDCOM (DS), they will be coordinated and synchronized with sustainment support provided by the TSC through the theater distribution operations center and through the interface of MC4 with joint sustainment systems.

1-42. As the MCO enters the expeditionary phase, MEDLOG capabilities will be scaled as necessary to ensure continuity of joint HSS/FHP and casualty care. The MEDBDE will include the MLCs necessary to support its internal medical capabilities and provide direct support to BCTs and support brigades. The MEDCOM (DS) will direct MEDLOG support from theater-level capabilities, to include support to other Services and multinational partners. The joint command surgeon will monitor MEDLOG performance, medical equipment operational readiness rates, establish policy, set priorities for allocation of medical materiel, and assess requirements for additional capabilities arising from joint HSS operations.

1-43. As the theater matures and the availability of distribution channels becomes increasingly reliable, the joint command surgeon will be able to further tailor MEDLOG capabilities, reducing it where possible to leverage distribution from the theater or strategic levels to a level of risk that can be tolerated for joint HSS/FHP operations. This tailoring will be accomplished through ongoing coordination among the ASCC/EAB command surgeons and the MEDCOM (DS). The theater will also adjust to changing joint HSS/FHP requirements, which may include transition to humanitarian efforts or rebuilding of medical infrastructure, requiring changes to formularies and supply reordering policies and practices to encompass pediatric and geriatric patients or others within the supported population.

1-44. The MEDLOG system must be flexible and capable of adapting to unanticipated requirements so that AHS support to Soldiers is never compromised. It is imperative that medical logisticians receive an updated health threat and medical intelligence report regarding the specific operation. These reports should be considered in planning Class VIII requirements. Refer to FM 4-02.17 for information on FHP missions and the health threat and FMs 4-02, 8-55, and 34-130 for additional information concerning intelligence preparation of the battlefield.

FORCE PROJECTION CONSIDERATIONS

1-45. Force projection is the demonstrated ability to quickly alert, mobilize, deploy, and operate anywhere in the world. Current contingency operations dramatize the ability of medical units to synchronize assets at all levels of war and respond rapidly to a force projection crisis.

1-46. The intent and purpose of force projection requires that sustainment commanders deploy only those forces necessary to support the task force. Sustainment commanders and planners must tailor units to meet the task force requirements. Only personnel, equipment, and supplies required to support the mission should be deployed.

1-47. Force projection requires early critical analysis of the tactical commander's intent and the threat (to include the health threat). Analyses will be required at every level of logistics—strategic, operational, and tactical—in full spectrum operations. The keys are anticipation of requirements and the synchronization of AHS services to the tactical commander's mission.

1-48. The development of forward logistics bases, intermediate staging bases, and lodgments in a theater may be required. The theater may have full port facilities (air and sea) or it may require over-the-shore or austere airflow operations. Additionally, the MEDLOG planner must consider contract support, host-nation support, international STANAGs, and other Services (if available) as a means to augment and assist military capabilities. This is critical during the initial phases of an operation.

1-49. Besides supporting task force deployments and combat operations, the logistics and sustainment planner must plan for and execute post-conflict support. Certain medical units should plan to be among the first into an AO and the last to redeploy. This is primarily due to the need for AHS support and Class VIII supplies before, during, and after operations. Force projection operations will challenge MEDLOG leaders at all levels.

1-50. To anticipate requirements, the logistics planner must fully understand the commander's intent. He must also know the location of supported units, maintain total asset visibility (TAV) before and throughout the operation, and maintain a common operational picture (COP) of the AO. Responsiveness is the keynote of the medical materiel management system. The needs of the *patient* are paramount.

AGILE SUSTAINMENT FORCE STRUCTURE

1-51. By definition, an agile sustainment force structure is one that has a relatively small logistics footprint, does not encumber the supported commander with large stockpiles of supplies or large numbers of sustainment personnel, can communicate and keep pace with the maneuver forces, and be as mobile and survivable as the unit it supports. In other words, an agile sustainment force lends itself to an equally agile maneuver force.

MEDICAL LOGISTICS IN FULL SPECTRUM OPERATIONS

1-52. As the logistician's mission of supporting the deployed force has not changed in spite of the revolution in military affairs/revolution in military logistics, neither has the environment in which this support is to be provided. The Army requires sustainment in offensive, defensive, stability, and civil support operations.

1-53. In the past, the Army's emphasis, in terms of both planning and structure, was on the MCO, which is dominated by offensive and defensive actions. Now, Army doctrine equally weights tasks dealing with stability or civil support with those related to offensive and defensive operations. Throughout an engagement, offensive, defensive, stability, and civil support operations occur simultaneously. All of these operations have their own set of difficulties, making the logistician's mission very challenging.

1-54. Offensive operations are combat operations conducted to defeat and destroy enemy forces and seize terrain, resources, and population centers. They impose the commander's will on the enemy. In combat operations, the offense is the decisive element of full spectrum operations. Sustainment planning must include the agility and flexibility to quickly react to a breakthrough, follow the exploiting force, and continue to provide the required support. In-transit visibility (ITV)/TAV will be a major contributing factor in the success of any mission. Momentum cannot be diminished because of inadequate information, communications, and sustainment. Therefore, in the offense, sustainment must stay mobile and move as close behind the maneuver force as is tactically possible. Supply Classes I (potable water), III, V, and VIII will be the most critical supplies required.

1-55. Defensive operations are combat operations conducted to defeat an enemy attack, gain time, economize forces, and develop conditions favorable for offensive or stability operations. They can create conditions for a counteroffensive that allow Army forces to regain the initiative or create conditions where stability operations can progress. Defensive operations counter enemy offensive operations. They defeat attacks, destroying as many attackers as possible. Defensive operations preserve control over land, resources, and populations, as well as retain terrain, guard populations, and protect critical capabilities against enemy attack. They also gain time and economize forces to allow the conduct of offensive operations elsewhere. Defensive operations not only defeat attacks, but also create conditions necessary to regain the initiative and go on the offensive to execute stability operations.

1-56. In the defense, positioning of sustainment resources becomes critical. Being located in the wrong place could impede friendly maneuver, or worse, could allow sustainment units to be overrun. Generally, sustainment assets are located closer to the sustainment area in defensive operations. However, this can vary depending on the type of defense. Area defense allows sustainment units to be further away from combat. A mobile defense requires that sustainment be located forward to support a possible quick transition to the offense, but not so much that maneuver is impeded.

1-57. Stability and civil support operations have evolved into a central element of operations equal in importance to offensive and defensive operations. Civil support operations are defined as tactical-level tasks, similar to stability tasks, but conducted in the US and its territories (see Chapter 3 for more information).

1-58. Stability operations encompass various military missions, tasks, and activities executed outside the US and its territories in coordination with other instruments of national power to—

- Provide a secure environment.
- Secure land areas.
- Meet the critical needs of the populace.
- Gain support for host-nation government.
- Shape the environment for interagency and host-nation success.

1-59. Stability operations may occur before, during, and after offensive and defensive operations. However, they also occur separately, usually at the lower end of the spectrum of conflict. Army forces engaged in stability operations establish, safeguard, or restore basic civil services and act directly and in support of governmental agencies. Stability operations involve both coercive and constructive military actions and can help to establish political, legal, social, and economic institutions and support the transition to legitimate local governance. The primary stability tasks include—

- Civil security.
- Civil control.
- Restore essential services.
- Support to governance.
- Support to economic and infrastructure development.

1-60. Under conditions such as those found in the various types of stability operations, logisticians may find themselves operating in small, task-organized units formed using the concepts of modularity and split-based operations providing support far from traditional command channels. They may be required to assist civilian agencies that lack the ability to sustain themselves. Tailoring such support in this ever-changing environment is the key to sustainment success. Contractor and host-nation support assets will be invaluable in the less combat-related roles, releasing uniformed personnel for high intensity, high-risk requirements. Therefore, it is important that commanders remember to plan for and resource the Class VIII supply requirements that support these types of operations. Refer to FMs 3-07, 3-0, and 8-42 for additional information.

1-61. With the emphasis in recent years on asymmetrical and unconventional warfare, Army Special Operations Forces operations are also a major element of full spectrum operations. Army Special Operations Forces possess unique capabilities to support US Special Operations Command's missions and functions as directed by Congress. The provision of AHS support for Army Special Operations Forces is challenging. These forces are lightly equipped with few organic support assets and routinely enter austere theaters before adequate support structure can be established. The Army Special Operations Forces surgeon, at all levels of command, is responsible for planning, coordinating, and synchronizing AHS support functions and missions including the coordination necessary to ensure that medical support is available when requirements exceed the organic capabilities of deployed special operations forces. The Army Special Operations Forces surgeon is also responsible for determining medical requirements and providing oversight for the requisition, procurement, storage, maintenance, distribution management, and documentation of medical supplies and equipment, as well as a host of other AHS support tasks. See FM 4–02.43 for additional information.

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Chapter 2

Medical Logistics Organizational Structure

The organizational structure of the medical force is changing rapidly. The MEDLOG support structure must also change to guarantee availability of the medical materiel necessary to provide quality care in any operational environment. Revising doctrine to reflect these changes is a vital step in the process. The period between the development and approval of emerging operational concepts is a definite factor in this process. Techniques and procedures must be provided to support all unit configurations present in the medical force. The current medical force structure is made up of units organized based on a combination of several different force designs including Medical Force 2000, Medical Reengineering Initiative, and the latest modular force design. It is important for medical planners to be familiar with these variations and recognize the mixture of forces found in theater as the Army transforms Regular Army and Reserve Component units from the current to the modular force. Therefore, information provided in this manual addresses the MEDLOG units as they appear in each of these configurations. In this chapter, the fundamentals of theater MEDLOG are discussed, as well as the organizational structure of MEDLOG units in the current force. The legacy MEDLOG units configured in accordance with Medical Force 2000 and Medical Reengineering Initiative are covered in Appendix B.

SECTION I — THEATER MEDICAL LOGISTICS

FUNDAMENTALS OF THEATER MEDICAL LOGISTICS SUPPORT

2-1. Theater MEDLOG operations require thorough planning and execution to ensure sustainment of supported units. In theater, Army MEDLOG is planned and executed as part of the GCC and ASCC medical support plan and must be structured and managed to be responsive to health care requirements as part of an integrated jointly operating AHS.

2-2. Medical logistics units are organized to leverage distribution and information management in order to minimize, to the extent possible, the number of layers of inventory storage and materiel management. Combat casualty care in the most forward operating units relies on a total supply chain strategy that is based on rapid and direct access to commercial inventories at the national level and the ability to transport and distribute medical materiel quickly enough to respond to clinical requirements emerging from the theater. Class VIII supply support activities (SSAs) provide the capability to establish distribution operations within a theater and tailor stockage to meet mission-specific requirements. The BCT support battalions have the organic MEDLOG capabilities to manage distribution to far-forward medical elements and carry operating stocks to support health care operations for limited periods (typically three days). Figure 2-1 depicts the flow of Class VIII materiel in theater.

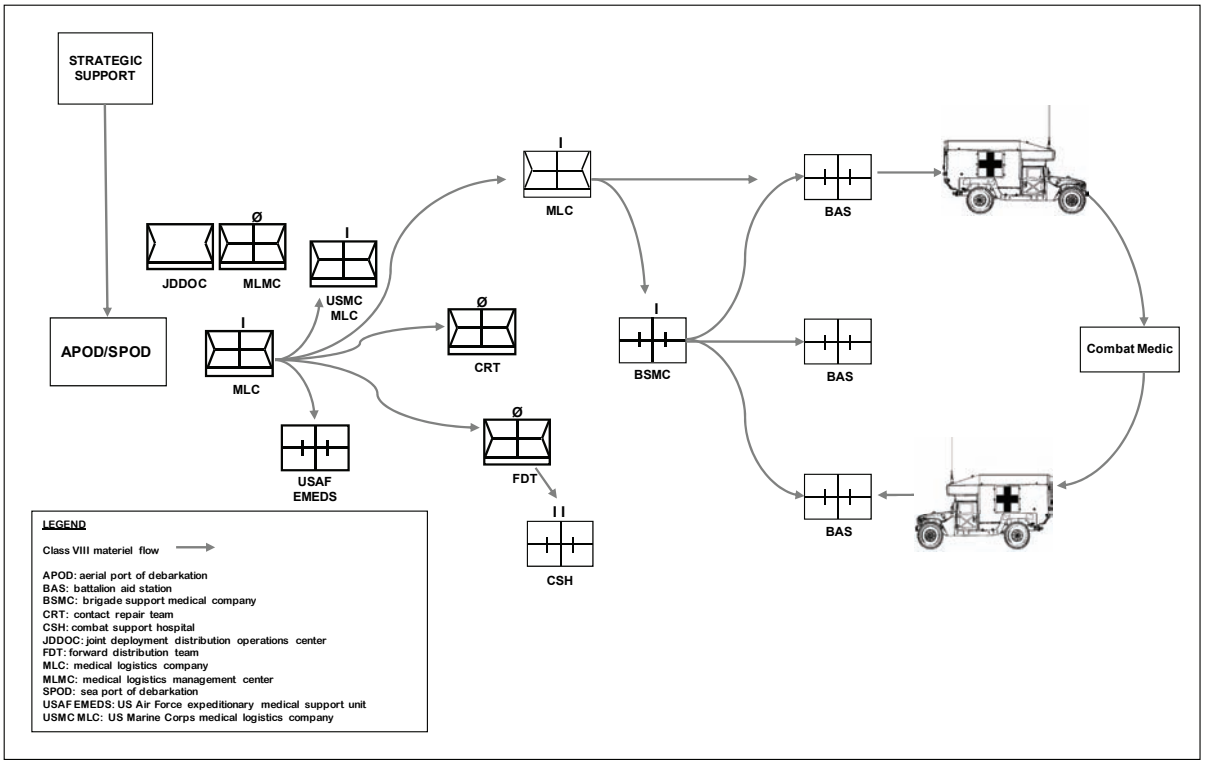

Figure 2-1. Class VIII materiel flow

2-3. The commander prioritizes the mix of forces based on the time-phased force and deployment data. The time-phased force and deployment data must incorporate detailed MEDLOG planning to ensure that the logistics infrastructure supports austere and mature theater requirements by synchronizing force deployments with functional MEDLOG units and resources prior to operations. Active and continuous command involvement in all stages of force projection, coupled with detailed reversed planning, combine to ensure that the right forces with the right support are available and ready to conduct operations.

2-4. Medical logistics is anticipatory with select units capable of operating in a split-based mode. Medical logistics is provided by a combination of the following organizations—

- Medical logistics company.
- Blood support detachment.
- Optometry detachment (organizational structure and functions covered in Chapter 6).
- Medical logistics management center.
- United States Army Medical Materiel Agency Medical Logistics Support Team (MLST).

SECTION II — MEDICAL LOGISTICS SUPPORT ORGANIZATIONS IN THE CURRENT FORCE

MEDICAL LOGISTICS COMPANY

MISSION

2-5. The MLC (TOE 08488A000) mission is to provide direct support for medical materiel, medical equipment maintenance, optical lens fabrication and repair, and PMIs to BCTs and EAB medical units operating within the AO. The MLC has no organic blood support capability. A cell from the blood

support detachment may be collocated with the company to provide blood support to supported medical units. Figure 2-2 depicts the organizational structure of the MLC.

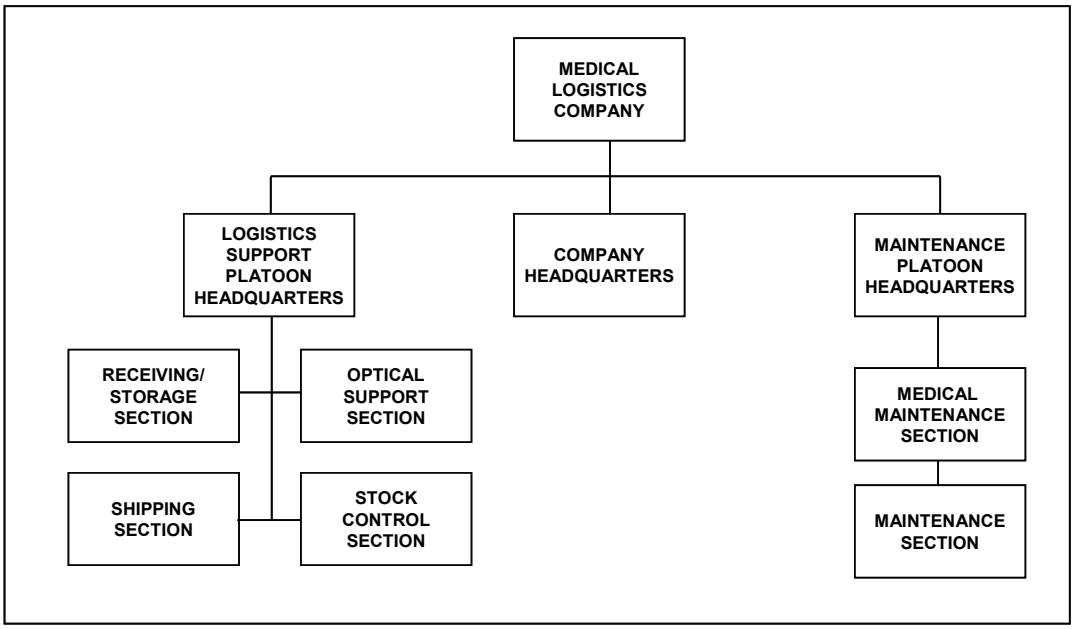

Figure 2-2. Medical logistics company (Table of Organization and Equipment 08488A000)

2-6. The MLC may be assigned to the medical battalion (multifunctional) (MMB) or senior medical command and control (C2) element within the AO. The company has the capability for limited self-sustainment during initial operations, meeting the requirement for early-entry into the AO or as part of a task force organization.

BASIS OF ALLOCATION

2-7. The basis of allocation is one MLC per 11.1 short tons of Class VIII issued per day.

CAPABILITY

2-8. The MLC—

- Provides Class VIII, single and multivision optical fabrication and repair, and medical equipment maintenance support to a maximum force of 22,000 Soldiers.
- Receives, classifies, and issues up to 11.1 short tons of Class VIII supply.
- Provides storage for up to 51 short tons of Class VIII supplies.
- Builds and positions Class VIII support packages, as required in support of BCTs and EAB medical units or contingencies.
- Provides field- and sustainment-level medical equipment maintenance for medical equipment belonging to medical units operating within the AO and is capable of deploying three contact repair teams (CRTs).
- Provides reconstitution of MEDLOG units, sections, or teams.
- Coordinates for emergency delivery of Class VIII supplies.
- Provides one food service specialist to supplement the food service section of the unit to which it is assigned or attached.
- Provides internal unit maintenance.
- Fulfills the SIMLM supply and requisition processing mission for all joint forces in the theater, when so designated by the combatant commander.

ORGANIZATIONAL STRUCTURE

Company Headquarters

2-9. This section provides C2 of the MLC. Personnel assigned within this section supervise and perform unit plans and operations and general supply functions.

Logistics Support Platoon

2-10. The logistics support platoon headquarters provides C2 of the platoon. This platoon ensures that stocks remain in an issuable condition while in storage. This includes the planning prior to receipt of supplies, locating stocks that facilitates first-in/first-out handling using space efficiently, and maintaining segregation and disposition of stock as determined by the accountable officer.

Receiving and Storage Section

2-11. This section processes receipt documents for incoming shipments. It is responsible for the storage, preservation, location, and accountability for medical supplies and equipment. It is capable of deploying a five person mobile forward distribution team for split-based operations.

Shipping Section

2-12. This section plans for and coordinates the release of materiel to transportation, stages shipments for pick up, and prepares movement documents. This section is capable of deploying a five-person mobile forward distribution team for split-based operations. This section must stay in close synchronization and communication with the TSC/ESC DMC or the sustainment brigade support operations section in order to use theater transportation assets to deliver supplies.

Stock Control Section

2-13. This section maintains accountability for all medical materiel and coordinates all stock control functions. It also maintains accountability for all materiel received, stored, and issued in the MLC. This section is capable of deploying a three-person mobile forward distribution team in support of split-based operations.

Optical Support Section

2-14. The optical support section performs optical fabrication and repair of single and multivision eyewear, as well as safety eyewear and sunglasses. This section is capable of filling unit requisitions for routine replacement of eyewear or inserts when the necessary information is obtained from the Soldier's medical record. This section can support emergency replacement of eyewear or inserts through an established emergency request system using transportation available to the MLC, brigade medical supply office (BMSO), and other medical units within the MLC AO.

Maintenance Platoon

2-15. The maintenance platoon headquarters provides C2 for the platoon. The platoon performs field and sustainment medical equipment maintenance services on an area basis. It also provides organizational maintenance for all vehicles and power generation equipment organic to the company.

Medical Maintenance Section

2-16. This section performs sustainment maintenance services to all units within the company's AO including the ordering and storage of Class VIII repair parts. It also performs field maintenance for units in its AO which do not have organic medical equipment maintenance personnel assigned or attached or are not supported by medical equipment repairers from other units. This section can deploy three mobile CRTs.

Maintenance Section

2-17. This section is responsible for organizational maintenance including vehicle maintenance, equipment records and repair parts, internal fueling operations, and power generation repair for organic company assets.

BLOOD SUPPORT DETACHMENT

MISSION

2-18. The blood support detachment (TOE 08489A000) (Figure 2-3) provides collection, manufacturing, storage, and distribution of blood and blood products to EAB medical units and to other operations. Refer to Chapter 7 for additional information on blood support operations.

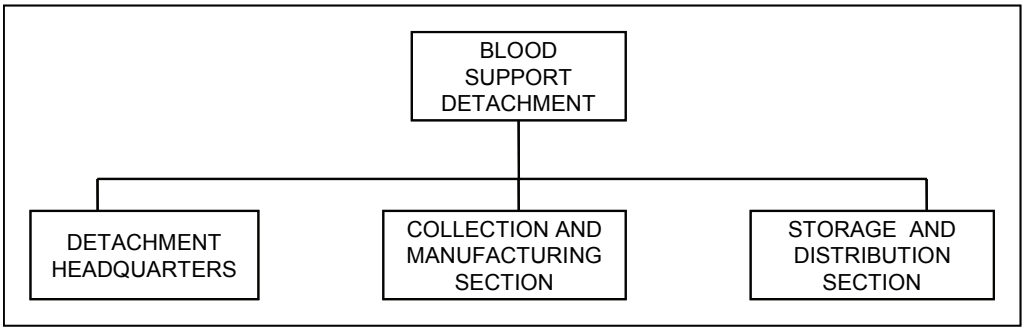

Figure 2-3. Blood support detachment (Table of Organization and Equipment 08489A000)

2-19. The detachment may be attached or assigned to the MMB. In the event the unit deploys without the MMB, the detachment will rely on the unit to which it is assigned for C2 and life support. The detachment must coordinate with the major blood storage unit (if required), such as the USAF Expeditionary Blood Transshipment Center (EBTC), for resupply purposes. The detachment provides flexibility to shift personnel between collection and distribution missions, as required. The detachment is dependent upon appropriate EAB elements for AHS support, medical equipment maintenance and repair, supplemental transportation, financial management, human resources support, religious, and legal services, and technical intelligence for captured medical materiel. The detachment also requires augmentation in a chemical, biological, radiological, and nuclear (CBRN) environment for decontamination and may require supplemental signal assets for bandwidth communications. Additionally, the detachment requires support from the USAF EBTCs for blood requirements from CONUS blood donor centers and the Armed Services Whole Blood Processing Laboratory. See Chapter 7 for additional information on blood management.

BASIS OF ALLOCATION

2-20. The basis of allocation is one blood support detachment per 100,000 Soldiers in the theater and one per 150,000 service members for joint operations.

CAPABILITY

2-21. This unit is capable of—

- Providing blood and blood products to MTFs operating at EAB.
- Ensuring the receipt, re-icing, and transshipment of packed red blood cells (RBCs) and blood products from the USAF EBTC.
- Providing refrigerated storage for 4,080 units of packed RBCs.
- Distributing boxes of packed RBCs and other blood products to EAB MTFs through three blood distribution teams (while not collecting and/or manufacturing blood).

- Deploying a forward distribution augmentation cell to MLCs, when required. These teams are capable of performing emergency collections (when not collecting and/or manufacturing blood).
- Collecting up to 432 units of whole blood every 24 hours and manufacturing 432 units of packed RBCs every 24 hours after an initial 24 hour delay (while not distributing blood).

ORGANIZATIONAL STRUCTURE

Detachment Headquarters

2-22. The detachment headquarters provides C2 for the blood support detachment. Personnel assigned to this section supervise and perform unit plans and operations, general supply, life support, and maintenance functions.

Collection and Manufacturing Section

2-23. This section is responsible for the collection, manufacturing, and quality control over all blood stocks at EAB.

Storage and Distribution Section

2-24. This section is responsible for inspecting incoming blood shipments and processing receipt documents. It is also responsible for the storage, preservation, location, and accountability for blood and blood products. It distributes blood and blood products to EAB medical units. The section may task organize and send personnel forward to support MLCs when required.

MEDICAL LOGISTICS MANAGEMENT CENTER

MISSION

2-25. The MLMC's (TOE 08670G000) mission is to provide centralized, theater-level commodity management of Class VIII materiel in accordance with the ASCC surgeon's policies. This organization operates in a split-based mode, with a nondeployable base, two forward support teams (early entry), and two forward support teams (follow-on). The MLMC is capable of deploying these teams while maintaining base operations in CONUS. One team deploys to support each theater. When deployed, the MLMC forward support team is assigned to the MEDCOM (DS). The organizational structure for the MLMC is shown in Figure 2-4.

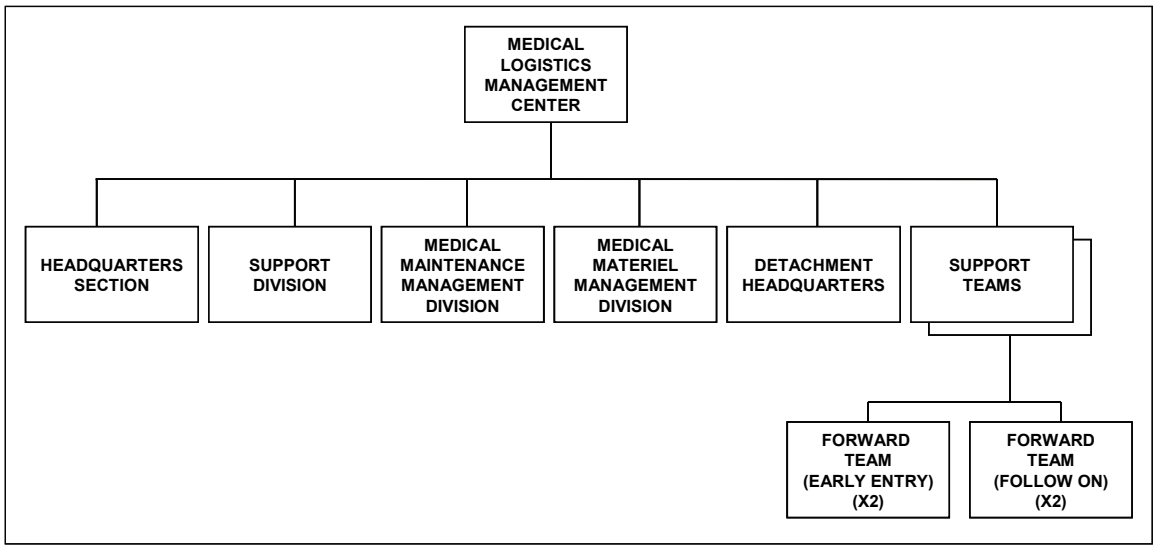

Figure 2-4. Medical logistics management center (Table of Organization and Equipment 08670G000)

2-26. The MLMC provides centralized, strategic-level management of critical Class VIII materiel, PMIs, optical fabrication, contracting, and medical equipment maintenance support. When deployed, the MLMC forward support team is assigned to the MEDCOM (DS) and collocates with the DMC of the TSC/ESC, as well as the joint deployment distribution operations center, if established. The forward support team serves as a link between national-level support and theater-level distribution and is dependent upon appropriate elements of the ASCC for AHS support, food service support, transportation, laundry and bath, finance, personnel and administrative services, religious, legal, communications, and unit-level maintenance support. The MLMC operates the Theater Army Medical Management Information System (TAMMIS) until it can be replaced.

BASIS OF ALLOCATION

2-27. Only one MLMC is required in the force. This unit contains a nondeploying base element and two theater support teams. Each team supports a separate theater.

CAPABILITY

2-28. The MLMC is capable of—

- Monitoring the operation of MEDLOG units in all AOs.
- Monitoring receipt and processing of Class VIII requisitions from MEDLOG units of all Services.
- Reviewing and analyzing demands and computing theater requirements for Class VIII supplies, medical equipment, and medical equipment maintenance.
- Monitoring and evaluating workload, capabilities, and asset position of the supported MEDLOG units of all Services and directs cross-leveling of workload or resources to achieve compatibility and maximum efficiency.
- Implementing plans, procedures, and programs for medical materiel management systems.
- Conducting limited predeployment training of MEDLOG management information systems (such as TAMMIS, MC4, and DCAM) for deploying medical units.
- Preparing medical materiel management data and reports as required.
- Providing medical contracting support.

- Performing the SIMLM information management and distribution coordination mission to joint forces, as directed.
- Serving as the management interface with CONUS Class VIII national inventory control points and strategic partners.
- Managing critical items and analysis of production capabilities.
- Serving as liaison with the materiel distribution manager at EAB for distribution of Class VIII supplies within the AO.
- Deploying MLMC forward support teams into multiple AOs, as required.

ORGANIZATIONAL STRUCTURE

Headquarters Section

2-29. This section provides C2, planning, direction, and administrative support for the MLMC.

Support Division

2-30. This division coordinates staff functions pertaining to MEDLOG. It is responsible for the placement and operation of the MLMC forward support teams and the execution of operational plans.

Materiel Management Division

2-31. The materiel management division is responsible for monitoring Class VIII materiel management in CONUS and in multiple theaters, as well as the following:

- Maintains daily visibility of medical materiel assets positioned in multiple theaters and the availability of CONUS-based stocks.
- Monitors requisitions for critical items and analyzes stockage objectives.
- Performs special studies and analysis of logistical data and interfaces with the national inventory control point. All theater requisitions for Class VIII materiel are routed through this division for resupply/replenishment actions.
- Establishes and monitors contracts for critical medical items and services and provides technical guidance to medical contracting personnel within the AO.

Medical Maintenance Management Division

2-32. The medical maintenance management division is responsible for the theater medical equipment maintenance program. It serves as the medical maintenance consultant to multiple ASCC surgeons. Analysis of workload data, bench stock management, and maintenance programs are part of this division's activities. The division reviews maintenance status and performance reports and manages allocation of maintenance personnel assets and Medical Standby Equipment Program (MEDSTEP) items. It also provides assistance to units with maintenance backlogs through resource allocation and equipment evacuation policies.

Forward Support Teams

2-33. The MLMC forward support teams provide centralized management of medical materiel, medical maintenance, and coordination for the distribution of Class VIII materiel within the AO in support of force projection operations. These teams also provide medical contracting support for the theater and transmit automated management data back to the MLMC base via satellite communications. The teams are dependent on elements of the TSC (when collocated with the DMC) for AHS support, food service support, transportation, laundry and bath, finance, personnel and administrative services, legal, religious support, communications, and unit maintenance.

2-34. The forward support teams will collocate with the senior distribution manager to coordinate the movement of Class VIII within the AO. When designated, the MLMC, in conjunction with the MLC, will serve as the SIMLM for joint operations. The MLMC is capable of split-based operations, deploying two

forward teams consisting of sufficient personnel and equipment to support two different MCOs. Each MLMC forward team consists of two distinct elements, one forward team (early entry) combines with one forward team (follow-on) to make one complete team. Each element is capable of the following:

- The two forward teams (early entry) are capable of deploying as an early entry element to provide centralized management of medical materiel, medical maintenance, medical contracting operations, and coordination of the distribution of Class VIII materiel within the AO. The team's logistics chief will serve as the team commander when deployed. The early entry team can provide liaison officers (or noncommissioned officer) to each deployed MEDLOG unit of all Services and to the ASCC surgeon's location as required. The team will provide the information management and distribution coordination portion of the SIMLM mission, when the Army is designated as the SIMLM by the combatant commander, for joint operations. When deployed, the team will be subordinate to the MEDCOM (DS) and collocates with the DMC of the TSC/ESC.
- The two forward teams (follow-on) augment the early entry teams to provide additional centralized theater-level inventory management of Class VIII materiel in accordance with the ASCC surgeon's policy. The forward teams (follow-on) are capable of deploying as a follow-on element to provide additional centralized management of critical Class VIII materiel, PMIs, medical maintenance, and optical fabrication support. These teams are not meant to deploy independently of the forward teams (early entry).

Detachment Headquarters

2-35. The detachment headquarters provides C2 of the MLMC. The personnel of this section supervise and perform unit and general supply functions, billeting, discipline, security, readiness, and training for the MLMC. Maintenance personnel will supplement a collocated unit for daily work assignments in support of the MLMC.

UNITED STATES ARMY MEDICAL MATERIEL AGENCY MEDICAL LOGISTICS SUPPORT TEAM

MISSION

2-36. The MLST is a deployable table of distribution and allowances (TDA) organization comprised of up to 48 MEDLOG personnel (military, DA civilians, and contractors) from USAMMA. The mission of the MLST is to deploy to designated locations worldwide to deliver MEDLOG capabilities and solutions in support of Army strategic and contingency programs. The MLST has the capability to support multiple simultaneous Army Pre-positioned Stock (APS) fieldings anywhere in the world. The MLST supports the RSOI issue of APS unit sets and sustainment stock pre-positioned around the world, pushed in from the APS located ashore or afloat. This includes the introduction of additional Class VIII materiel not previously pre-positioned.

2-37. Upon initial deployment, the MLST is normally under the operational control of the USAMC's Army field support brigade and coordinates medical unit fielding priorities with the senior medical C2 element in theater. Upon completion of the APS transfer or other assigned missions, the team redeploys to CONUS. The MLST may be deployed back to the theater to support the redeployment of US forces and medical materiel from the operational area to follow-on CONUS or outside the continental US (OCONUS) locations.

2-38. At a minimum, the MLST requires security, materiel handling equipment, transportation, and Class I support in order to conduct its mission. Additionally, the team will require personnel augmentation from the gaining tactical unit or a MEDLOG unit to ensure rapid and accurate hand-off of APS equipment.

CAPABILITY

2-39. The MLST is configured based on the equipment density of APS materiel being issued, but typically the team is organized into hand-off teams for APS hospital (Role 3) and BCT (Roles 1 and 2) equipment. The MLST's capabilities include—

- Initial fielding and hand-off of APS, TSG contingency stock or unit deployment packages (UDPs), and TSG-directed modernization medical equipment (not sustainment).
- Medical equipment maintenance, technical inspection, and repair (type/density dependent).
- Initial APS Class VIII sustainment stock transfer to the designated theater SIMLM.
- Class VIII technical and staff assistance to medical units within the operational area.
- Medical materiel transfer and training of key unit personnel on inserted medical technology.

UNITED STATES ARMY MEDICAL MATERIEL AGENCY FORWARD LOGISTICS SUPPORT ELEMENT

2-40. The need for a USAMMA forward logistics support element was recognized during Operation Iraqi Freedom (OIF). The USAMMA forward logistics support element was established to serve as a liaison with the ASCC, MEDCOM (DS), and the Army field support brigade. This element deploys from home station to execute key liaison tasks, address MEDLOG support issues, and provide MEDLOG staff assistance support to deployed units.

2-41. This element has the capability to reach back to USAMMA in CONUS through the Agency's emergency operations center to access MEDLOG and medical equipment maintenance systemwide knowledge in support of deployed forces. The USAMMA forward logistics support element is also capable of—

- Executing liaison functions with the USAMC for the integration and synchronization of USAMC-managed APS Class II and VII materiel for supported medical units.
- Serving as a liaison to the GCC surgeon's staff.
- Serving as the USAMMA customer assistance representative for all units in theater.
- Resolving Class VIII supply and medical equipment maintenance issues related to centralized programs and medical materiel fieldings.
- Providing integrated logistics support assistance to supported medical units.
- Identifying and providing solutions for MEDLOG issues with theaterwide implications.

2-42. This additional support frees up the MLST commander and staff, allowing them to focus on the transfer of APS materiel to supported medical units. Refer to Supply Bulletin (SB) 8-75-S7 for additional information on the MLST and USAMMA forward logistics support element.

Chapter 3

Medical Logistics Operations

The function of providing supply distribution to the force consists of wide-ranging actions. These actions are based on real-time information extending from the requisition of a sustainment requirement at the tactical level or the user, receipt of request for requirements at the strategic level, and ultimately, the actual delivery of that materiel at the tactical level. Operational logistics links strategic logistics to tactical logistics in the AO, ensuring support and success at the tactical level. To be successfully implemented, these actions must be synchronized over thousands of miles, using multiple communications systems, employing countless numbers and types of distribution-related equipment, and thousands of individuals executing their duties in support of MEDLOG distribution operations. Further, the rapid deployment requirements of the current force and ultimately, the modular force require that this global distribution system respond immediately and consistently to the Soldier in a near-flawless manner. The bottom line for an effective supply distribution system is that it must track and deliver the requested items at the appropriate time and place and in the quantity necessary for operations to be sustained.

SECTION I — LEVELS OF SUSTAINMENT

3-1. Critical to ensuring that sustainment distribution meets the Soldiers' needs, is establishing a functional theater distribution plan that enables a responsive Army supply chain from the tactical level to the strategic sustaining base. This section covers general supply operations in greater detail at the strategic, operational, and tactical levels of sustainment. Class VIII commodity management and distribution at each of these levels are discussed in Chapter 1 of this manual and Sections II through XI below. Figure 3-1 below depicts the logistical changes taking place as the Army transforms to the modular force.

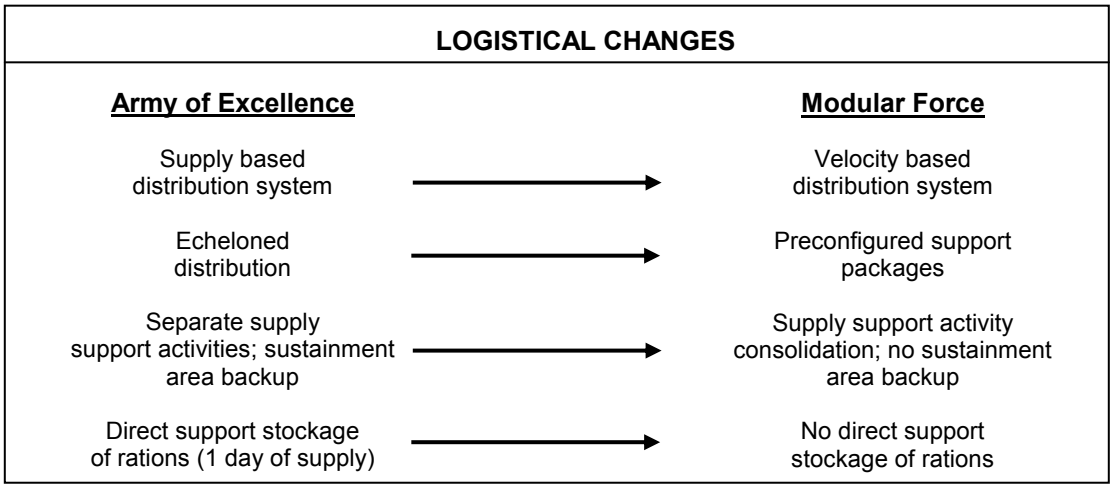

Figure 3-1. Transformation to the modular force

STRATEGIC LEVEL

3-2. At the strategic level, supply activity focuses on the determination of projected realistic, supportable resource requirements; the acquisition, packaging, management, and positioning of supplies; and the coordinated movement of materiel into the theater and staging areas. All sources or potential sources of supply are considered to reduce the deployment requirements of deploying forces. Some of these sources are host-nation support, APS, contracting, and joint and multinational forces.

3-3. Through a system of national inventory control points, the DLA, USAMC, US Transportation Command (USTRANSCOM), USAMEDCOM, and others serve as the supply managers at the strategic level. They work with individual GCCs through various Service component commands to plan for and satisfy the supply needs of the theater. They are the link between the strategic- and operational-level bases responsible for filling the distribution system with the supplies necessary to support the GCC.

3-4. Prior to hostilities and the deployment of forces, the most demanding task at the strategic level is determining the initial support needed and where and how to pre-position the supplies to afford the most flexibility to the supported GCCs. Also of great importance is the establishment and maintenance of the US-industrial base, for it is here the Services satisfy the vast majority of their supply requirements.

3-5. The DLA has many DOD logistics-related functions, but the industrial base is its primary focus. It is also the worldwide-integrated manager for subsistence, petroleum, and property disposal operations. These disposal functions are managed by the Defense Reutilization Management Office.

3-6. The USAMC is the focal point for Army sustainment needs. As such, it has many roles but some of the most important are: the Army's maintenance manager, the DOD single manager for conventional ammunition, the Army's industrial base manager, the APS manager, and the Army's Logistics Civil Augmentation Program (LOGCAP) manager.

3-7. From the Army's point of view, the USAMC's role as the APS manager is very important. Since the Army is expected to rapidly deploy in response to a conflict, processes have to be in place to support this force until the industrial base can react and the lines of communications can be established. Army pre-positioned stocks may be used to address these challenges. These stocks are established at the minimum level needed to sustain and equip the deployed forces as outlined in the Defense Planning Guidance. Release authority for MCOs generally lies with the Chairman, Joint Chiefs of Staff or the Chief of Staff of the Army. For lesser-scale contingency operations, Headquarters, Department of the Army usually has release authority.

3-8. Army pre-positioned stocks are determined by requirements detailed in the Automated Battlebook System, for which the Forces Command is the proponent. Using the Army War Reserve Deployment System, the USAMC continuously updates the Automated Battlebook System. There are four categories of APS. Each is briefly described in Section IX of this chapter.

3-9. Though not a provider of supplies, the USTRANSCOM provides the management and means to move supplies to the theater. It also plays a vital role in establishing and maintaining joint total asset visibility. It provides common-user airlift, sealift, and terminal services to deploy and sustain US Forces on a global basis. The USTRANSCOM, DLA/USAMC, and other agencies involved in sustaining the theater, coordinate their activities to accomplish the overall mission of supporting the GCCs.

3-10. Automated identification technology must be totally implemented at the strategic level for distribution management to function as designed. This technology provides real-time data as to the total, by national stock number (NSN), status of equipment and supplies at depots, commercial vendors, the current inventory-in-motion, and pre-positioned assets. Rapid force projection and flexible sustainment simply could not be accomplished without this technology. Additional information about automated identification technology is provided in Appendix C.

OPERATIONAL LEVEL

3-11. Supply distribution at the operational level involves the requisitioning or acquiring, receipt, storage, protection, maintenance, distribution, and salvage of supplies. At the operational level, current force

initiatives begin to exert a major influence on the sustainment environment. This environment consists of the ASCC and the TSC, its primary logistics staff agency. The TSC with its DMC is the Army's major player at the operational level. However, to smooth the strategic to operational transition, it is not unusual for the strategic base to deploy some of its assets to work as part of the operational-level support force. For example, the DLA may send contingency support teams and the USAMC may deploy logistics support elements to ensure that timely support is provided to the GCC. This practice is sometimes referred to as the theater-strategic level of sustainment.

3-12. The various operational-level sustainment agencies are assigned their logistics responsibilities in accordance with Title 10, United States Code, DODDs, interagency agreements, and applicable federal laws. Within these guidelines, the combatant commander has many options when establishing the theater support system. For example, the combatant commander may use either the dominant-user or the most-capable Service concept to assign Service-specific joint responsibilities. The Army is usually assigned the role of theater petroleum provider. The TSC, if directed, would provide specific sustainment requirements for the Army, as well as those for the joint community.

TACTICAL LEVEL

3-13. All activities required in support of Soldiers and systems are planned and synchronized at the tactical level. The managers at this level are geared to satisfy specific tactical requirements and needs tend to be more immediate. Therefore, the tactical level relies very heavily on the effective application of agility, velocity, and situational awareness. The support units assigned to the sustainment brigade have a functional, modular structure. The brigade support battalions are also modular and multifunctional. The organizational structure of tactical-level sustainment units within the BCT is fixed and they deploy with their embedded supported units. This type of support relationship rarely changes.

3-14. Automatic identification technology/AISs are also heavily employed at the tactical level. At this level the focus is almost entirely on the distribution system because there are few stockpiles and commanders require the up-to-date status on what and how much is coming and when it is to arrive.

SECTION II — INTEGRATED MEDICAL LOGISTICS MANAGEMENT

3-15. Medical logistics support is normally a Service responsibility. However, in joint operations, a SIMLM may be designated by the combatant commander to provide centralized MEDLOG support to all Services and multinational partners (when directed) operating in the operational area. The SIMLM is established to promote supply chain efficiency and minimize the theater MEDLOG footprint. The activation of the SIMLM mission is dependent upon the time phased force deployment list supporting the contingency. As the dominant user, the Army has been formally tasked by the DOD to perform the peacetime SIMLM mission through the MEDLOG centers in Europe and Korea.

3-16. The SIMLM system encompasses the provision of Class VIII (medical supplies, medical equipment maintenance and repair, blood management, and optical fabrication) to all joint forces within the theater, except Navy gray hull ships. Medical logistics support can be provided to Navy hospital ships for common, demand-supported medical supplies in the later stages of theater development.

3-17. When directed, the SIMLM, in coordination with the ASCC surgeon, DOD EA, and supporting TLAMM (if designated), will develop the theater MEDLOG support plan and identify additional requirements necessary to provide MEDLOG support to forward medical elements and all designated customers in theater. The assignment of the SIMLM is mission-specific and depends on the composition of the supported force and the complexity of intratheater distribution.

3-18. The TLAMM, like the SIMLM, is designated by the combatant commander (in coordination with the DOD EA). The TLAMM serves as a major theater medical distribution node and provides the face to the customer for MEDLOG and supply chain management. The TLAMM also serves as the single point of contact between supported customers and numerous national-level industry partners. It stores and manages the distribution of medical materiel through close coordination with theater transportation and movement management activities in support of the GCC's logistics plan.

3-19. The TLAMM provides theater- or strategic-level medical materiel management and distribution for the GCC, while the SIMLM mission extends the supply chain forward into the theater in support of tactical units. Refer to Joint Publication (JP) 4-02 for additional information on SIMLM and TLAMM operations.

SECTION III — MEDICAL LOGISTICS MANAGEMENT IN THE OPERATIONAL ENVIRONMENT

UNITED STATES ARMY MEDICAL MATERIEL AGENCY MEDICAL LOGISTICS SUPPORT TEAM

3-20. The MLST will be deployed from USAMMA in support of RSOI of APS in the AO. The MLST provides medical materiel and maintenance capability, equipment accountability, and transfer support of reception operations at aerial ports of debarkation/sea ports of debarkation. This provides pre-positioned mission-ready medical supplies and equipment for deploying units.

3-21. The USAMMA Forward Logistics Support Element may also be deployed to serve as a liaison with the ASCC, MEDCOM (DS), and the Army field support brigade. This support frees up the MLST, allowing them to focus on APS. See SB 8-75-S7 for additional information.

MEDICAL COMMAND (DEPLOYMENT SUPPORT)

3-22. The MEDCOM (DS) (TOE 08640G000) serves as the senior medical command within the theater in support of the ASCC. The MEDCOM (DS), as the theater medical force provider, delivers the medical C2 necessary to provide quality health care in support of deployed forces. The MEDCOM (DS) is a dedicated, regionally focused command with a basis of allocation of one per theater and provides subordinate medical organizations that operate under the MEDBDE and/or MMB, and forward surgical teams (FSTs) or other augmentation required by supported units. The MEDCOM (DS) is a versatile, modular medical C2 structure composed of a main command post and an operational command post (OCP). The main command post and OCP are standard requirements code identified modules capable of providing scalable medical C2 to the GCC. The OCP can be early deployed as the medical element of the MEDCOM (DS). The main command post can be deployed to augment the OCP or remain in sanctuary as the primary C2 medical element of the headquarters and headquarters company, MEDCOM (DS). Both modules are 100 percent mobile.

3-23. The role of the MEDCOM (DS) in MEDLOG support is to control and supervise Class VIII supply and resupply (including blood management) within the theater. The health services materiel officers and MEDLOG specialists (Military Occupational Specialty [MOS]) (68J) within the MEDCOM (DS) are responsible for the coordination and orchestration of MEDLOG operations to include Class VIII supply, distribution, medical maintenance and repair support, optical fabrication, and blood management including planning and support for the SIMLM, when designated. Refer to FM 4-02.12 for more definitive information.

3-24. The MEDLOG functions of the MEDCOM (DS) are AO/joint operations area focused providing oversight or C2 of MEDLOG functions within subordinate units including the functions of the MLMC. The MEDCOM (DS) maintains the *command* link between the MEDBDE and the *coordination* link with the TSC through the MLMC. Medical logistics support operations within the MEDCOM (DS) are conducted by MEDLOG personnel within the office of the deputy chief of staff, logistics and the MEDLOG support section. Medical logistics personnel are assigned within the main command post and OCP and deploy with the element to which they are assigned.

MEDICAL LOGISTICS SUPPORT SECTION

3-25. The MEDLOG support section of the MEDCOM (DS) establishes policy, monitors, coordinates, and facilitates MEDLOG operations within the theater including Class VIII supply and resupply, blood management, medical equipment maintenance, and optical fabrication. This section also—

- Establishes a liaison with the TSC, through the MLMC forward support team.
- Coordinates with and provides MEDLOG support for all Services deployed in the AO including planning and support for the SIMLM mission (when the Army is designated).
- Coordinates with the theater distribution centers for all transportation issues related to the distribution of Class VIII materiel in the theater.
- Coordinates the fielding of APS.
- Provides health facility planning support for the theater.
- Coordinates for area medical laboratory support.
- Coordinates and facilitates contracting operations in support of the theater medical mission.

MEDICAL LOGISTICS MANAGEMENT CENTER FORWARD SUPPORT TEAM

3-26. The MLMC operates in a split-based mode, with an MLMC base organization and two forward support teams. The MLMC forward support team provides centralized management of medical materiel and services, medical maintenance, and MEDLOG planning and coordination in support of medical contracting for the theater. The MLMC, in conjunction with the MLC or MMB and supported by the MEDCOM (DS), may be designated by the combatant commander to serve as the SIMLM for joint operations.

3-27. The MLMC support team will have the capability to prioritize, redirect shipments, and direct theaterwide cross-leveling of Class VIII assets. The MLMC forward support team is subordinate to the MEDCOM (DS) and collocates with the DMC of the TSC/ESC serving as the strategic to operational link for Class VIII materiel and medical maintenance.

MEDICAL BRIGADE

3-28. The MEDBDE (TOE 08420G000) provides a scalable expeditionary medical C2 capability for assigned and attached medical functional organizations task-organized for support of the BCTs and supported units at EAB. The MEDBDE provides all of the medical C2 and planning capabilities necessary to deliver responsive and effective AHS support. The MEDBDE ensures the right mixture of medical professional (operational, technical, and clinical) expertise to synchronize the complex system of medical functions required to maintain the health of the force by promoting fitness, preventing casualties from DNBI, and promptly treating and evacuating those injured on the battlefield.

3-29. The design and flexibility of the MEDBDE facilitates the AHS's ability to meet expeditionary health care support requirements in support of early-entry forces. As the supported forces grow in both size and complexity, the MEDBDE can deploy additional modules that build upon one another to support full spectrum operations. The MEDBDE provides the appropriate medical C2 to continue to build medical force capabilities through the integration of Army, joint, and multinational medical forces to ensure the identification and countermeasures to address any health threats in the AO. This permits the MEDBDE to transition from expeditionary health care support operations to providing quality AHS support in the AO. The MEDBDE in coordination with the MEDCOM (DS) provides health facility planning support to the theater. See Chapter 8 for health facility planning support provided in the theater.

3-30. The MEDBDE consists of an early entry module, expansion module, and campaign module. These modules enable the commander to tailor the unit to meet the requirements of a specific mission based on mission, enemy, terrain and weather, troops and support available-time available and civil considerations. When required, an MMB may be employed to provide medical C2 and operational planning for task-organized medical functional teams, detachments, and companies.

3-31. The role of the MEDBDE in MEDLOG operations is to plan, coordinate, and supervise Class VIII supply and resupply (including blood management) support within the unit's AO. Medical logistics operations within the MEDBDE are conducted by the S-4 logistics operations branch and the S-4 logistics plans branch within the MEDBDE S-4 shop. The MEDBDE can also serve as the SIMLM, when designated by the combatant commander. See FM 4-02.12 for a full description of the MEDBDE.

S-4 LOGISTICS OPERATIONS BRANCH

3-32. The S-4 logistics operations branch within the MEDBDE monitors, coordinates, and facilitates MEDLOG operations within the command. The logistics operations branch plans, coordinates, controls, and manages the functional areas pertaining to the highly specialized and technical materiel and services used in support of the health care delivery system. The logistics operations branch chief exercises staff responsibility for units engaged in medical supply, optical fabrication, medical maintenance, blood support, quality control operations and other MEDLOG support. The MEDLOG personnel assigned to the S-4 logistics operations branch also—

- Ensure the acquisition, receipt, storage, and issue of all Class VIII medical supply, optical fabrication support, blood support, and medical maintenance support.
- Provide command policy and monitor the collection, evacuation, and accountability of all MEDLOG items of supply classified as salvage, surplus, abandoned, or uneconomically repairable.
- Plan, direct, and implement the multifunctional areas of medical materiel management and their integration into the overall DOD logistics system, as well as the support interface between the deployed medical logistics resources and reach to the wholesale logistics system and industry in the CONUS-support base.
- Provide oversight of units engaged in the production, acquisition, receipt, storage and preservation, issue, and distribution of medical equipment, medical equipment maintenance and repair parts, and medical supplies.
- Serve as the focal point for medical property management and accountability procedures.
- Synchronize formularies within the theater with the logistics support available to ensure efficiencies are met and pharmacological supply requests are processed accurately.
- Provide the status of all Class VIII items, critical item shortages, and the status of the automated supply systems.
- Develop, coordinate, and supervise the supply support portion of the integrated logistics support plan.
- Provide planning, direction, and guidance for medical equipment maintenance programs for the MEDBDE.

S-4 LOGISTICS PLANS BRANCH

3-33. The S-4 logistics plans branch completes the logistics staffing within the MEDBDE. This branch—

- Monitors, coordinates, and facilitates MEDLOG operations within the MEDBDE including Class VIII supply and resupply, blood management and distribution, medical equipment maintenance and repair, medical gases, and optical lens fabrication and repair.
- Plans general logistics support for the MEDBDE and its assigned or attached units.
- Monitors internal MEDLOG support and readiness in conjunction with the S-4 section.
- Coordinates MEDBDE distribution of medical supplies with subordinate units.

MEDICAL BATTALION (MULTIFUNCTIONAL)

3-34. The MMB (TOE 08485G000) is designed as a multifunctional medical battalion headquarters. It provides medical C2, administrative assistance, MEDLOG support, and technical supervision for assigned and attached medical functional organizations (companies, detachments, and teams) task-organized for support of BCTs in its area of responsibility. The MMB has an S-4 section responsible for monitoring general logistics and internal MEDLOG support and readiness as well as the MEDLOG section within the FHP operations section. It can also be deployed to provide medical C2 to expeditionary forces in early-entry operations and facilitate the RSOI of theater medical forces. All EAB medical companies, detachments, and teams in theater may be assigned, attached, or placed under the operational command of an MMB. The MMB is under the C2 of the MEDBDE/MEDCOM (DS). Refer to FM 4-02.12 for additional information.

S-4 SECTION

3-35. The S-4 section of the MMB is responsible for management, control, and coordination of general logistics for the MMB and its assigned or attached units. This section monitors MEDLOG support and readiness internal to the MMB in conjunction with the FHP operation's MEDLOG section. The S-4 section is responsible for the following:

- Maintenance of a consolidated property book for assigned or attached units.
- Logistics and maintenance planning and operations for the unit.
- Oversight of battalion motor maintenance including advice on equipment system compatibility, replacement, and economical retention as well as the evaluation of equipment performance and quality.

MEDICAL LOGISTICS SECTION

3-36. The MEDLOG section of the MMB is part of the FHP operations section and is responsible for planning, coordination, and execution of the Class VIII mission within the MMB AO. The MEDLOG personnel assigned to this section are responsible for—

- Accountability and management of stock control activities for assigned or attached MEDLOG units.
- Medical logistics support operations and the SIMLM mission, when designated.
- Providing direction and guidance for medical equipment maintenance and repair programs in the MMB.
- Facilitation of RSOI operations and coordination with subordinate MEDLOG units for the distribution of medical supplies.
- Oversight of pharmacy operations within the battalion to ensure compliance with regulatory requirements and establishing policy and procedures for dispensing over-the-counter drugs.
- Implementation of the MMB Quality assurance program for all optical fabrication production within the battalion AO.
- Management of blood and blood products as well as consultation services, technical advice for medical laboratory operations, and coordination for area medical laboratory services.

MEDICAL LOGISTICS COMPANY

3-37. The MLC is the principle MEDLOG unit that serves as the SSA for medical units within the AO and is assigned to an MMB. The MLC provides limited Class VIII storage and distribution, medical maintenance, and optical fabrication. It can partner with another MLC in the AO to operate a theater hub or deploy forward to provide medical materiel distribution and services in direct support of division-level operations or support on an area basis.

3-38. The MLC has the capability to build customized support packages to meet incoming requests and throughput them to the unit. Once supplies are identified and configured for movement to the customer, the MLC will coordinate through the MMB AHS operations section for appropriate transportation assets for distribution.

SECTION IV — CLASS VIII SUPPORT DURING INITIAL EMPLOYMENT

3-39. Medical resupply sets (MRS) and preconfigured push-packages are used to support initial sustainment operations and are not intended to replace the existing theater sustainment process. The MRS for initial sustainment operations are maintained by the USAMMA as part of the APS program's Army War Reserve Sustainment (AWRS) stocks. The AWRS stock is used to resupply a unit after they have consumed their unit basic load and is discussed further in Section IX.

3-40. During the initial employment phase, the brigade support medical company (BSMC) of the BCT receives medical resupply sets or preconfigured push-packages, as needed, from the supporting SSA (MLC or higher). During early-entry operations supported medical units/elements operate from planned,

prescribed loads and existing APS identified in applicable logistics plans. Initial resupply efforts may consist of preconfigured medical support packages tailored to meet specific mission requirements. Anticipatory logistics facilitates the shipment of medical resupply sets and push-packages directly from CONUS to BSMCs and area support medical companies (ASMCs) until replenishment line-item requisitioning is established. Class VIII resupply may also be directed from OCONUS sources, such as the MEDLOG centers in Germany and Korea.

3-41. Resupply by push-package is intended to provide support during early-entry operations, but may continue through the initial phase (as needed). Continuation may be dictated by operational needs (mission, enemy, terrain and weather, troops and support available-time available and civil considerations) and in accordance with patient estimates. Planning for such a contingency must be directly coordinated between the medical operations officer and the health services materiel officer (area of concentration [AOC] 70K67) located in the support operations section of the brigade support area, who will then coordinate further Class VIII resupply requirements with the supporting MLC (refer to Appendix D for Class VIII planning factors).

PURE PALLETING

3-42. Pure palleting is a process that collects Classes II, III (P), IV, VIII, and IX supply requisitions for a given Department of Defense Activity Address Code (DODAAC), configures standard support packages and other supply items into a single load and throughputs them to their destination. Packages that do not fill a whole pallet may be combined with other packages to produce mixed loads destined for multiple SSAs or DODAACs. The time limit for the collection process is usually 3 to 5 days. Mixed loads are broken down in theater, combined with other partial loads, then throughput to the servicing SSA. Pure palleting is used for the following supplies—

- Class II (CBRN, clothing, and religious supplies).
- Class III (P) (packaged petroleum, oils, and lubricants).
- Class IV (construction and barrier materials).
- Class VIII (medical).
- Class IX (batteries and repair parts).

SECTION V — MEDICAL LOGISTICS SUPPORT FOR ROLES 1 AND 2 MEDICAL TREATMENT FACILITY OPERATIONS

CLASS VIII SUPPLY OPERATIONS FOR ROLES 1 AND 2 MEDICAL TREATMENT FACILITIES

3-43. The Class VIII supply functions for medical units/elements operating Roles 1 and 2 MTFs are primarily the management of MESs and basic ordering for replenishment. The replenishment function within the BCT is performed by the BMSO of the BSMC. Medical equipment maintenance and repair, optical fabrication, and blood support will not be addressed in this chapter. See Chapters 5, 6, and 7 for definitive information concerning these functions.

COMBAT LIFESAVER

3-44. The combat lifesaver is a nonmedical Soldier trained to perform enhanced first aid and lifesaving procedures beyond the level of self-aid or buddy aid. Although not a health care provider, he is a recipient or consumer of medical materiel. The combat lifesaver assigned to a unit with organic medical support receives normal resupply through the medical platoon. Combat lifesavers assigned to units without organic medical support will be resupplied by the medical element providing area medical support. The combat medic can also provide emergency resupply to the combat lifesaver. This type of resupply should not be practiced on a routine basis as it presents logistical problems for the combat medic. It should be noted that the combat medic may not carry all of the exact medical items carried by the combat lifesaver.

COMBAT MEDIC

3-45. The combat medic requests Class VIII supplies from the medical platoon/battalion aid station (BAS). The requests are communicated to the BAS by whatever means available and can be oral or written. Usually the ambulance team returning to the BAS with patients will pass along the request. Ambulances may be used to transport the requester's supplies forward from the BAS as the ambulance returns to the maneuver unit. The combat medic in the maneuver company should use the Force XXI battle command brigade and below application to coordinate Class VIII resupply with their supporting medical platoon. The ambulance crew can also resupply the combat medic from supplies in the ambulance MES. The ambulance crew can then replenish its Class VIII stock upon returning to the BAS.

MEDICAL PLATOON/SECTION/BATTALION AID STATION

3-46. The medical platoons/sections of a BCT operating Role 1 MTFs/BASs request their Class VIII supplies from the BMSO of the BSMC. The medical platoons/sections have limited capability for internal MEDLOG management and are primarily customers of the BMSO. Routine requisitions are sent by the Role 1 MTFs/BASs via digital request to the supporting BMSO. If a high priority request cannot be filled by the BMSO, it is sent to the next higher MEDLOG SSA that can fill the requisition and meet the requirement. Emergency requisition of Class VIII supplies for the BCT is completed in accordance with the theater and unit tactical standing operating procedure.

3-47. Class VIII materiel is packed and configured for distribution to the requesting unit through available distribution channels. In-transit visibility of medical materiel moving through the distribution pipeline is provided through GTN and the Army ITV system, both of which are visible through the Battle Command Sustainment Support System (BCS3).

BRIGADE SUPPORT MEDICAL COMPANY

3-48. The BSMC's medical supply element is the BMSO. The BMSO is an informal SSA and serves as the forward distribution point responsible for facilitating the resupply and distribution of all Class VIII materiel for the brigade. The BMSO maintains a small authorized stockage list (ASL) of Class VIII materiel that is managed as a safety level and released to support the brigade when routine replenishment operations do not meet mission requirements. The ASL has a limited amount of supplies (100 to 300 lines of *critical* line items) to support Roles 1 and 2 medical requirements for the BCT. The MESs organic to the treatment and ambulance platoons in the BSMC can also be used as a backup source of supply for emergency resupply to the medical platoons operating Role 1 MTFs/BASs.

3-49. The BMSO, upon arrival into the theater, will be resupplied by medical resupply sets or preconfigured push-packages until line item requisitioning is established. Once the automated ordering system is implemented, the BMSO will begin the immediate requisition of materiel to replace consumed line items. These orders will be routed to the supporting MLC. Critical line items will be filled from the ASL maintained by the BMSO where the customer wait time exceeds mission requirements and an immediate resupply to the unit for these lines is required. Routine supply ordering procedures that are used by the unit prior to deployment will also be used upon arrival in theater when Nonsecure Internet Protocol Router connectivity is established. Upon receipt of a requisition, the supporting MLC/SSA will fill and package the items for distribution to the requesting unit. The BMSO receives and accounts for this materiel upon arrival to the distribution control point located in the sustainment area. The BMSO will then integrate the materiel with other critical Class VIII supply items and nonmedical materiel and forward it (via the established battlefield distribution flow of materiel) to the battalions. The BMSO also receives packaged materiel for issue to medical elements located within the BSMC, as well as materiel packaged as replacement stock for the ASL.

3-50. The BSMC in the Stryker BCT does not have the BMSO and full MEDLOG support staffing that exists in the other BCTs. The MEDLOG personnel in the Stryker BCT are assigned to the headquarters section of the BSMC. The health services materiel officer (O-2/70K), MEDLOG NCO (E-6/68J) and the pharmacy NCO (E-5/68Q) normally assigned in a BMSO are not present in the Stryker BCT. However, the Stryker BCT does have a MEDLOG NCO (E-5/68J), two MEDLOG specialists (one E-4/68J and one

E-3/68J), and one biomedical equipment specialist (E-4/68A) assigned to the headquarters section of the BSMC and is expected to provide the same level of MEDLOG support as outlined above. See Appendix E for additional information on MEDLOG support provided by the brigade support battalion.

AREA SUPPORT MEDICAL COMPANY (AREA TREATMENT SQUADS/TEAMS)

3-51. Area support medical companies may be assigned to the MMB and provide AHS support to EAB units. Each medical company maintains its own basic load that includes three days of medical supplies. Class VIII resupply must be coordinated directly with the supporting MLC. The area support treatment squads and teams deployed throughout EAB AOs request medical supplies from their supporting MLC using the procedures identified for digital request of Class VIII. The MEDLOG element in each company maintains a small ASL of medical supplies that may be used to resupply these elements. The MESs organic to the treatment and ambulance platoons of the ASMC can be used as a backup source of supply for emergency resupply to these treatment squads and teams.

SECTION VI — MEDICAL LOGISTICS SUPPORT FOR MEDICAL UNITS OPERATING ROLE 3 MEDICAL TREATMENT FACILITIES

CLASS VIII SUPPLY OPERATIONS FOR ROLE 3 MEDICAL TREATMENT FACILITIES

3-52. Class VIII support for the Role 3 MTFs is a vital part of its mission and includes management of a commodity that must be adapted to specific theater health care requirements and to the distribution plans and capabilities provided by theater sustainment organizations.

3-53. During port operations and RSOI, these medical units must be capable of operations immediately upon initial entry of forces. Therefore, MEDLOG support must be included in planning for port opening and early-entry operations. Port operations may also include the issue of medical unit sets from APS, integration of P&D, refrigerated, and controlled substances with those assemblages. In almost every operation, lessons learned reflect that theater MEDLOG units must also provide Class VIII materiel for unit shortages that were not filled prior to unit deployment.

3-54. Class VIII sustainment of combat support hospitals (CSH) present the most complex medical materiel requirements and may consume materiel at a tremendous rate when providing trauma care in support of combat operations. Specialty care for burn injuries, orthopedic injuries and surgeries, and neurosurgery often require materiel and equipment that is not standard and may not have been anticipated or stocked in sufficient quantities prior to deployment. Combat support hospitals are typically made direct customers of a MEDLOG company/element that is capable of meeting the unit's mission requirements.

3-55. Theater hospitalization is provided by CSHs that operate Role 3 MTFs. Army CSHs are located at EAB. Forward surgical teams deployed from the CSH are dependent on their supporting medical company for Class VIII resupply, medical equipment maintenance and repair, and blood distribution support.

SECTION VII — DELIVERY OF CLASS VIII

3-56. General support transportation assets are the primary means of transportation for sustainment resupply of Class VIII materiel. The MLC must coordinate shipment of medical supplies with their supporting movement control team. Usually, theater transportation assets will be used to deliver medical supplies from the sustainment area to the supported units. In some instances, air ambulances from the general support aviation battalion may be used to transport emergency Class VIII resupply to requesting units. The MLC is the Class VIII SSA for the BCTs. Once requests are received by the MLC, a materiel release order is printed and the stock is issued to the unit. For items not available for issue, the requests are forwarded to the next higher level of supply. All emergency requests are immediately processed by either the BSMC or the MLC based on how the requisition is submitted and issued to the requesting unit. The health services materiel officer in the support operations section of the brigade support area is responsible

for monitoring all emergency requirements not immediately filled by the MLC. The MLC coordinates with the support operations section of the brigade support area for standard and emergency transportation of Class VIII supplies, as required.

3-57. It is important for MEDLOG units to have trained and certified 463L pallet loaders (Air Force pallets) to ensure the proper load distribution and height of pallets when loaded. Personnel must also be trained in proper marking, handling, and transportation of hazardous material as many Class VIII items are considered hazardous.

SECTION VIII — RETROGRADE OPERATIONS

3-58. The USAMC coordinates, monitors, controls, receives, accounts for, and arranges the retrograde shipment of all materiel when released by the maneuver force commander and/or theater combatant commander. This includes inspection, condition coding, repackaging, preservation, marking, coding, documentation, loading, and accountability to ensure the orderly and timely movement of all materiel and munitions no longer required in the theater.

3-59. The ASCC is responsible for establishing a military customs inspection program to perform US customs preclearance and US Department of Agriculture inspection and wash down on all materiel retrograded to the US in accordance with Defense Transportation Regulation 4500.9-R (Part V). An approved military customs inspection program must be in place prior to redeployment to preclear redeployment materiel and battle damaged equipment for shipment back to CONUS for repair. The customs inspection may also include host-nation or other inspection requirements.

3-60. Retrograde equipment and materiel is consolidated at the lowest level SSA and reported through support operations channels to the designated commodity manager for distribution instructions. The SSA packages, documents, labels, and produces radio frequency-tags for retrograde items for shipment based on distribution instructions received. Retrograde cargo must be cleaned, inventoried, inspected and packed in containers for shipment to demobilization/home station or another theater of operations. All containers must be marked with the appropriate ITV marker. Once the containers are inspected and sealed for movement to the port of embarkation they cannot be reopened until they reach the demobilization/home station or their ultimate destination without repeating the inspection process.

3-61. All medical equipment will be inspected and serviced in accordance with Technical Manual (TM) 10- and 20-series standards. Shortages or nonmission capable equipment will be documented on appropriate shortage annexes to assist home stations during reset or inform the gaining unit in another theater of possible deficiencies. All equipment and shortage information will be loaded into the designated AIS prior to shipment.

3-62. The rapid return of reparable medical equipment to repair facilities is critical to maintain unit readiness levels. The Army Sustainment Command can designate specific major end items to be sent directly to the depot for repair/rebuild/refurbishment. Once designated, those end items will be removed from the unit's property book.

3-63. Disposal of Class VIII items must be carefully monitored and coordinated by MEDLOG personnel. This is especially important because of the sensitivity and health risks associated with the materiel. Expired nonradioactive and unusable medical supplies (exception Federal Supply Classification 6505 [drugs and biologicals]) are disposed of through Defense Reutilization and Marketing Service activities. Federal Supply Classification 6505 items will be returned to the supporting SSA for consideration for turn-in to prime vendor. Due to the sensitivity of some medical items, hazardous materials, environmental hazards, and their potential use by terrorist organizations, retrograde and disposal may be required.

SECTION IX — CLASS VIII CONTINGENCY MATERIEL

3-64. The CONUS-support base provides logistics support to the ASCC. This support base is composed of numerous elements responsible for providing support to US forces in the theater. These elements are commonly referred to as *wholesale logistics elements* and have defined lines of C2. The USAMC is responsible for the operation of the logistical structure (less Class VIII) that supports the Army's

operational forces. It directs the activities of its depots, nonmedical laboratories, arsenals, manufacturing facilities, maintenance shops, proving grounds, test ranges, and procurement offices throughout the world. The OTSG is responsible for the Class VIII portion of the logistical structure. Both the Army and the OTSG have established specific programs to support contingency operations. These programs are designed to work together to meet the needs of deploying units. The two main programs discussed in this section are APS and TSG's Contingency Stock.

ARMY PRE-POSITIONED STOCK

3-65. The APS program supports mobilization requirements and sustains operations until resupply can be established and expanded. Depending on requirements, these stocks can be stored in theater (usually land-based), afloat, or in the CONUS. These stocks are strategically located within a potential theater to support the requirements of the combatant commander in that location. At or near the start of an operation, they are released to the TSC where they are stored. In a theater, the MEDLOG planner is responsible to the ASCC surgeon for management of pre-positioned Class VIII stocks. Pre-positioned sets are complete unit sets of end items, supplies, and secondary items. They are designed in such a way that a unit's personnel can leave their equipment at home station and quickly fall in on this new set of equipment, thus greatly reducing deployment lift requirements. The four categories of APS include pre-positioned brigade and unit sets, operational projects, AWRS stocks, and APS for allies. The APS for allies are contingency stocks available through cross-servicing agreements to assist our allies in acquiring and maintaining the readiness necessary to be an effective partner in times of conflict.

3-66. In May 1992, the Chief of Staff of the Army directed a reduction in War Reserve and operational project stocks and transferred management and accountability responsibilities for this materiel to the USAMC and OTSG for Class VIII. The USAMMA was designated as the agency responsible for Class VIII materiel and manager of the Class VIII portion of the Army War Reserve Program in accordance with AR 710-1. As the program manager, the USAMMA provides total item property records for Class VIII and ensures coordinated and central materiel requirements determination, acquisition, accountability, and funding for care of supplies in storage and other support costs. This Class VIII materiel is centrally managed by USAMMA as directed by Headquarters, Department of the Army. The USAMMA must receive approval from Headquarters, Department of the Army prior to release of any APS stocks.

Note. In 1998, the Army War Reserve Program was redesignated or renamed APS. In 2004, APS-3 was designated as Army Regional Flotilla and redesignated in 2005 as Army Strategic Flotilla.

3-67. The objective of the Chief of Staff of the Army's APS management policy is to change the use and ownership of APS materiel from specific GCCs and theaters to a common-user stockpile of equipment and supplies that can support the worldwide requirements of any GCC. These stocks now fall under the broad heading of APS materiel and are grouped into five regions. The regions are—

- Army Pre-positioned Stocks-1 consists of CONUS-based stocks.
- Army Pre-positioned Stocks-2 is stored in Europe.
- Army Pre-positioned Stocks-3 is pre-positioned aboard ships.
- Army Pre-positioned Stocks-4 is located in the Pacific Region.
- Army Pre-positioned Stocks-5 covers Southwest Asia.

3-68. The APS Program materiel managed by the USAMMA encompasses pre-positioned brigade/unit sets, operational project stocks, and AWRS stocks. The brigade/unit sets are documented as unmanned TOE units. They have a unit identification code and USAMC does the unit status report on these sets since the majority of the materiel within the brigade is under USAMC management.

3-69. Operational projects are authorization documents that provide the combat unit commander a way to identify additional materiel authorized for a specific mission. Operational projects include equipment that is not part of a unit's modified TOE, but are used to support operations, contingencies, and war plans. Army operational project stocks can contain many of the same items as pre-positioned sets; however, it is

not necessarily stored in unit sets. The operational project stocks will contain not only TOE but also TDA items, as well as common tables of allowance stock. These stocks are structured to meet specific plans or contingencies.

3-70. The AWRS stocks are the primary source of resupply until the supply chain can support operational demand rates. These stocks contain large amounts of Class VIII materiel and are used to resupply a unit's basic load and other Class VIII requirements. The USAMMA develops an AWRS requirement based on the time phased force and deployment data.

3-71. Policies and procedures for the management of APS are described in ARs 710-1, 710-2, and 40-61. Also refer to the SB 8-75 series, published annually by the USAMMA, for additional information.

THE SURGEON GENERAL'S CONTINGENCY STOCK

3-72. The OTSG is responsible for the centralized funding, management, and distribution of medical P&D materiel for early deploying medical units at EAB deploying in the first 31 days of an operation. The OTSG is the release authority for its contingency programs. In 1997, the OTSG designated the USAMMA to execute these programs, which include the—

- Centrally Managed Medical Potency and Dated Materiel Program.
- Medical Chemical, Biological, Radiological, and Nuclear Defense Materiel.
- Reserve Component Hospital Decrement (RCHD).

CENTRALLY MANAGED MEDICAL POTENCY AND DATED MATERIEL PROGRAM

3-73. The USAMMA developed the Centrally Managed Medical P&D Materiel Program that provides UDPs for early deploying EAB medical units deploying from CONUS home stations. *Unit deployment package* is a term coined within the Centrally Managed Medical P&D Materiel Program that represents a unit's basic load of medical P&D materiel. In the event of a deployment, this program gives USAMMA the ability to *push* UDPs (minus support kit items) to early deploying EAB medical units at home station or another location. The UDP quantities are based on the same unit *days of supply* schedule as the unit assemblages (UAs) the unit is authorized. The USAMMA AWRS stocks, in conjunction with theater SIMLM operations, support and maintain the medical requirements of deployed units after initial issue of a UDP.

3-74. A UDP consists of medical and nonmedical P&D materiel with medical unit assemblage group codes 1 and 4 through 9 and a shelf-life code (SLC) of less than 60 months (SLC A through H, J through N, P through S for Type I NSNs, and 1 through 9 for Type II NSNs). Regular Army, Reserve Component, and National Guard early deploying EAB units will receive Type I and II medical, as well as nonmedical UDP items (medical unit assemblage group 1) with a shelf life of less than 60 months.

3-75. Strategies for providing this materiel include the positioning of supplies at various CONUS and OCONUS locations and contracting for specific NSN items. Based on the time phased force and deployment list and projected funding, the USAMMA develops UDP requirements by P&D NSNs in UAs for generic early deploying EAB medical unit through deployment plus 31. The OTSG is the release authority for this materiel and the UDPs are released at no cost for validated EAB units that deploy on or before deployment plus 31 of a declared contingency operation or conflict. The UDPs may also be released to support humanitarian relief efforts.

3-76. While the Centrally Managed Medical P&D Materiel Program will provide materiel to those units deploying on or before deployment plus 31, units must keep in mind that the time phased force and deployment list is a flexible and fluctuating schedule. Should a unit with an initial deployment date sooner than deployment plus 31 suddenly find itself deploying beyond deployment plus 31, that unit will be deleted from USAMMA's list of units scheduled to receive a UDP. Therefore, units must plan appropriately.

3-77. The Centrally Managed P&D Materiel Program does not include support kits for authorized UA equipment. Medical P&D support items are now recognized components of the UA and as such are

components of the UDP. Refer to SB 8-75 S7 for definitive information pertaining UDPs and the Centrally Managed P&D Materiel Program.

MEDICAL CHEMICAL, BIOLOGICAL, RADIOLOGICAL AND NUCLEAR DEFENSE MATERIEL

3-78. The OTSG sustains the initial issue inventory of consumable medical CBRN materiel countermeasures for all Army Forces that deploy in support of GCC theater-strategic and operational requirements. These countermeasures provide the individual Soldier with the capability to administer self-aid or buddy aid or combat lifesaver care to treat injuries resulting from CBRN warfare agents. The OTSG also sustains the initial issue of P&D CBRN items for the MES, Chemical Agent Patient Treatment, which provides deploying medical units with the capability to treat and protect chemical casualties.

3-79. The USAMMA was designated by the OTSG to execute the program and act as the Army Program Manager for the initial issue MCDM for Soldiers and the MES, Chemical Agent Patient Treatment. The USAMMA is responsible for the acquisition, storage, release, and overall accountability of Army-owned initial issue MCDM stock. The USAMMA tracks materiel stockpiled by lot number and expiration date and provides this information to the OTSG for budgeting, replacement of the materiel, and readiness.

3-80. The initial issue P&D MCDM assets are strategically stored at select SSA/MTFs throughout the world, based on the Army Campaign Plan. The OTSG and USAMMA determine the MCDM inventory at each SSA/MTF based on requirements needed to support deploying units and forward deployed forces.

3-81. The MCDM points of contact at the SSAs/MTFs are the accountable item managers for the initial issue MCDM stock. They are responsible for the physical accountability and management of materiel placed in their care. The SSA/MTF MCDM point of contact is responsible for identifying MCDM stock levels at their locations according to their deployment forecast and will release initial issue MCDM to deploying and forward deployed forces as required, at no cost, and when authorized by OTSG. Refer to SB 8-75 S7 for definitive information concerning this program. See Appendix F for information related to MEDLOG considerations in a CBRN environment.

RESERVE COMPONENT HOSPITAL DECREMENT

3-82. In April 1993, the USAMMA was tasked with the mission of managing the RCHD program. General responsibilities for this program include the modernization, sustainment, care of supplies in storage, preparation of decrement feeder data reports, and the coordination of materiel movement.

3-83. The RCHD stocks consist of Deployable Medical Systems (DEPMEDS) MMSs and medical and nonmedical associated support items of equipment. The RCHD Program does not include other support equipment such as trucks and communications equipment. The RCHD stocks are used to bring the Army Reserve Component units from their peacetime authorized levels to their full required level for MMSs and medical and nonmedical associated support items of equipment. These RCHD stocks serve as a decrement to a unit's minimum essential equipment for training sets. The RCHD is the difference between the required and authorized materiel on the modified TOE for MMSs and associated support items of equipment.

3-84. The OTSG directs the release of RCHD materiel in coordination with Forces Command and the US Army Reserve Command to meet contingency, emergency, and peacetime requirements. Forces Command develops deployment plans for RCHD units and provides guidance to the US Army Reserve Command. Refer to SB 8-75 S7 for additional information pertaining to the RCHD Program.

SECTION X — HOST-NATION SUPPORT

3-85. Host-nation support is the civil and military assistance provided by host nations to multinational forces and organizations. This support may occur in any operational environment. The US continues to rely on allies to supplement the organic support capabilities of its forces. Host-nation support in an MCO may be used in such areas as transportation, maintenance, construction, civilian labor, communications, facilities, utilities, air/seaport operations, sustainment area security, and the movement of US forces and materiel between the ports of debarkation and operational areas. The location of forces on the battlefield

generally determines whether you can use host-nation support. Secure areas are ideal for this support. In an austere theater, host-nation support may be used wherever needed. Army Regulation 570-9 outlines DA policies and responsibilities for host-nation support. In the past, US forces relied on organic support. Today, logisticians must keep abreast of agreements on how host-nations can help support the operation logistically.

AGREEMENTS

3-86. Normally, international agreements are used to document commitments for host-nation support. Through agreements, the host nation sets forth its intent and willingness to support US requirements. Support available in a given theater will depend on the host nation's political climate; national laws; industrial development; and military, civilian, and commercial resources.

LOGISTICS CIVIL AUGMENTATION PROGRAM

3-87. In the event host-nation support in wartime is incapable of satisfying all support requirements, the LOGCAP will be initiated to fill the shortfalls. The LOGCAP is a program designed to obtain civilian contractual assistance in peace to meet US crisis and wartime support requirements worldwide through the advanced identification, planned acquisition, and use of global corporate assets. Primarily LOGCAP supports infrastructure and distribution but not supply support. Logistics Civil Augmentation Program planning must include considerations to ensure that no violations of Title 10, United States Code occur. Refer to AR 700-137 and JP 4-08 for additional information pertaining to agreements and host-nation support.

SECTION XI — CIVIL SUPPORT OPERATIONS

CIVIL SUPPORT

3-88. Civil support is DOD support to US civil authorities for domestic emergencies, designated law enforcement, and other activities. Civil support operations focus on the consequences of natural or manmade disasters, accidents, terrorist attacks, and incidents within the US and its territories. Army forces conduct civil support operations when the size and scope of events exceed the capabilities or capacities of the local and state civil authorities requiring federal disaster relief. The key to employing military forces in civil support operations is recognizing that the civil authorities have primary authority and responsibility for domestic operations. Within the US, military operations are limited by laws such as the declaration of martial law, the Posse Comitatus Act, and the Insurrection Act which substantially limit the powers of the federal government to use the military in certain circumstances. However, when authorized, Army forces can conduct civil support operations (limited to supporting civil authorities and law enforcement agencies and preventing civil disturbances) and provide Army resources, expertise, and capabilities in support of the lead agency.

3-89. Under the National Response Framework, the lead organization responsible for acting in response to a health threat is the Department of Health and Human Services. The DOD is a participating coordinating agent under Emergency Support Function #8 in support of the National Response Framework. Additional information on the National Response Framework, DOD corresponding tasks, and the National Disaster Medical System can be found at http://www.dhs.gov/xprepresp/committees/editorial_0566.shtm.

MEDICAL LOGISTICS SUPPORT DURING CIVIL SUPPORT OPERATIONS

3-90. The DLA is the DOD Executive Agent for Medical Materiel. During civil support operations the USAMEDCOM is the designated TLAMM to US Northern Command (NORTHCOM). The NORTHCOM commander may designate one of the Service components to be the SIMLM. The TLAMM and SIMLM work together to develop the MEDLOG support plan that synchronizes medical

requirements/capabilities, and Class VIII flow/distribution to joint task force (JTF) supported medical units and defense support of civil authorities operations.

3-91. The TLAMM uses the Army MEDLOG system of existing Class VIII support infrastructure, contracts, and relationships in coordination with DOD logistics and transportation organizations and regional SSAs. The TLAMM may designate one or more of USAMEDCOM's four master ordering facilities (Womack Army Medical Center, Brooke Army Medical Center, Madigan Army Medical Center, and Martin Army Community Hospital) to provide MEDLOG support to NORTHCOM's JTF deploying medical units. The master ordering facility provides Class VIII support through DLA prime vendor contracted suppliers and other habitual sources of supply. The SIMLM synchronizes MEDLOG support requirements of all deployed medical forces in the NORTHCOM joint operations area. The SIMLM coordinates with the TLAMM and supported medical forces to develop the Class VIII concept of support. The MMB, MLMC early entry element of the forward support team, MLC, and the TSC DMC are some of the enablers in providing MEDLOG support to JTFs in support of defense support of civil authorities operations. This capability helps ensure uninterrupted medical operations for all DOD medical units.

3-92. Other Class VIII resources and medical materiel assets are also available for civil support operations such as federally managed stocks within the Centers for Disease Control and Prevention's Strategic National Stockpile and other pre-positioned assets that may be used depending on the situation and size of the response required. Refer to www.usamma.army.mil/index.cfm or www.bt.cdc.gov/stockpile for additional information.

3-93. The primary DOD requisitioning system is DMLSS. Deployed medical units requiring Class VIII must establish accounts with their supporting activity. Supported units use DCAM to requisition Class VIII supplies. Class VIII requisitions flow through the TLAMM designated master ordering facilities to the DLA prime vendor medical supply contracts to fill the requisitions. The supporting master ordering facilities are part of the defense working capital fund which is used for financial accounting, tracking, and auditing of Class VIII supplies expended in support of Army deployed forces for reimbursement. The TLAMM conducts a post operational financial reconciliation with other Service components as required. Units deploy with their full unit basic load of Class VIII. It is the Service component's responsibility to resupply their forces with Class VIII until the TLAMM/SIMLM supply chain is established and operational.

3-94. Medical equipment maintenance is accomplished by the medical equipment maintenance section of the MLC. Medical maintenance support that is beyond the capability of the MLC is provided by the master ordering facility designated by the TLAMM. If tasked, the MLC can assist in civilian medical equipment evaluation and services.

Chapter 4

Medical Logistics Information Systems and Communications

The success of AHS operations is dependent on the medical logistician's ability to monitor the operations, coordinate, and communicate with the staffs of higher headquarters, supporting and supported units, and other sustainment units. The MEDLOG information management and communications systems and applications are part of a larger family of medical systems being implemented under the DHIMS and MC4 in support of the Army's current and future force. The communication assets and AISs used to support MEDLOG operations are designed to work with current and future communication systems. These communications assets include high frequency and very high frequency frequency-modulated radios, Tri-Service Tactical Communications Program, mobile subscriber equipment, and interim commercial technologies used as a bridge to the future capabilities of the Warfighter Information Network-Tactical. The goal of these systems is to provide reliable, redundant, and timely net-centric communications leveraging the power of the Global Information Grid. This chapter describes the current operational- and tactical-level Army-unique communications and information management systems, the planned replacement tri-service systems, and the TAMMIS as the current information management system for MEDLOG used by selected medical units/elements at EAB.

SECTION I — CURRENT SYSTEMS

DEFENSE HEALTH INFORMATION MANAGEMENT SYSTEM

4-1. The DHIMS is a joint family of systems designed to aid deployed medical personnel in all roles of care in theater, including complete clinical care documentation, medical supply and equipment tracking, patient movement visibility, and health surveillance. The program's primary purpose is to integrate/develop medical information systems to capture medical records. The program will also link all theater roles of care in an integrated, interoperable fashion to provide enhanced medical care to deployed forces. The DHIMS software will be used on the Global Command and Control System/Global Combat Support System (GCSS) backbone and Service computer/communications infrastructure. This will allow deployed medical units to monitor and maintain theater medical situational awareness.

4-2. The DHIMS software supports all aspects of AHS support. However, the Army MEDLOG applications within the program are the primary focus of this chapter. The DHIMS applications developed for MEDLOG are based on those applications developed by DMLSS for the generating force or TDA side of the MHS. These applications were developed under the oversight of the Program Executive Office, Joint Medical Information Systems, which is responsible for providing the MHS with patient/provider focused information technology solutions to support the full range of medical support missions. The MEDLOG applications in DHIMS include—

- Defense Medical Logistics Standard Support.
- Defense Medical Logistics Standard Support Customer Assistance Module.
- Theater Defense Blood Support System.
- Joint Medical Asset Repository.

- Patient Movement Item Tracking System (PMITS) PlexusD.
- Spectacle Request Transmission System-II.

4-3. The Army is also in the process of developing a new *set of capabilities* integrated into what is known as the SALE. The SALE initiative will bring about a single logistics enterprise technology ensemble for all Army supply support processes. This initiative will use a commercial enterprise resource planning software product that will standardize and reduce the current number of individual Standard Army Management Information System applications employed Armywide at the tactical and strategic logistics levels.

COMMUNICATIONS SUPPORT

4-4. Communications support for organizations within a theater is based on a unit's level of operations. Signal support for an EAB unit is coordinated through the theater Deputy Chief of Staff for Operations and the Deputy Chief of Staff for Information Management. Units assigned at EAB will request signal support through the theater assistant chief of staff, network operations or the supporting signal brigade/battalion. For additional information on theater signal support refer to FMI 6-02.45.

4-5. The Army's MEDLOG AISs at all roles of care must be web-based and net-centric and provide store-and-forward capability, as well as support *mobile users*. Interconnectivity of information systems is critical in garrison and field environments. Communications must provide reliable connectivity for a seamless flow of information throughout the strategic, operational, and tactical levels. Tactical logistics automation systems currently rely on a mix of tactical and local communications systems. In a deployed environment, tactical communications systems provide the majority of the communications support.

Communications Planning

4-6. Extensive communications planning is required for all military operations. The unit's operations/communications designee is responsible to the commander for all aspects of coordination/planning for communications requirements and usage. Each phase of military operations—predeployment, deployment, sustainment operations, and redeployment must be addressed in all contingency plans. A host-nation commercial communications system may be available for use by the unit in communications planning. The communications networks should interface with existing joint and combined communications systems and any available local host-nation telephone systems. This interface is accomplished as outlined in applicable STANAGs and host-nation support agreements. It should be noted that military, civilian agencies, and civilian law enforcement communications systems may not be interoperable and could require additional coordination. Each unit staff element is responsible for adhering to the unit's tactical standing operating procedure and signal support policies during their daily operations.

Command and Control

4-7. At all levels, applications within the DHIMS family of systems will automatically provide information such as MEDLOG status, evacuation status, current unit fitness for combat, and hazard exposure information to assist commanders in maintaining situational awareness. This information will be provided to the commander from the DHIMS functional systems through Global Combat Service Support-Army (GCSS-Army) to BCS3. Commanders, for the first time, will have a better picture of the AO, which will allow them to accurately influence current operations while synchronizing AHS support with other activities.

MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE

4-8. Medical Communications for Combat Casualty Care integrates the software applications in the DHIMS family of systems onto the Army's MC4 hardware. It integrates, fields, and supports a medical information management system for Army tactical medical forces. Thereby, enabling a comprehensive, lifelong electronic medical record for all Soldiers and enhancing medical situational awareness for operational commanders. The MC4 support staff performs systems engineering and integration with DHIMS and other software developers to ensure compatibility between software applications and reliable

hardware devices, such as ruggedized servers, printers, notebook computers, and portable handheld devices. They also provide new equipment training on newly fielded equipment as part of the implementation process.

4-9. The MC4 system offers deployable medical units a wide range of integrated systems that bridge the tactical and sustaining base information management and information technology health care systems. The MC4 infrastructure consists of hardware, software, communications, and training support items to implement DHIMS applications within Army tactical medical units. Medical Communications for Combat Casualty Care has the following mission:

- Provide the Army computer infrastructure to enable automated medical data collection and sharing throughout the continuum of medical care, from the point of injury to the sustaining base.
- Provide computer infrastructure for the Army's implementation of the DHIMS.
- Provide timely medical situational awareness and unit status information to commanders at all levels.
- Provide medical units the ability to capture and transmit high-density medical data to higher roles of medical care. This is an interim requirement until future improvements in the Army communications infrastructure capable of handling this type of high-density data are adequately fielded.

THEATER ARMY MEDICAL MANAGEMENT INFORMATION SYSTEM

4-10. The TAMMIS application is the Army's primary MEDLOG legacy system at EAB. It supports the current information management requirements of field medical units in peacetime and war. The TAMMIS application, as a legacy system, is not a part of the DHIMS family of systems and is only intended as a short-term solution until it can be replaced. The application provides intermediate-level supply management capabilities in support of Class VIII SSAs, as well as internal supply operations for the CSH. Intermediate-level supply capabilities include the ability to process orders from external retail-level customers, warehouse management, quality control, and manage the materiel release/customer issue process.

4-11. The TAMMIS application is an automated, batch, interactive system designed to assist commanders and staff by providing timely, accurate, and relevant medical supply information. To ensure security, the application has various levels of access based on the user's duty assignment within the unit. During setup, the system administrator establishes each user's access through system setup files. The user may review only the portion of the system that pertains to that user's responsibilities within the unit. The local manager can also adjust the unit's system to accommodate local requirements and the operating environment.

4-12. The TAMMIS application has flexible communication capabilities and can relay information between units in various ways. The preferred medium is via local area network or a mobile subscriber equipment system. When direct electronic communications links are not available, users may pass information by courier via electronic media or hard copy.

4-13. The TAMMIS application supports selected Role 3 MTFs at EAB. The application's use at Role 3 is limited to the CSH and the MLC. The TAMMIS Medical Supply module supports medical supply operations as described in paragraph 4-15. It is not present in brigade-level units.

4-14. The TAMMIS Medical Supply module automates the comprehensive management and requisitioning of medical materiel required to support deployable medical units. It is operated at the MLC and CSH on commercial-off-the-shelf automation equipment. Functions supported include quality control, ordering, receiving, storing, accounting for, and issuing medical supplies and equipment. The TAMMIS application was replaced by the DMLSS application in TDA MTFs.

DEFENSE MEDICAL LOGISTICS STANDARD SUPPORT

4-15. The DMLSS system is a fully integrated suite of MEDLOG applications that support the management of medical supply, medical equipment maintenance, medical assembly management, property accountability, and facility management at the unit or MTF level. The DMLSS AIS is the primary support system for all MEDLOG functions associated with TDA MTFs and is deployed to virtually all CONUS and OCONUS treatment facilities worldwide. Only the DCAM application is deployed to movement and maneuver units in support of MEDLOG requirements. The DMLSS application does not have the intermediate-level supply capabilities necessary to operate a medical SSA and currently cannot replace TAMMIS in theater or operational MEDLOG units. Therefore, only the DMLSS modules used by the deployed force will be discussed in this section.

4-16. The DCAM application provides secure communication and auditing capability and operates as the remote customer module for the DHIMS/MC4 MEDLOG support system. The DCAM application allows the electronic exchange of files back and forth between two separate DCAM devices to facilitate the transfer of automated information between Roles 1 and 2 MTFs. The DCAM portion of DMLSS is the primary module used by deployed units.

4-17. The DCAM application also—

- Allows remote supported units that have no other MEDLOG automation to create automated Class VIII requests with minimal hardware requirements (requires a laptop computer with a network connection).
- Permits users to view the suppliers' catalogs and provides the capability to perform basic customer-level medical supply functions such as ordering, receiving, managing dues-in, and inventory control.
- Allows units to perform functions off-line and exchange files with the supporting SSA when Nonsecure Internet Protocol Router communications are available. This exchange includes the download of selected catalog files from the SSA's TAMMIS or DMLSS application, which makes it possible for customers to research the catalog for prime and substitute items. When Nonsecure Internet Protocol Router capability is not available, customer files can be exported to floppy disk, compact disk, or printed copy for physical delivery to the supporting SSA.
- Automates the Class VIII supply process at Roles 1 and 2 and allows nonlogisticians, who maintain their medical supplies as an additional duty, to electronically exchange, catalog, order, and status information with their supply activity.

4-18. The DMLSS modules to be used by the deployed force are the—

- Customer Area Inventory Management module, which automates the management of customer stockage levels in the fixed MTFs. This module is envisioned to support customer areas within our deployable and fixed hospitals at the EAB level.
- Inventory Management module, which is the TDA TAMMIS replacement that will automate the comprehensive inventory and supply management of medical materiel in fixed MTFs. The Inventory Management module is being reconfigured to operate in the CSH.
- Equipment and Technology Management module, which is the TDA AMEDD Property Accounting System replacement that automates the comprehensive property and medical maintenance functions within TDA MTFs.
- System Services Module manages the supported customer data, DMLSS communication manager, and table maintenance utility.

THEATER DEFENSE BLOOD STANDARD SYSTEM

4-19. The Theater Defense Blood Support System is an information system developed to automate and standardize the blood management functions of the Armed Services Blood Program. The primary goal of this system is to ensure a safe blood supply for Soldiers and other MHS beneficiaries. The system provides management of donor center operations, patient and transfusion service data, component processing and inventory distribution, and infectious disease look-backs. The Theater Defense Blood Support System

automates blood bank operations and is currently fielded to blood support units and both deployable and TDA MTFs with a blood bank/donor center support mission. This application will be modernized and integrated on the DHIMS server for use in ASMCs, BSMCs, blood support detachments, and CSHs.

JOINT MEDICAL ASSET REPOSITORY

4-20. The Joint Medical Asset Repository serves as a component of the DMLSS AIS that supports the military's joint MEDLOG information management effort and the MHS. This repository provides total visibility of DOD-wide medical asset data. This web-based application provides access to integrated joint Service medical asset information for any user, any time, and on any machine. The DOD recognizes Joint Medical Asset Repository as the single integrated, authoritative source for joint medical logistics information provided to the joint total asset visibility system. The Joint Medical Asset Repository application receives data daily from a multitude of government legacy systems including DMLSS and TAMMIS. This application is constantly evolving and currently has report and *ad hoc* asset query capabilities for assemblages, blood, facilities, inventory, prime vendor, medical maintenance, global transportation visibility, and materiel and asset visibility that can be queried. In the near future, the Joint Medical Asset Repository will be replaced with a data warehouse which will have increased capability to perform more extensive data mining and contain detailed supply transaction data for use within the MHS.

PATIENT MOVEMENT ITEM TRACKING SYSTEM

4-21. The PMITS PlexusD application tracks the storage of PMIs during peacetime and their movement during contingency and wartime operations. This directly supports the sustainment mission by ensuring critical patient movement equipment is available to evacuate critically injured Soldiers. Commanders use PMITS PlexusD to manage and redistribute PMI assets in order to avoid shortages during patient evacuations. The PMITS PlexusD application has the ability to show location and status of PMI assets to assist in eliminating shortages and overages of essential patient evacuation equipment.

SPECTACLE REQUEST TRANSMISSION SYSTEM

4-22. The Spectacle Request Transmission System-II application automates the patient record portion of the optical prescription and order transmission process to MEDLOG units and optical fabrication laboratories at EAB.

SECTION II — EXTERNAL ENABLERS

SINGLE ARMY LOGISTICS ENTERPRISE

4-23. The SALE initiative represents the Army's vision of a fully integrated knowledge environment that builds, sustains, and generates operational capability by joining tactical- and strategic-level logistics systems into a unified, cohesive environment. The SALE applications are used to achieve an integrated enterprise environment that brings the data and processes of logistics organizations together as one (including the incorporation of data from all SSAs).

4-24. The SALE consists of three components, the USAMC's Logistics Modernization Program, the GCSS-Army, and the Army Enterprise System Integration Program (formerly the GCSS-Army Product Life Cycle Management Plus). The GCSS-Army and Logistics Modernization Program are linked together by the Army Enterprise System Integration Program. All three components are configured using the same enterprise resource planning software applications and are designed to work together in a seamless, integrated web-based environment.

4-25. The GCSS-Army is the tactical component of the SALE end-to-end concept that reengineers more than a dozen outdated Army logistics Standard Army Management Information Systems. The GCSS-Army modernizes automated logistics processes by streamlining supply and maintenance operations, property accountability and logistics management, and integration procedures. The GCSS-Army will be fielded to all units currently operating Standard Army Management Information Systems and will eventually replace all of the Army's existing independent (or stand-alone) legacy supply and maintenance systems.

4-26. The Logistics Modernization Program incorporates all strategic materiel support processes currently performed in individual purpose standalone systems. Incorporation of processes at the strategic level will result in terminating more than 2,000 individual purpose systems while centralizing all processes in one widespread logistics enterprise system.

4-27. The Army Enterprise System Integration Program is the key component used to bring the strategic-level and tactical components together into a single logistics integrated environment. The Army Enterprise System Integration Program provides a single point of entry for continued use of other individual purpose automation systems. The application also provides master data sharing of logistics processes in a single COP visible at the strategic, national, and tactical levels. This set of capabilities significantly improves logistics processing linking the national and tactical supply chain together while reducing the number of individual purpose systems currently employed Armywide.

AUTOMATIC IDENTIFICATION TECHNOLOGY

4-28. The automatic identification technology applications, including radio frequency identification (RFID) technology, identify specific assets (such as equipment, laboratory samples, medication, and patients) and share the status and location of the assets throughout the MEDLOG supply chain. This allows greater efficiency and productivity. The DMLSS research and exploration with this technology has shown potential benefits of increased shipment accuracy, better ITV, faster receiving, and higher resource utilization by leveraging people and equipment. In its full implementation, it will greatly reduce costs, improve safety, and increase productivity.

GLOBAL TRANSPORTATION NETWORK

4-29. The GTN supports ITV as one of its primary missions. In-transit visibility provides information needed to answer status-of-movement questions for customers around the world, including US Forces deployed to remote locations. The GTN also supports USTRANSCOM's mission as the C2 headquarters for the Defense Transportation System. The GTN creates ITV information by consolidating and integrating data from many other computer system sources called *GTN data feeds*. They each provide data to the GTN as an ancillary mission, because they exist for some other specific purpose. The information collected by the GTN is housed and managed within a database. In-transit visibility information in the GTN database lends itself to a question-and-answer format. In the terminology of AISs, this is called query-response. The GTN's current configuration is predominantly a query-response format that specifically facilitates the retrieval of ITV information. This format provides assistance in obtaining GTN information related to movements in the Defense Transportation System. The GTN is accessed via the Internet via a web browser.

BATTLE COMMAND SUSTAINMENT SUPPORT SYSTEM

4-30. The BCS3 supports the C2 warfighting function and operation management process by rapidly processing large volumes of logistical, personnel, and medical information. The BCS3 facilitates quicker, more accurate decisionmaking by providing an effective means for force-level commanders (logistics, sustainment, and medical commanders) to determine the sustainability and supportability of current and planned operations. Qualitative improvements attributed to the BCS3 are measured by positive assessment by a substantial majority of commanders and their staffs. The BCS3 collects and processes selected logistics and sustainment data in a seamless manner from logistics and sustainment Standard Army Management Information System and manual systems/processes, and other related source data and hierarchical automated C2 systems (such as Force XXI battle command—brigade and below and the Global Command and Control System family of systems). Based on these inputs, the BCS3 generates and disseminates near real-time logistics and sustainment C2 reports and responses to logistics and sustainment related *ad hoc* queries, updates the database an average of every 3 hours, and provides logistics and sustainment warfighting function information in support of the Army Battle Command System (ABCS) COP. The latter capability represents the essence of ABCS and serves to ensure that all force-level commanders and staffs see and understand the operational area and gain dominant situational awareness in the AO by sharing pertinent data.

4-31. Within ABCS, the BCS3 is the capstone C2 decision support system for all command and staff matters associated with logistics and sustainment operations and/or projections. Since we train in peace as we will fight in war, the BCS3 provides commanders with a decision support system tool for everyday use in support of their logistics and sustainment mission and C2 requirements. Further, the force-level information feature of BCS3 also gives commanders the capability to exercise C2 over their subordinate units and/or operations. Force-level information is defined as a level of warfighting function proponent information for which an ABCS user has access to and input responsibilities for, such as brigade and EAB. The COP is an ABCS universal product based on the selected sharing of warfighting function proponent force-level information amongst and common to the other ABCS warfighting functions. Army Battle Command System COP products include situational maps (terrain, disposition of friendly and enemy forces), battle resource reports, and other intelligence products. The ABCS COP is the mainstay for the synchronization of leadership situational awareness. Access to Army force-level information and the COP displays support the effective assessment and integration of the warfighting functions, such as movement and maneuver, fire support, protection, sustainment, C2, and intelligence.

SECTION III — COMMON OPERATIONAL PICTURE

4-32. Field Manual 3-0 defines COP as a single display of relevant information within a commander's area of interest tailored to the user's requirements and based on common data and information shared by more than one command. A logistics COP is a single accounting of logistics capabilities, requirements, and shortfalls in an AO shared between supporting and supported elements. Information systems or computer-generated data is the most widely used format for communicating the COP. The COP, observations of commanders, and running estimates are the primary means of assessing an operation to ensure that the concept of operations, mission, and commander's intent are met. Running estimates provide information, conclusions, and recommendations from the perspective of each staff section. These estimates help to refine the COP and supplement that information with data that is not readily displayed. The logistics COP allows supporting units to determine unit capabilities, project requirements, coordinate movements, and disseminate information that improves situational awareness of commanders on multiple levels of command within the AO. Once gathered, this information enables commanders to make informed decisions on how best to apply resources and focus efforts to accomplish the mission. Information systems are continually being modernized throughout the DOD to give leaders the information necessary to enhance and focus the support required to sustain the force. These information systems also allow subordinates to see the overall operation and their contributions to it as the mission progresses.

JOINT LOGISTICS COMMON OPERATIONAL PICTURE

4-33. The joint logistics COP is among the initiatives undertaken by the DOD as part of the systems modernization effort. The DOD's Joint C2 system of record, the Global Combat Support System-Joint and the Global Combat Support System Combatant Command/Joint Task Force (GCSS [CC/JTF]) provides end-to-end information interoperability across and between C2 and sustainment functions. The GCSS (CC-JTF) application is a software intensive system designed to support the logistics needs of the joint community and to provide visibility of retail and unit-level sustainment capability up through the national strategic level. The GCSS (CC/JTF) provides interoperability, facilitates integration, and promotes data sharing across all classes of supply.

4-34. The GCSS suite of applications provides dynamic access to disparate data from authoritative sources and decision support tools that allow the joint force to make rapid decisions. The GCSS Nonsecure Internet Protocol Router network initial capability includes a portal and single sign-on access to DLA's asset visibility and integrated data environment and USTRANSCOM's Global Transportation Network, Single Mobility System, Intelligent Road/Rail Information System, and ITV. The GCSS Secret Internet Protocol Router Network provides capabilities that enable the user to query multiple disparate databases for information related to the visibility of materiel and personnel during mobilization, deployment, employment, sustainment, and redeployment. Current GCSS capabilities include applications such as Watchboard, Order of Battle, the Joint Engineering Planning and Execution System, Asset Visibility, Knowledge Management and a query tool.

4-35. Medical materiel, equipment, and maintenance data is resident in several systems, including DMLSS, TAMMIS, Property Book Unit Supply Enhanced, the Logistics Information Warehouse and several others. The Global Combat Support System-Asset Visibility (GCSS-AV) application consolidates information from all of these applications. The GCSS-AV is part of the GCSS-Joint family of systems and replaces the Joint Total Asset Visibility Program.

4-36. The GCSS-AV application supports DOD-wide materiel visibility and is a major source for logistics data. The key customers of GCSS-AV are DOD logistics managers, combatant commanders, military Service personnel, and Defense and federal agency personnel. Access to GCSS-AV can be obtained by visiting the GCSS web site at https://gcss61.csd.disa.mil/gcssportal/. Secret Internet Protocol Router Network access is required.

MEDICAL LOGISTICS COMMON OPERATIONAL PICTURE

4-37. Currently, there is no *single* Army system available to obtain readiness information across all MEDLOG functions (including Class VIII supply/resupply, optical fabrication, medical maintenance, and blood management). This information is collected using a combination of systems over several disparate channels. In most cases, the information is not reconciled or timely.

4-38. The ultimate goal of a MEDLOG COP is to provide real-time and relevant situational awareness at all levels, making it possible for commanders to assess the readiness of their command at a glance. This new capability should enable commanders to identify large-scale MEDLOG challenges and drill down to detect lower level issues. Once developed, this application must be net-centric and available for use throughout the AHS to assess and analyze MEDLOG capabilities and readiness.

SECTION IV — EMERGING MEDICAL LOGISTICS APPLICATION

THEATER ENTERPRISE-WIDE LOGISTICS SYSTEM

4-39. The Theater Enterprise-Wide Logistics System application is designed to transfer the capability for theater-level Class VIII supply chain management from TAMMIS into a Systems Applications and Products-based enterprise architecture. The Theater Enterprise-Wide Logistics System AIS will build on the enterprise resource planning implementation started at the USAMMA in May 2002 and would bring theater Class VIII management into the same system architecture that is used for the production of Army MESs and MMSs. The Theater Enterprise-Wide Logistics System AIS supports the intermediate MEDLOG functions for distribution and materiel management and ties together the national, regional, and deployed units into a single business environment. It supports the development, production, and ultimate theater sustainment of medical assemblages that are the basic building blocks of operational medical capabilities. The Theater Enterprise-Wide Logistics System AIS will also support the operation of all Army organizations serving as the TLAMM and provide materiel management within a single operational instance or COP for tactical-level MLCs. Upon completion, the Theater Enterprise-Wide Logistics System application will migrate as an Army-sponsored initiative into the DMLSS program as the DMLSS theater-level solution for medical supply chain management.

SECTION V — MEDICAL LOGISTICS AUTOMATED INFORMATION SYSTEM OPERATIONAL CONCEPT

ROLE 1 MEDICAL LOGISTICS

4-40. The present MEDLOG system for the combat lifesaver and the combat medic at Role 1 is a manual system. At the BAS, DCAM is the preferred method for submission of Class VIII requisitions. However, requests may be sent to the BMSO for fill by any means available. Under DHIMS, the combat medic will use Force XXI battle command—brigade and below to request medical supplies from the BAS. This request will be a built-in report on the Force XXI battle command—brigade and below system. At the BAS, requests for medical resupply will be made using DCAM. This automation will not only speed the

resupply process, but will also allow commanders to maintain visibility of their unit's MEDLOG status, either through Force XXI battle command—brigade and below or through the DHIMS link to BCS3 through GCSS-Army.

ROLE 2 MEDICAL LOGISTICS

4-41. At Role 2 MTFs (BSMCs and ASMCs), the DHIMS provides the same applications for MEDLOG support as those seen at Role 1 and may be augmented with a forward distribution team from the MLC. The DHIMS also provides limited blood management and optical requisitioning capability at Role 2.

ROLE 3 MEDICAL LOGISTICS

4-42. Medical care at Role 3 consists of the CSH and all of the specialized medical units required to support the theater. The DHIMS/MC4 will link all of the medical functions and equip users with mobile computers for the collection and forwarding of medical information to the supporting MTF. The DHIMS/MC4 devices will be loaded with the appropriate software and functionality to provide a seamless Class VIII (including medical supply and equipment tracking, patient movement visibility, optical requisitioning capability, and blood management) automated system linking the theater to the CONUS-sustaining base.

MEDICAL LOGISTICS COMPANY

4-43. The MLC is a flexible organization and serves as the principle SSA responsible for providing MEDLOG support to the brigades. The MLC also serves as the primary SSA responsible for providing support to Role 3 MTFs. The MLC will use TAMMIS until it is replaced.

4-44. The MMB, using many of the same automated tools as the other commodity managers, assists and coordinates distribution of Class VIII resupply through the battlefield distribution system. The DHIMS will automate linkage of Class VIII supply to the transportation system. Management of complex medical sets and quality control of Class VIII materiel is also automated, improving efficiency over the current manual system.

COMBAT SUPPORT HOSPITAL

4-45. Some CSHs are currently using the DCAM application and TAMMIS to provide Class VIII in support of the hospital. The MLC serves as the primary SSA responsible for providing MEDLOG support for the CSH.

MEDICAL LOGISTICS MANAGEMENT CENTER FORWARD SUPPORT TEAM

4-46. The MLMC forward support team serves as the theater Class VIII manager and operates TAMMIS until it can be replaced.

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Chapter 5

Medical Equipment Maintenance

In today's Army, maintenance elements are increasingly required to anticipate, analyze, and tailor available resources for effective and timely support of complex medical systems. The Army's two-level maintenance concept (on or near system replacement and off system repair of components and end items) allows operating forces to continue with the mission. Medical treatment of wounded Soldiers in the current and future force relies heavily on the AHS's ability to rapidly respond, project, and maintain the latest medical equipment on the battlefield. The technology used to develop medical equipment is changing rapidly. This new technology requires well trained and highly skilled health service maintenance technicians (MOS 670A) and MERs (MOS 68A) for lifecycle and maintenance management, field and sustainment maintenance support, and calibration verification. These Soldiers must be able to quickly and accurately diagnose and remedy equipment faults and manage the lifecycle of the medical equipment in the force. The technological advancements made in the AISs being employed provide situational understanding to the MEDLOG managers across the battlefield, enabling quick and responsive support. The MEDCOM (DS), MEDBDEs, MMBs, MLCs, MLMC base and support teams, national maintenance points (medical), and other maintenance support agencies will be able to monitor the workload and equipment status of all medical units from the generating to the operating force and all medical assets in the pipeline. Total asset visibility, equipment/repair parts, and workload status, combined with situational understanding of the tactical commander's effort, will facilitate the maintenance manager's ability to provide anticipatory/predictive and responsive medical maintenance support. This chapter describes medical equipment maintenance support provided within an AO to include external CONUS-based support for all medical units in theater and the generating force.

Note. Under Title 10 of the US Code medical equipment maintenance is the responsibility of TSG. Therefore, other than operator preventive maintenance checks and services (PMCS), no other MOSs are authorized to perform scheduled or unscheduled medical equipment maintenance, calibration, and verification/certification on medical equipment.

SECTION I — ROLE OF MEDICAL EQUIPMENT MAINTENANCE

ARMY MEDICAL DEPARTMENT MAINTENANCE SYSTEM

5-1. Medical equipment maintenance is a core function of the Army MEDLOG system and critical to AHS operations. Maintenance supports the readiness of Army medical elements by sustaining systems and equipment as effectively, responsively, economically, and as close to the point of use as the situation permits.

5-2. Materiel readiness is defined as the availability of materiel required by a military organization to support its wartime activities or contingencies, disaster relief (floods, earthquakes, and so on), or other emergencies. Maintenance of medical materiel includes medical maintenance engineering and medical maintenance operations. Medical maintenance operations are primarily based on the policies contained in AR 750-1, Technical Bulletin (Medical) (TB MED) 750-2 for modified TOE units, and AR 40-61. Specific objectives of the AMEDD maintenance system are to—

- Provide a more responsive maintenance system; improve operational readiness, and increase mobility and flexibility at the lowest overall cost.
- Establish a vertical maintenance management structure through which maintenance can be performed effectively and economically ensuring the highest level of care available.
- Establish procedures where equipment is supported in peacetime as in war commensurate with available time and other resources.
- Optimize repair by component replacement of medical equipment in the BCTs and units operating at EAB.
- Integrate the forward support maintenance concept (AR 750-1) to maximize equipment service time.
- Establish equipment design criteria that emphasize modular design of end items that will promote the following maintenance priorities: repair forward, evacuate, and replace with MEDSTEP assets, if available.

Note. The MEDSTEP involves positioning end items, components, assemblies, and subassemblies with the MLC and CSH for sustainment medical maintenance in support of theater operations. These MEDSTEP assets are the medical equivalent of operational readiness float assets.

MEDICAL MAINTENANCE CAPABILITIES

5-3. Health care delivery at every role of the AHS relies heavily on specialized and highly technical medical equipment requiring service and repair that can only be provided by appropriately trained MERs. Efforts made by the Army, along with the other Services, to standardize equipment and MER training have increased the AHS's capabilities for joint interoperability, providing technicians and repairers that are exceptionally versatile and better prepared to support technology demands. In addition to the maintenance and repair of medical equipment, MERs are also responsible for the set-up and distribution of power, networking systems with medical equipment, production of medical gasses, equipment fielding, and conducting new equipment training for clinical personnel once the fieldings are completed.

5-4. Medical logistics planners must understand the organic medical equipment maintenance capabilities of medical units throughout the AO to ensure that resources are properly scaled to support the mission. This helps to avoid interruptions in the availability of essential medical equipment.

5-5. At forward locations, MER capabilities are limited to first response diagnosis, component exchange, and relatively simple repair. Medical companies in theater have an MER that is normally capable of providing field maintenance for organic equipment. Limitations may exist with highly specialized systems used in laboratory and diagnostic imaging services.

5-6. Theater MEDLOG capabilities are provided by the TLAMM and/or operational MLC which have personnel and expertise to provide medical maintenance support to medical units on a direct support or area basis. They also maintain theater assets for equipment exchange, calibrate highly sophisticated equipment such as anesthesia machines and imaging systems, and manage critical repair parts needed to maintain equipment used in theater. Theater medical maintenance functions include both maintenance operations and the provision of contact repair teams to support forward units and manage or coordinate contractor support provided by theater or national-level contracting activities.

5-7. National-level medical maintenance capabilities are provided by the national maintenance point (medical), USAMMA, and the Defense Supply Center Philadelphia. Capabilities at this level include—

- Equipment acquisition and integrated logistics support.
- Service-level maintenance operations that also support new equipment acquisition and fielding.
- Coordination with original equipment manufacturers and third party maintenance vendors.
- Provision of national contracts and/or one-time contracts for maintenance and repair services.

5-8. These MEDLOG agencies are also able to project medical equipment maintenance assistance teams into the theater at the request of the combatant commander.

MAINTENANCE FACTORS

5-9. Responsive maintenance is the result of the combined efforts of many individuals. The actions of these individuals are guided and influenced by factors common to all maintenance operations. These factors function like a chain. If one area is neglected, the overall system is weakened.

Command Interest

5-10. This is the active involvement of commanders and supervisors at all levels of medical equipment maintenance operations for which they are responsible. The commander is responsible for the readiness of medical equipment assigned to the unit whether it is a reportable end item, subassembly, or component of a MMS or MES. To ensure deployable readiness, commanders must provide written emphasis, set goals, objectives, and priorities in support of the maintenance program. Commanders are required to publish a commander's maintenance directive in accordance with Technical Bulletin (Medical) 750-2. They must stay informed of maintenance requirements, status, and capabilities and provide guidance, motivation, and direction to unit personnel. The leadership or interest of unit commanders, supervisors, and maintenance managers helps to motivate personnel to accomplish the maintenance objectives. Commanders must also develop training plans that ensure appropriate personnel receive training and certification on equipment.

Management

5-11. Managers use available resources to accomplish the mission in the most efficient manner. Maintenance management involves all members of the chain of command, as well as designated individuals who manage the maintenance resources under their control in accordance with command supply discipline. The manager plans, organizes, directs, coordinates, and controls resources to accomplish the maintenance mission.

Supervision

5-12. Maintenance supervisors ensure that personnel perform required tasks in a correct, safe, and timely manner. Supervisors also take an active interest in the training and welfare of their personnel. Supervisors should set goals to maximize the training and certification of section personnel on assigned equipment.

Skill

5-13. Skill is the technical ability of personnel to perform the tasks required by their duty position. Skill development is important to all personnel but particularly to inexperienced Soldiers joining the unit. Commanders and supervisors must provide continuous technical training, licensing programs, and medical proficiency training to ensure that learned skills are sustained over time.

Resources

5-14. Resources include personnel, publications, consumables, repair parts, tools, test, measurement, and diagnostic equipment (TMDE), facilities, training, and time. Commanders and supervisors at all levels must ensure that their subordinates are adequately resourced to accomplish the mission they are assigned.

SECTION II — LEVELS OF MEDICAL EQUIPMENT MAINTENANCE AND RESPONSIBILITIES OF EACH LEVEL

5-15. Army transformation requires that the AMEDD has the capability to deploy powerful forces quickly, without a large logistics footprint. The future operational environment will likely be a noncontiguous AO and have long and often unsecured lines of communication. Army maintenance transformation consolidates the current four-level maintenance system at the direct support level into two consolidated maintenance levels, which are field and sustainment maintenance. These two levels are key to keeping equipment in a mission-ready condition, restoring equipment to a serviceable condition, and providing approved equipment modifications. The goal of the two-level maintenance system is a simplified structure that provides a reduced repair-cycle time with greater efficiency in all maintenance processes.

FIELD MAINTENANCE

5-16. Field maintenance is the first and most critical level of the Army maintenance system focusing on *on-system repair*. The greatest enabler of field maintenance is operator/crew PMCS. The operator/crew PMCS provides the most rapid identification of equipment faults and engagement of the maintenance repair system. Commanders are responsible for providing resources, assigning responsibility, and training their Soldiers to operator-level standards to conduct PMCSs. Commanders are also responsible for ensuring that adequate time is set aside for Soldiers to conduct operator-level PMCS. The basic task of field maintenance is to perform scheduled periodic services and other maintenance functions (TM 10- and 20-series publications) required to attain a high level of operational readiness. All repair functions for medical equipment beyond operator/crew PMCS is the sole responsibility of the MOS 670A/68A. Responsibilities include the requirement to—

- Schedule and perform PMCS.
- Perform electrical safety inspections and tests, calibration, verification, and certification services.
- Provide diagnosis and fault isolation as authorized by the maintenance allocation charts (MAC) prior to evacuation. Emphasis is placed on early consideration of equipment replacement with MEDSTEP assets.
- Replace unserviceable components, modules, and assemblies as authorized by the MAC.
- Inspect by sight and touch external and other easily accessible components per the TM 10-series publications.
- Lubricate, clean, preserve, tighten, replace, and make minor adjustments authorized by the MAC.
- Requisition, receive, store, account for, and issue repair parts to include managing ASL/bench stock for medical equipment.
- Maintain a technical library for medical equipment.
- Perform technical inspections on new or transferred medical equipment in accordance with AR 40-61.
- Maintain required manual equipment files and automated equipment files in the medical equipment management AIS.
- Request, manage, maintain, and report MEDSTEP assets.
- Perform management and maintenance functions on PMI located within the operational area.
- Report materiel condition and status codes to include operational readiness in accordance with AR 700-138.
- Inspect items to verify serviceability.
- Report items rendered unserviceable due to other than fair wear and tear through the chain of command. Any equipment not located during scheduled services will be reported to the commander or property book officer monthly to ensure property accountability. If negligence or willful misconduct is suspected, repair will not be made until a release statement is received per AR 735-5.

- Determine economic reparability in accordance with Technical Bulletin (Medical) 750-2.
- Repair unserviceable economically reparable end items per MAC. Equipment will be repaired and returned to the user.
- Provide proactive materiel readiness and technical assistance to unit maintenance elements including—
  - Visits to supported units on a regular basis.
  - Advice to supported units in proper methods for performing maintenance and related logistics support.
  - Coordination with supported units to perform technical inspections when requested.
  - On-site assistance to supported units.
  - Area support to other field units and evacuate equipment requiring support to sustainment maintenance units, as necessary.

SUSTAINMENT MAINTENANCE

5-17. Sustainment support maintenance focuses on repairing components, assemblies, modules, and end items in support of the supply system. Sustainment support maintenance is characterized as *off system* and *repair rear*. The intent of this level is to perform commodity-oriented repairs on all supported items to one standard that provides a consistent and measurable level of reliability. The sustainment maintenance function can be employed at any point in the distribution pipeline. Ideally, sustainment maintenance activities (MLC and CSH) would support closest to the AO, however, the operational pace and technical requirements may dictate that sustainment maintenance activities are located in CONUS (depot) to provide the required repair support. Responsibilities include the requirement to—

- Diagnose, isolate, and repair faults within modules/components per MACs.
- Repair selected line replaceable units and printed circuit boards per the MACs.
- Provide area maintenance support to include technical assistance and on-site maintenance as required or requested.
- Collect and classify Class VIII materiel for proper disposition.
- Operate cannibalization points, when authorized by the Army command, ASCC, or direct reporting unit (in accordance with AR 710-2).
- Evacuate unserviceable end items and components through the appropriate supply support activity.
- Fabricate or manufacture repair parts, assemblies, components, jigs, and fixtures when approved by the Army command, ASCC, or direct reporting unit.
- Request depot or manufacturer technical support as required.
- Repair all economically reparable components when MAC F-coded-level repair will return the items to a serviceable condition. These items will be repaired and returned to the requesting maintenance or supply activity.
- Provide fabrication as identified by the appropriate TM.
- Provide overhaul and rebuild end items and components in support of the wholesale supply system and as *repair and return* actions.
- Perform special inspections, tests, and modification program actions.
- Perform maintenance services and functions for the wholesale supply system.
- Provide end items, components, and repair parts through established programs in support of both TOE and TDA medical units.
- Provide on-site medical maintenance CRTs to support BCTs/forward operating bases and logistics assistance representatives on an *as required* basis.

SECTION III — MEDICAL EQUIPMENT MAINTENANCE SUPPORT

MEDICAL EQUIPMENT MAINTENANCE SUPPORT AT ROLES 1 AND 2

MEDICAL PLATOON/SECTION/BATTALION AID STATION

5-18. At the Role 1 MTF/BAS, the medical platoon leader is responsible for ensuring that operator maintenance is performed on assigned equipment and that a medical maintenance support plan is established and coordinated between the BSMC and the MMB. The medical platoon is composed of treatment teams, which are authorized trauma and sick call MESs. Multiple maintenance significant items are contained in these sets. When a repair is needed, the medical platoon leader will report the equipment down immediately to the BMSO via the logistics status report. The medical equipment will be transported to the BSMC via logistics or medical vehicle, if available. If the medical equipment cannot be evacuated to the BSMC, a CRT from the MLC (collocated with the BSMC) will be dispatched to diagnose and remedy the fault through on-system repair or MEDSTEP replacement. Any medical element operating in the sustainment area of the supported BCT will follow these procedures.

5-19. The medical platoon requests medical maintenance support from the supporting BCT BMSO. Medical maintenance support will be possible on a limited basis while the treatment squad is forward deployed in the AO. However, during *stand-down* periods, the MERs/CRT from the MLC provide full field and limited sustainment maintenance at the unit's location. Normally, minimal equipment contained in these sets requires sustainment maintenance. User/operator maintenance tasks and field maintenance repair parts will be identified in the TM or operator manuals and applicable materiel fielding plans.

5-20. The MES ground ambulance used by the ambulance squads in the BASs and BSMC contain several maintenance-significant items. User/operator personnel are not trained to repair malfunctions using standard operator-level repair parts and therefore are not authorized to repair medical equipment contained in these sets. The ambulance squads request repairs to medical equipment through the BMSO in the BCT or directly from the MLC. However, due to the nature of these units and the limited space available, medical maintenance services provided by the BCT are restricted and must be coordinated to ensure maximum support. The MLC CRTs are primarily responsible for medical equipment maintenance for all units (including medical equipment maintenance support for air ambulance units) in the BCT area other than the BSMC. Figure 5-1 depicts medical maintenance support at Roles 1 and 2.

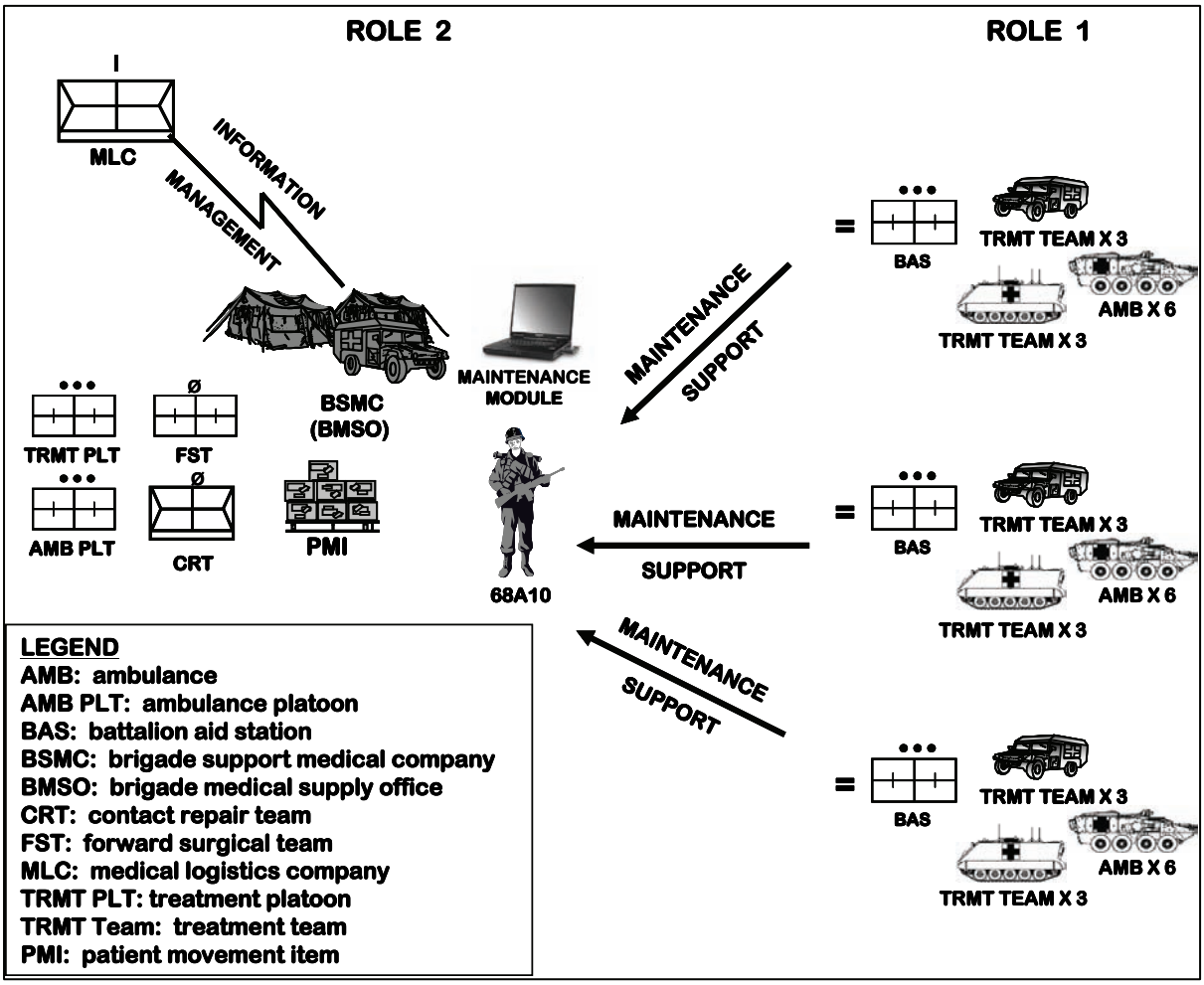

Figure 5-1. Roles 1 and 2 medical maintenance support

BRIGADE SUPPORT MEDICAL COMPANY

5-21. The BSMC's BMSO provides primary field maintenance for the company and may provide emergency medical equipment maintenance for the medical platoons in the BCT. The BMSO provides medical equipment reporting and oversight for all medical equipment within the brigade. Units within the BCT that do not have organic medical equipment repair capabilities will coordinate with the BMSO for field and sustainment maintenance from the MLC CRTs through the supporting MMB. The BMSO will carry minimal Class VIII repair parts in support of the brigade. Class VIII repair parts will be requested from the supporting MLC. All medical equipment within the brigade shall be reported through the theater-approved AIS to the supporting MLC. All command maintenance reports will be submitted using the approved medical maintenance management system. Medical specific TMDE, MEDSTEP, medical equipment turn-in, and PMIs are supported through the MLC. The BMSO is responsible for ensuring that an accurate density list of all medical equipment in the BCT is developed, accounted for, and forwarded to the MLC through the medical maintenance AIS daily.

Note. All maintenance significant medical equipment will be reported through the appropriate AIS to the MLMC regardless of specific identification in AR 220-1 and AR 700-138.

5-22. The MER at the BSMC is responsible for field maintenance (scheduled and unscheduled) on medical equipment within the unit. The MER also maintains PMI assets as deemed necessary, as well as the following:

- Troubleshoot the equipment in accordance with the MAC.
- Repair and return the equipment if the repair is within the scope of field maintenance and the parts are on hand.
- Turn the equipment in to the logistics staff officer (S4) for evacuation to the MLC, if the repair exceeds field-level capabilities.
- Issue a MEDSTEP item from the supporting MLC, if the equipment is a critical item.
- Generate a parts requisition through MEDLOG channels if a part is needed and the equipment is not a critical item.

5-23. When the BSMC is deployed and an FST is attached, a CRT is dispatched from the MLC to the BSMC's location. The CRT remains with the BSMC and FST while forward engaged to provide the necessary medical equipment maintenance support to all units in the BCT's AO. The CRT can be called forward of the BSMC to support medical evacuation platforms and other medical assets, then return to the BSMC location once repairs are made.

5-24. The BSMC in the Stryker BCT does not have the BMSO and full MEDLOG support staffing that is present in the BMSOs of the other BCTs. However, it does have an MER assigned to the headquarters section of the BSMC and is fully capable of providing the same level of medical equipment maintenance support as outlined above.

AREA SUPPORT MEDICAL COMPANY (AREA TREATMENT SQUADS/TEAMS)

5-25. Area treatment squads/teams of the ASMC are also authorized trauma and sick call MESs. Multiple maintenance significant items are contained in these sets. As with the BSMC, all medical equipment within the ASMC is reported to the supporting MLC. All command maintenance reports will be submitted using the approved medical maintenance management system. Medical specific TMDE, MEDSTEP, medical equipment turn-in, and PMIs are supported through the MLC.

5-26. The MER assigned to the ASMC (and the MLC) is responsible for all field medical maintenance (scheduled and unscheduled) to include PMI assets within the ASMC. The CRTs from the MLC are primarily responsible for maintenance of medical elements deployed away from the ASMC. The MER troubleshoots the equipment based on the Soldier's level of training and the TMDE available in accordance with the MAC.

- If the—
  - Repair is within the scope of field maintenance and the parts are on hand, the MER will repair and return the equipment to the supported unit.
  - Repair exceeds field maintenance capabilities, the MER will request CRT support from the supporting MLC.
  - Equipment is a mission critical item, a MEDSTEP item is issued from the supporting CRT/MLC.
- When a repair part is needed and the equipment is not a critical item, the MER generates a parts requisition through MEDLOG channels.

MEDICAL EQUIPMENT MAINTENANCE SUPPORT AT ROLE 3

5-27. Medical units assigned a medical maintenance mission at EAB include the MLC, CSH, ASMC, and dental company (area support). Of the units listed, the CSH is the only Role 3 MTF operating at EAB.

COMBAT SUPPORT HOSPITAL

5-28. The MER and the health services maintenance technician at the CSH are responsible for field maintenance for medical equipment assigned or attached to the CSH including the FST that is collocated

with the CSH when it is not deployed to supported units. When deployed, the FST is collocated with a medical company and receives medical maintenance support through that company and the MLC covering that supported area. The CSH provides limited field maintenance for special and augmentation medical equipment on an area basis. Medical elements assigned or attached to the CSH may include head and neck teams (computed tomography scan), special care teams, pathology teams, renal hemodialysis teams, infectious disease team, ambulance squads, and treatment teams. The CSH also maintains PMI assets and automated maintenance records on assigned medical equipment and supported medical units or elements in the approved medical maintenance management system. The MLC provides sustainment maintenance and MER augmentation support for the CSH.

MEDICAL LOGISTICS COMPANY

5-29. The MLC is responsible for maintaining MEDSTEP items and PMIs, deploying CRTs, and providing field and limited sustainment maintenance to units within the BCT and EAB areas including blood support detachments and units operating within the area without organic MERs. Equipment is evacuated through supply channels to the MLC if repairs exceed the field and sustainment maintenance level in accordance with the MAC or as defined in AR 750-1 or AR 40-61. Parts are requisitioned through MEDLOG channels.

5-30. The MLC is staffed with required MERs (MOS 68A) and a health services maintenance technician, Warrant Officer MOS 670A. They are equipped with the appropriate tools and TMDE to perform field and sustainment maintenance in accordance with the MAC. The MLC is staffed and equipped to provide four fully operational CRTs with expandable tactical vehicles. The MLC maintains automated maintenance records on all assigned medical equipment and the equipment of supported medical units or elements within the company AO.

MEDICAL BATTALION (MULTIFUNCTIONAL)

5-31. The MMB provides MEDLOG oversight and medical C2 to include—

- Providing transportation.
- Facilitating ITV of Class VIII repair parts and equipment.
- Providing medical CRT missions.
- Ensuring medical equipment quality control for units task organized under the MMB.
- Establishing medical maintenance priorities for equipment repair or exchange.
- Monitoring maintenance distribution flow for supported units.
- Coordinating electronics, calibration, and automotive maintenance operations.
- Directing the cross-leveling of medical assets (parts or equipment).
- Contracting medical maintenance support and integrating host-nation support as required.
- Assisting in medical equipment readiness sustainment and reporting.
- Ensuring viable medical equipment maintenance.
- Ensuring that MER training programs are in place.

MEDICAL BRIGADE

5-32. The medical equipment maintenance personnel in the MEDBDE—

- Conduct planning and provide direction and guidance for medical equipment maintenance and unit maintenance programs for the MEDBDE.
- Develop and evaluate brigade maintenance policies, training, and maintenance support resources in support of the theater mission plan.
- Manage repair parts and maintenance for all medical equipment within the MEDBDE.
- Compile operational status reports and direct the disposition of unserviceable medical equipment.

MEDICAL LOGISTICS MANAGEMENT CENTER FORWARD SUPPORT TEAM

5-33. The MLMC support team provides maintenance management capabilities and advice to the ASCC surgeon. Responsibilities include maintaining visibility of units and medical assets in the theater, recommending cross-leveling of assets, redirecting shipments, coordinating contractor support, and providing a direct link back to CONUS AIS support. The maintenance posture of the theater is managed and monitored through AISs under MC4.

5-34. The medical equipment maintenance personnel in the MLMC provide the following support:

- Establish and provide oversight for medical equipment maintenance information systems plans and architecture.
- Plan, organize, and conduct technical inspections.
- Plan, supervise, and conduct training in all phases of medical equipment maintenance management.
- Develop operating procedures and analyze/interpret technical data pertaining to medical equipment maintenance for the theater.

MEDICAL COMMAND (DEPLOYMENT SUPPORT)

5-35. The medical equipment maintenance personnel in the MEDCOM (DS)—

- Provide senior leadership, guidance, and technical expertise for supported elements, staff agencies, and commanders at all levels within the theater.
- Evaluate and develop theater maintenance policies and training.
- Develop medical equipment support plans for the theater.
- Provide oversight for medical maintenance quality assurance operations.
- Coordinate, publish, and enforce maintenance directives.
- Develop and coordinate materiel training, support, and personnel implementation plans for the theater.

NONSTANDARD REPAIR PARTS

5-36. Over ninety-eight percent of Army medical equipment is commercial-off-the-shelf and often requires nonstandard Class VIII repair parts that are not part of the medical catalogue. Units requiring nonstandard repair parts can obtain instructions for ordering these parts through the US Army Medical Materiel Center-Europe website at https://www.pirmasens.amedd.army.mil or the USAMMA website at www.usamma.army.mil.

5-37. When internet access is not available, Class VIII repair parts requests should be submitted directly to the MLC or CSH. Table 5-1 provides a sample Class VIII repair parts request that lists the information units must provide when submitting a request. Except where indicated, all information listed in the sample must be provided.

Table 5-1. Sample Class VIII repair parts request

New Item Request (Class VIII Repair Parts Request)	
Contact Information	
Unit Name	
Department of Defense Activity Address Code (DODAAC)	
Signal Code	
Supplementary Address (optional)	
Army Procurement Code (APC)/Fund Code	
Point of Contact	
Alternate Point of Contact	
Phone Number	
Email Address	
Manufacturer Information	
Manufacturer Name	
Manufacturer Address	
Manufacturer Web Site (optional)	
Manufacturer Email Address (optional)	
Manufacturer Phone Number (optional)	
End Item Information	
Nomenclature	
Model Number	
Serial Number	
Equipment (Voltage [None, 110 Volt, 220 Volt, Dual Voltage])	
Equipment Type (dental, laboratory, medical surgical, optical, test measurement and diagnostic equipment (TMDE), other)	
Part/Accessory Information	
Item Category (Class VIII repair part or accessory)	
Date Required (month/day/year)	
Part Nomenclature	
Part Number	
Unit of Issue (each, box, package)	
Estimated Price $ (optional)	
Quantity Needed	
Estimated Monthly Usage	
Document Number (enter without dashes or spaces)	

Table 5-1. Sample Class VIII repair parts request (continued)

Project Code (optional)	
Priority Code 02-inability to perform mission 05-mission impaired 12-routine	
Remarks (optional)	
Was Item Researched (Yes or No)?	

SECTION IV — CONTINENTAL UNITED STATES-BASED ORGANIZATIONS

5-38. The CONUS-based organizations supporting the medical maintenance mission in theater include the MLMC base, the national maintenance point (medical), and the USAMMA. These organizations provide the link from the strategic level to the field or tactical level. They monitor the maintenance posture of the theater and anticipate medical maintenance requirements that can be supported from the national level. These organizations ensure the tactical medical units are able to provide quality support to the deployed force. These organizations provide support and coordination in the areas of logistics assistance representatives, repair parts, contract maintenance, equipment fielding, manufacturer support, training, depot maintenance, quality assurance, modification work orders, tools and TMDE, and program management assistance. The USAMMA operates three medical maintenance operations divisions for medical equipment. The medical maintenance operations divisions are responsible for overhauling, rebuilding, and refurbishing medical equipment on a national-level. This can be accomplished through the use of maintenance assets at the facility, the MERs at the MLCs while in the training/ready phase of ARFORGEN, or by USAMMA establishing contracts with civilian industry (in that order).

Chapter 6
Optical Support

Optometry support from the MEDLOG perspective focuses primarily on optical fabrication for the replacement of spectacles and frame repair. This support is a critical aspect of preventive health care and key to ensuring readiness. The loss of eyewear (spectacles or glasses, contact lenses, and gas mask and protective inserts) can degrade performance and make a Soldier combat ineffective. The proper eye care support allows the Soldier to quickly return to duty without visual impairment. This chapter outlines optical support available in the theater.

SECTION I — THEATER OPTICAL SUPPORT

6-1. Optical support includes—

- Fabrication of single-vision and multivision prescription lenses.
- Fabrication of standard spectacles.
- Fabrication of aviation spectacles.
- Fabrication of protective mask inserts.
- Fabrication of military combat eye protection inserts.
- Provision of military standard spectacle frame repair.
- Provision of contact lenses for Attack Helicopter-64 Apache pilots or military personnel on a mission-required basis.

6-2. Optometry teams and optical fabrication laboratories are responsible for making only those spectacles and protective vision devices that require corrective prescription lenses. Replacement spectacles and protective mask inserts requiring standard single-vision lenses may be fabricated at optical support units in theater, afloat, or in fixed facilities. In the event the optical fabrication laboratory cannot fabricate a prescription, eyewear may be requested from the supporting CONUS or OCONUS full service optical fabrication laboratory that has lens surfacing capability. Nonprescription lenses are a Class II item and are the quartermaster's responsibility.

6-3. Prior to deployment, commanders ensure that Soldiers have the following:

- Two pairs of military spectacles (a civilian or frame of choice pair of spectacles may count towards this requirement).
- One pair of protective mask inserts or 6-month supply of contact lenses (mission required only).
- One pair of military combat eye protection inserts.
- One pair of land operations glasses or goggle inserts.

6-4. Optometrists provide essential support to the operational aviation community for the Aviation Contact Lens Program. Contact lenses should not be used in theater unless medically or operationally indicated for specific mission purposes.

6-5. Patients requiring optometric services initially report to their supporting BAS or medical company. For those patients requiring only routine replacement of spectacles or inserts, necessary information is obtained from the individual's treatment record and forwarded to the supporting optical fabrication activity. The required spectacles are fabricated and returned to the BAS or medical company for issue to the individual.

6-6. Brigade combat team medical companies request replacement of corrective eyewear for units in the sustainment area. The BSMC submits replacement requests to the supporting optical fabrication activity via the best communications available with delivery back to the requester. For those units operating at EAB, requests for replacement spectacles or frame repair are submitted by the supporting MTF or area support medical company.

6-7. Medical supply offices generally do not have organic optical support capability. However, they can act as a relay for requests for optical support within their AOs.

OPTOMETRY DETACHMENT

6-8. The optometry detachment (TOE 08567GA00) provides optometry care and optical fabrication to the BCT and EAB units on an area basis. They are assigned to the MEDCOM (DS) or MEDBDE with further attachment to an MMB and may be further attached to a BCT.

6-9. The detachment is employed in support of full spectrum operations. Task organized elements of the detachment are deployed, as necessary, in support of brigade-sized operations. The optometry detachment consists of six personnel that can be divided into two teams. Each team has the capability to provide optometry support limited to routine eye examinations, refractions, spectacle fabrication, frame assembly, and repair services to brigade and EAB units in the AO. The basis of allocation for the optometry detachment is 1 per 15,000 population supported in an AO.

6-10. The optometry detachment's capabilities include—

- Initial diagnosis and management of eye injuries.
- Examination, diagnosis, and management of ocular-related disorders, injuries, diseases, and visual dysfunctions.
- Assembly, repair, and fabrication of single-vision spectacles.

6-11. Prescriptions and/or replacement requests that cannot be filled from on-hand stock or that exceed the MMB capability are passed to the CONUS/OCONUS support base. Once filled, prescriptions are delivered to the optical laboratory section of the supporting MLC.

MEDICAL LOGISTICS COMPANY OPTICAL SUPPORT SECTION

6-12. The optometry section of the MLC is responsible for providing single-vision/multivision fabrication and repair of corrective eyewear for units on an area basis. Prescriptions and/or replacement requests which cannot be filled from on-hand stock or which exceed the MMB capability are passed to the MLC via the best communications available with delivery back to the requester.

6-13. The MLC provides limited single-vision/multivision optical fabrication to EAB. All prescriptions requested from the MLC optical section that cannot be filled are passed to the CONUS or OCONUS full service optical fabrication laboratory with delivery back to the requestor. See Chapter 2 for a full description of the support provided by the MLC.

OTHER OPTICAL SUPPORT

6-14. Deployed units and Army clinics also use the Naval Ophthalmic Support and Training Activity to assist in providing optical fabrication support.

SECTION II — OPTICAL EQUIPMENT SETS

6-15. Currently, there are three optical equipment sets (OESs) in the Army medical supply system. The sets are—

- Unit assemblage 324A OES, Field Combat (Line Item Number N23712). This OES is used to complete optical examinations. It replaces UAs 1324 and 3324.
- Unit assemblage 003A OES, Optical Fabrication Unit Portable Field (Line Item Number N22073). This OES provides single-vision capability. It replaces UA 3003.
- Unit assemblage 006A OES, Multivision Augmentation (Line Item Number P47705). This OES provides multivision optical support to the BCT and EAB units. The set contains the materiel required to provide for the casting of multivision and limited single-vision lenses. This set augments the OES, Optical Fabrication Unit Portable Field (Line Item Number N22073) standardizing optical fabrication across all roles of care. The new UA 006A is the replacement for UA 2006.

6-16. The OESs will be used by the Optical Laboratory Specialist (MOS 68H), assigned to the MLC. Current BCT listings and hand receipt copies may be obtained from the USAMMA website at http://www.usamma.army.mil/ under medical unit assemblages.

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Chapter 7
Blood Support

The Army's blood support system is a part of the Armed Services Blood Program. Upon mobilization, donor centers and CONUS MTFs increase their blood drawing capabilities as directed by the Army Blood Program Officer. These facilities draw, process, and prepare blood and blood components in accordance with Food and Drug Administration guidelines and ARs for shipment to one of the Armed Services Whole Blood Processing Laboratories. This chapter describes blood support during contingency operations and the roles and responsibilities of organizations and individuals involved in this process.

SECTION I — THEATER BLOOD SUPPORT

7-1. Theater blood support consists of CONUS-based resupply of blood components. In a developing theater during the buildup period, immediate blood requirements may be provided by pre-positioned frozen blood components. These stocks are designed to meet initial blood requirements until the logistical system can deliver blood components to the theater.

7-2. Blood and blood components are more than just another commodity of supply. Blood is live tissue and, as such, requires special handling. Air transportation is the primary mode of transportation used for blood distribution. Blood support in an MCO is a dynamic and ever-evolving process, heavily influenced by—

- Stringent storage and handling requirements.
- Inventory management constraints.
- Limited potency periods.
- Innovative technology.

7-3. To be successful, blood support must be a highly organized and coordinated effort on the part of—

- Medical logistics personnel.
- Operations/plans personnel.
- Blood bank personnel.
- Laboratory personnel.
- Transportation personnel.
- Primary medical care providers.

7-4. Blood is managed as fractional portions called components and is used in rather specific quantities based on a patient's injury and condition. The components likely to be present in a theater include packed RBCs, fresh frozen plasma (FFP), apheresis platelets, and fresh whole blood (FWB) (only if collected in theater). Blood services in a theater consist of a combination of missions. Of primary importance are the following:

- Receiving blood components from CONUS.
- Storing, issuing, and distributing blood components to MTFs.

- Collecting and processing of blood on an emergency basis in the theater for FWB and apheresis platelets. Emergency collection of FWB in theater is a procedure that should only be used as a last resort when no fully tested blood products are available (see JP 4-02 for additional information).
- Storing, processing, issuing, and distributing frozen blood components pre-positioned within designated theaters.

7-5. Theater blood support is provided to US military and, as directed, multinational military and indigenous civilian MTFs. The Army, US Navy, and USAF maintain individual blood programs to meet normal peacetime requirements. During contingency operations, a single blood management program is established under the combatant commander to provide blood support in theater. The program interfaces with the CONUS blood banking system and receives blood components directly from established DOD joint Service programs. The Joint Blood Program Office (JBPO)—

- Serves as the single blood program manager in the theater.
- Serves as the single interface with the Armed Services Blood Program Office in CONUS.
- Coordinates, monitors, and ensures that component blood programs, blood product requirements, and capabilities within the joint operations area are managed and maintained according to Food and Drug Administration guidelines/requirements.
- Forms, organizes, and operates the Area Joint Blood Program Offices (AJBPOs).
- Briefs the combatant commander on the status of the blood supply, as required.
- Prepares the concept of operations and the joint blood program portion of Annex Q to the GCC plans and operations orders.
- Advises the GCC surgeon regarding management, policies, and procedures for handling blood and blood products.
- Coordinates blood distribution for and between component Services within the GCC.
- Monitors GCC blood status through the daily blood report.
- Establishes procedures and publishes instructions for disposal or destruction of excess and outdated blood.
- Maintains liaison with the blood support detachments, EBTCs, and the AJBPO at any JTF within the GCC area of responsibility.
- Plans the handling, storage, and distribution of blood components within the GCC area of responsibility.
- Consolidates and forwards requirements for resupply of blood products to the Armed Services Blood Program and the joint logistics staff section.
- Assesses the need for the AJBPO.
- Assists the GCC surgeon with the development and dissemination of theater blood management policies, procedures, and guidance.
- Compiles area blood reports and forwards as appropriate.

7-6. As the GCC's blood program office, the JBPO requests assistance from the Armed Services Blood Program Office when requirements exceed theater resources. The Armed Services Blood Program Office requests support from the Joint Services. Blood collected and processed by DOD blood donor centers in CONUS is shipped to one of two Armed Services Whole Blood Processing Laboratories. The Armed Services Whole Blood Processing Laboratory sends the blood to an EBTC located at major airfields in the theater. Once received at the EBTC, blood components are under JBPO control.

7-7. The JBPO establishes AJBPOs to—

- Implement theater blood program policies.
- Coordinate blood component use and inventory protocol on a geographical basis.
- Direct the movement of blood components from the EBTC to the blood support detachment. For information on blood support in joint operations see JP 4-02.

7-8. The blood support detachment is the direct issue source for MTFs, medical units, and other users. Blood support detachments support other Services' MTFs and nonmilitary facilities as directed by the JBPO/AJBPO. The blood support detachment commander may serve as the AJBPO. Combinations of sources are required to satisfy the theater's initial blood needs. Limited in-theater collections (blood support detachment personnel and hospital-based collections), initial deployed supply, and pre-positioned frozen blood inventories are all necessary to meet requirements during the first few days of a developing theater. Full CONUS-based blood support capability is mature within ten days of notification. As the theater matures, the primary source of blood components comes directly from the CONUS base. In-theater collection and processing are required to provide platelet products and FWB for emergency conditions. In-theater collections are not collected under the same rigorous screening and viral marker testing as CONUS-based donor centers. Patients receiving blood products from in-theater collection must be followed up for up to 1 year after transfusion for human immunodeficiency virus and Hepatitis B and C. Experience has shown in-theater collection to be the only choice for massively transfused patients when platelets and/or FFP are not available in sufficient quantities. Varying levels of blood support exists at Roles 2 and 3. No blood or blood product support is provided at the Role 1 MTF/BAS. Brigade medical supply offices generally do not have organic blood support capability. However, they can act as a relay for requests for blood support within their AO to the supporting blood support detachment.

ROLE 2 BLOOD SUPPORT

7-9. The brigade surgeon determines blood requirements for the brigade. Blood inventory and supply are functional responsibilities of the medical logistics officer in the support operations section of the brigade support battalion and the AJBPO/JPBO. Only packed liquid RBCs are expected to be available to the BCTs. The forward cell of the blood support detachment (collocated with the MLC) provides blood products to the medical companies/troops in the BCT. Most of the demands for emergency resupply come from the BSMCs.

BRIGADE SUPPORT MEDICAL COMPANY

7-10. The BSMC medical laboratory specialist (MOS 68K) informs the medical logistics officer in the division surgeon section of the current availability of blood in the division. The laboratory has the capability to conduct limited emergency FWB collections. The division surgeon section prioritizes the movement of blood products, as required. Air assets should be considered along with ground assets for the transportation of blood.

AREA SUPPORT MEDICAL COMPANY

7-11. The process for obtaining blood support in the ASMC mirrors that of the BSMC. The medical laboratory specialist in the ASMC informs the operations staff officer (S-3) at the MMB of the current availability of blood in the unit. The medical laboratory specialists of each area support treatment squad are the technical advisors to the medical company commanders and treatment platoon leaders on all matters pertaining to the blood program. The laboratory has the capability to conduct limited emergency FWB collections. The S-3 prioritizes the movement of blood products, as required.

7-12. Each medical company will maintain an inventory of 50 units of Type O packed RBCs for wartime operations. During other operations, the division surgeon will establish inventory levels. The blood support detachment will maintain 30 to 50 units of Type O packed RBCs for each medical company supported. Blood stockage levels will be adjusted as necessary to meet blood requirements. Refer to paragraph 7-22 for additional information on the rhesus (Rh) factor of blood.

FORWARD SURGICAL TEAM

7-13. Blood support at the FST consists of Type O RBCs (liquid) in limited quantities as dictated by the specific contingency and expected casualty rate. The FST has a 50-unit blood storage capability and requires frequent blood resupply. Blood inventory management and resupply operations are coordinated directly with the supporting medical company.

ROLE 3 BLOOD SUPPORT

7-14. In the CSHs, blood support has evolved significantly with the fielding of the DEPMEDS blood laboratory and the shelters, tactical expandable (also known as the International Organization for Standardization [ISO] shelters).

Note. The ISO shelters are the hard-walled shelters used in the DEPMEDS-equipped CSHs.

7-15. The transfusion capability at the CSH has improved with the implementation of greater storage capacity, basic compatibility testing, multicomponent availability, and staffing with a laboratory officer and noncommissioned officers with specific blood bank training. Inventories of up to 480 units of blood can be stored in a DEPMEDS refrigerator.

7-16. The CSH blood inventory management and resupply operations are coordinated directly with the supporting blood support detachment. Inventories are managed for Groups A, B, and O blood and both Rh positive and negative blood types. A small inventory of FFP is available at the CSH. The CSH has the capability to conduct limited emergency FWB and apheresis platelet collections, but does not have the capability to perform infectious disease testing of the donor units (rapid screening methods for hepatitis, human immunodeficiency virus, and syphilis testing may be available). The decision to transfuse blood collected in a theater is governed by theater policy.

7-17. The relatively large quantity of blood maintained at the CSH requires the use of large-capacity, blood bank-type refrigerators equipped with audible and visual temperature alarm systems. Freezers for FFP storage are similarly monitored. See FM 4-02.70 for additional information on blood banking and transfusion services.

STORAGE AND SHIPMENT OF BLOOD PRODUCTS

7-18. Units of packed RBCs are harvested from whole blood by centrifugation and removal of most of the plasma. Red blood cells can be stored in either the liquid or frozen state. The primary differences are the storage requirements, shelf life, and the additional processing required to freeze and thaw frozen cells. Plasma removed during RBC processing is promptly frozen and termed FFP. Additionally, apheresis platelets (cell fragments involved in forming a plug at the site of bleeding) can be harvested using an automated apheresis collection device that harvests only the platelet product and returns the remaining blood products back to the donor.

7-19. Blood storage requirements are extremely important and present a real challenge to field storage facilities. The conditions required for storing various components have very little tolerance; entire inventories of blood can be lost if conditions are not maintained correctly. Refer to Table 7-1 below for the storage temperatures and shelf life of theater blood components.

7-20. Conditions for transporting blood components are essentially the same as for prolonged storage with the exception of—

- Packed red blood cells. When shipping packed RBCs, a temperature range of 1° Celsius (C) to 10°C is acceptable.
- Fresh frozen plasma. Once thawed, FFP must be transfused within 24 hours. When shipping FFP, it must be kept in a frozen state using dry ice or a system that can sustain a temperature not greater than - 18°C.
- Platelets. During shipment, platelets must remain as close to 20°C to 24°C as possible. The maximum time that platelets can be stored without agitation is 24 hours.

Table 7-1. Storage requirements for theater blood component

Blood Component	*Storage Temperature*	*Storage Shelf Life*
Red Blood Cells (Liquid)	1°C to 6°C	35 or 42 Days
Red Blood Cells (Frozen)	Not greater than -65°C	10 Years
Fresh Frozen Plasma	Not greater than -18°C	12 Months
Platelets	20°C to 24°C	5 Days
Fresh Whole Blood	20°C to 24 °C	1 Day

7-21. Specially built containers and packaging methods are prescribed in TM 8-227-11. Fresh whole blood should not be used after 24 hours post collection since the coagulation factor half-life would have expired.

SECTION II — DELIVERY OF BLOOD

7-22. Blood will be shipped by air when circumstances permit. Unless otherwise specified, 15 percent of the blood requested should be Rh negative. The blood distribution system plans for 15 percent of all blood distributed in theater to be Rh negative. This is true for all the MTFs in theater. The medical companies have very limited storage capacity, but they are also required to have approximately 15 percent of their total blood products as Rh negative.

7-23. During shipment, blood will be continuously maintained at a temperature within the range of 1°C to 10°C. Blood still on hand 5 days before the expiration date will be kept properly refrigerated and returned to the blood support detachment.

7-24. Shipment of blood from the sustainment area to the supported units is either coordinated by the MMB's operations section with the EAB movement control center or accomplished by backhaul on medical vehicles (air and ground). Air ambulances from the general support aviation battalion can accomplish emergency resupply.

SECTION III — BLOOD REPORTING SYSTEM

7-25. The blood reporting system has been standardized to enhance blood requirements projection, blood requests, blood inventory reports, and to provide information on the overall blood element operations of all Services, to include joint Services, in the theater. The Armed Services Blood Program Office developed the contingency blood reports and use of the US Joint Message Text Format. The two standard joint message text format reports used to report blood program operations are the—

- Blood report. The standardized report used in the Armed Services Blood Program to report blood inventories, request blood, and project requirements. See sample message blood report at Figure 7-1.
- Blood shipment report. A standardized report used in the Armed Services Blood Program to report blood shipments. This report should be used by the MTF to notify the receiving facility that blood has been shipped.

7-26. Medical companies will submit their blood requirements for the following day and the status of blood on hand to the blood support detachment with information copies to the division and brigade surgeons. Medical companies will consolidate and submit requirements according to timelines provided by higher headquarters. For additional information on the blood reporting system, see JP 4-02 and TM 8-227-12.

BLOOD REPORT

FM: CDR CHARLIE MED 34BSB
TO: BLOOD SUPPORT DETACHMENT OFFICE
INFO: DIVISION SURGEON
CLAS UNCLAS
OPER/VALIANT EAGLE
MSGID/BLDREP/CMED34FSB/1012221//
REF/A/CDRUSACOM/090300ZJAN92/-/TOTAL//
ASOFDTG/100001ZJAN92// (Line 1)
REPUNIT/CMED34FSB/G/BZ44327432// (Line 2)
BLDINVT/20JS// (Line 3)
BLDREQ/30JSW// (Line 4)
BLDEXP/2JS// (Line 5)
BLDEST/30JS// (Line 6)
RMKS/RECEIVED 30JS/TRANSFUSED 30JS/SHIPPED O/ (Line 7)
REFRIGERATOR NEEDS REPAIR//
DECLAS (Line 8)

*Report Explanation:

(1) Line 1, ASOFDTG: Day/time zone of the BLDREP.

(2) Line 2, REPUNIT: Name, designator code, and activity brevity code of reporting unit.

(3) Line 3, BLDINVT: Used to report the total number of each blood product on hand at the end of the reporting period. Total the blood products at the end of the reporting period.

(4) Line 4, BLDREQ: Used to report the total number of each blood product requested and time frame needed.

(5) Line 5, BLDEXP: Used to report the estimate of the number of each blood product which will expire within the next seven days.

(6) Line 6, BLDEST: Used to report the estimate of the total number of each blood product required for resupply within the next 7 days.

(7) Line 7, CLOSETEXT OR RMKS: Used to provide additional amplifying information if required.

(8) Line 8, DECLAS: Mandatory if the message is classified.

LEGEND:

BLDEST	BLOOD ESTIMATE	FSB	FORWARD SUPPORT BATTALION
BLDEXP	BLOOD EXPIRATION	INFO	INFORMATION
BLDINVT	BLOOD INVENTORY	JAN	JANUARY
BLDREP	BLOOD REPORT	MED	MEDICAL
BLDREQ	BLOOD REQUIREMENT	MSGID	MESSAGE IDENTIFICATION
BSB	BRIGADE SUPPORT BATTALION	OPER	OPERATION
CDR	COMMANDER	REP	REPORTING
CLAS	CLASSIFICATION	REF	REFERENCE
CMED	CHARLIE MEDICAL	RMKS	REMARKS
DECLAS	DECLASSIFICATION	UNCLAS	UNCLASSIFIED
DTG	DATE/TIME GROUP	USACOM	UNITED STATES ARMY COMMAND
FM	FROM	Z	ZULU

Figure 7-1. Sample message blood report

Chapter 8

Health Facility Planning and Management

During MCOs, health facility planning and management in a developing theater (during the buildup period) is extremely limited. However, during contingency operations, opportunities to provide health facility assessments and technical evaluations may present themselves. Many of these assessments involve interactions with host-nation health ministers and medical facilities. As combat operations transition and the theater medical footprint begins to stabilize, the need for deliberate planning and management of health facilities increases. Planning and management of expedient and/or deliberately planned infrastructure requires close coordination with the component assistant chief of staff, information operations staff, LOGCAP contractor, and contingency operating base command group, along with supporting engineering brigade facility engineering teams and detachments. For the purposes of this chapter, the planning and management of facilities is limited to buildings of opportunity and construction of expeditionary structures and management of infrastructure necessary to support sustainment of the deployed medical force. The use of DEPMEDS as a type of facility is discussed in this chapter, but the management of the system, general and special purpose tents, and field generators will not be discussed.

SECTION I — EXPEDITIONARY HEALTH FACILITY MANAGEMENT

8-1. Managing the sustainment of health facility infrastructure is a complex task requiring interaction between multiple engineering disciplines and trades (such as carpentry, masonry, electricians, plumbing, and mechanical). Sustainment of health facilities is a complex process (at times), heavily influenced by the—

- Role of health care to be provided.
- Length of sustainment period anticipated.
- Statutory and regulatory restrictions on construction funding.
- Operational footprint (mobile versus static) and availability of adequate evacuation assets.
- Maturity level of operational theater and distance to MTFs outside of the theater.
- Level of technology (medical equipment) deployed into theater.
- Construction, sustainment, and engineering capabilities present in theater.

MISSION

8-2. Health facility management consists of planning, organizing, staffing, directing, and controlling all facility functions. The US Army Health Facility Planning Agency is responsible to the Commander, USAMEDCOM for the centralized management of the Army Health Facility Life-Cycle Management Program. The US Army Health Facility Planning Agency's mission is to plan, project, and execute innovative facility capital investment solutions to enhance the delivery of health care and medical research to support service members and the military Family across the continuum of military operations.

8-3. The provision of facility support requires organized and coordinated efforts between—

- Medical logistics personnel.
- Operations/plans personnel.
- Clinical personnel.

- Engineering personnel.
- Acquisition personnel.
- Funding or resource management personnel.

8-4. The US Army Health Facility Planning Agency is based in CONUS and supports health facility planning requirements in the theater. The agency provides the health facilities planning link from the strategic to the tactical level and provides reach-back technical assistance to the forward deployed health facility planners located in the MEDCOM (DS), MEDBDE, ASCC surgeon's office, or joint force surgeon's office. This reach-back technical assistance includes—

- Planning and design.
- Clinical concept of operations development.
- Space programming.
- Equipment planning.
- Medical systems planning.
- Initial outfitting and transition planning.
- Architectural and engineering planning.
- Assist in preparation (provide input and review) of the Department of Defense (DD) Form 1391 (Military Construction Project Data).
- Cost estimating.
- Health information system (facility related) planning.

SECTION II — ROLES AND RESPONSIBILITIES

8-5. The theater-level mission is likely to remain highly fluid as the theater/AO develops and evolves. This can be based on military mission requirements, US and international political developments, existing and evolving health care infrastructure in the host or occupied country, and the variability of local threat assessments. As such, the facility planning and management support required will remain fluid as the theater/AO develops. The requirements at this level will include reach-back support, but often requires assigned staff with specific health facility planner (AOC 70K9I) training. This need is based on theater/AO command-level requests for this specialized skill set, the ability for the health facility planner to have full situational awareness, and the operational pace. The health facility planner will likely serve as assigned staff in the joint/task force surgeon's office. A primary function of this position is not only to understand the medical operational needs and the associated health facility requirements, but also to coordinate in a collaborative fashion with theater-level engineering sections, base sustainment operations, reach-back agency support, contracting, subordinate command-level facility management personnel, funding streams, and in some cases host-nation entities. Often this health facility planner is tasked to provide direct health care facility advice to the command surgeon and provide support in command briefings. Due to the breadth of knowledge required for the health facility planner, reach-back support is required to sustain the health facility planner's mission execution. It is important to determine up front the abilities of the assigned health facility planner and structure the reach-back support in a symbiotic fashion. The level of support and reach-back needs will change with each assigned health facility planner, based on their varied skills and experience. The health facility planner relies heavily on a successful and coordinated working relationship with the EAB engineering staff. The health facility planner provides direct advice and input to the EAB engineering staff with regard to all health facility planning above the brigade/BAS level to ensure appropriate alignment with the theater or AO medical concept of operations. There is one health facility planner in the MEDCOM (DS) and one in the MEDBDE. During small scale contingencies the MEDCOM (DS) and MEDBDE may not be deployed. In these cases, the JTF surgeon or medical task force commander would request reach-back support or that a health facility planner be assigned on staff.

BRIGADE SUPPORT MEDICAL COMPANY

8-6. The BSMC mission is likely to remain highly mobile and in many instances geographically dispersed in order to support multiple brigade contingency operating locations and sites. The BSMC commander coordinates for real estate through the S-3 of the brigade support battalion and requests facility engineering support exceeding local engineering support capabilities through the brigade support battalion S-4 to the supporting engineering unit/element. Work orders exceeding local engineering support capabilities should be submitted under the supervision of the company first sergeant for day-to-day management.

AREA SUPPORT MEDICAL COMPANY

8-7. The process for obtaining facility engineering support in the ASMC mirrors that of the BSMC. The ASMC commander informs the S-3 at the MMB of the need for real estate and further requests facility engineering support exceeding local engineering support capabilities through the S-4 at the MMB. Work orders exceeding local engineering support capabilities should be submitted under the supervision of the company first sergeant for day-to-day management.

COMBAT SUPPORT HOSPITAL

8-8. In the CSH, facility management requirements expand exponentially as do the organic resources to support those requirements. Continuous use and incorporation of initial entry and expeditionary DEPMEDS equipment (including tactical expandable shelters and tents) into facility planning and management solutions should be carefully monitored, particularly when the operations extend into multiple months and years.

Note. The ISO shelters (hard-walled shelters) are used in the DEPMEDS-equipped CSH.

8-9. The facility management capability at the CSH consists of the utilities operation and maintenance warrant officer (AOC 210A) who generally serves as the overall maintenance officer (nonmedical). This individual provides technical expertise to operate, maintain, and repair the Army's utility systems. Units should plan for long-term sustainment of power generation equipment and may consider shifting this requirement (tactical or commercial generators) to LOGCAP or other contract support. Additional capabilities available at the CSH include utilities equipment repairers, motor pool, and laundry and bath. Other personnel may be further assigned or tasked to perform repairs or facility management functions.

MEDICAL BRIGADE

8-10. There is one health facility planner on the MEDBDE staff. The MEDBDE health facility planner is responsible for—

- Monitoring facility engineering support to subordinate medical units.
- Assisting medical units in identifying and developing project requirements.
- Establishing brigade facility management and construction policies in accordance with theater policies.
- Coordinating through the MEDCOM (DS) for reach-back technical support to CONUS-based organizations.
- Assisting the next higher headquarters (MEDCOM (DS), JTF, ASCC surgeon) in planning for and managing health facility planning and construction requirements external to the MEDBDE.
- Coordinating with the theater information operations staff for facility engineering support, base master planning, and extended or long-term sustainability of MTFs and health care infrastructure.

MEDICAL COMMAND (DEPLOYMENT SUPPORT)

8-11. The MEDCOM (DS) has one health services materiel officer/health facility planner (AOC 70K9I) on staff. The health facility planner in the MEDCOM (DS) serves as the principle advisor to the chief, logistics for health care facility planning in the theater. The health facility planning responsibilities at this level include—

- Coordinating and integrating medical facility requirements into the Joint Engineering Planning and Execution System.
- Generating time-phased facility requirements based on the operational plan.
- Providing facility feasibility assessments and recommendations on facilities of opportunity.
- Providing medically specific infrastructure requirements to assist in mission analysis and course of action development.
- Providing real-time monitoring tracking plan/project execution.
- Disposing of medical facilities upon completion of the contingency operation or transfer to local national entities.
- Integrating health care delivery across multiple branches of the DOD or multinational forces.

NONMEDICAL FACILITY ENGINEERING SUPPORT

8-12. Depending on the size of the JTF Army component and sustainment base, facility engineering support at the installation (garrison), contingency operating base, location or site can vary widely. In general, contingency operating bases will have an identified base commander who coordinates requests for real estate, facilities, land use, or facility engineering support. Some level of engineering support is available either directly or on an area support basis to assist the base mayor's cell in managing facility infrastructure. This support may include a facility engineering detachment or team that performs functions similar to a department of public works in CONUS and OCONUS garrison environments. Additional engineering units (Army Engineer Brigade, Naval Construction Force [Seabees], Air Force Facility Engineers/Red Horse Squadrons), LOGCAP construction services, and other contract engineering support may also be available depending on the size of the contingency operating base and maturity of the theater.

8-13. Contracting support can vary greatly depending on the size and maturity of the theater. In larger theaters, US Army Corps of Engineers region and district structures may be established or contracting and management of military construction-sized and appropriated projects may be handled by established OCONUS districts (such as the US Army Corps of Engineers Transatlantic Programs Center or Europe District). Coordination and planning must take place to establish a solution that best supports the required project time, quality, and cost constraints. Keeping the contracting authority and execution as close to the theater (within theater where applicable) is recommended, provided the capacity and required technical skill sets are available. Sequencing procurement and execution handoff of contractual authority may also be a part of the planning process (such as request for proposal development and contracting outside the theater, then moving contract authority within theater for design and/or construction execution).

8-14. Initial outfitting, also referred to as fixtures, furniture and equipment, and transitional type expenses associated with larger medical facility projects are often funded differently in contingency operations than typical medical military construction projects. These requirements must be considered and coordinated to ensure an operational facility when completed. Other important considerations include communications equipment requirements, which may include both unclassified and classified (secret and top secret) levels of communications requirements that may be higher than most CONUS-based MTFs.

SECTION III — HEALTH FACILITY PLANNING CONSIDERATIONS DURING CONTINGENCY OPERATIONS

8-15. The planning of health facilities in a contingency operation is similar to noncontingency environments. However, there are some unique factors influencing the planning process which need to be considered for each contingency facility. Field Manual 3-34.400 and JP 3-34 provide construction standards and engineering planning guidance in contingency operations which are fundamental and

applicable to health care facility planning. This section focuses on health facility planning and execution in a contingency operation above the BAS.

8-16. It is important to balance facility durability and maintainability (quality), construction time (schedule), and cost with mission and the evolutionary nature of contingency operations. It is unwise to make significant facility investments in an austere theater or too early in the development of an operation. This may hinder the medical commander's ability to adapt the medical facilities to meet the needs of an operation once the environment becomes more stable (logistically, militarily, and politically).

8-17. Facility requirements for contingency operations can vary widely based on the operational pace, branch of Service manning the facility, evolving nature of the theater or AO, local infrastructure, threat level, and local abilities to maintain a given facility type.

DESIGN CONSIDERATIONS

8-18. Military designers must be knowledgeable of local construction standards and materials commonly used in a particular region. Designs must include the use of local materials or provide flexibility within the design for use of substitute materials. Many designs may not be practical because of logistical considerations. For example, although the Theater Construction Management System's designs are adjusted for various climates (desert, tropic, and arctic), they may be difficult to construct because required construction materials are unavailable in the region. Suitable materials could be brought from the CONUS; however, the level or length of the US commitment may not support this action. The engineers have developed theater-specific design books that consider regional requirements and standards such as the Redbook which is the theater construction standard for the European Command and the Sand Book which is the US Central Command standard. These references provide very specific recommended minimum planning factors for construction of facilities within those regions.

8-19. Designers must also be aware of contingency construction standards that apply to the theater. Joint publication 3-34 provides joint contingency construction standards to be used as initial planning guidance for engineers within the theater. Figure 8-1 illustrates the joint beddown/base development standards in accordance with JP 3-34 and highlights the need for early master planning efforts to help facilitate the transition to more permanent facilities as an operation develops.

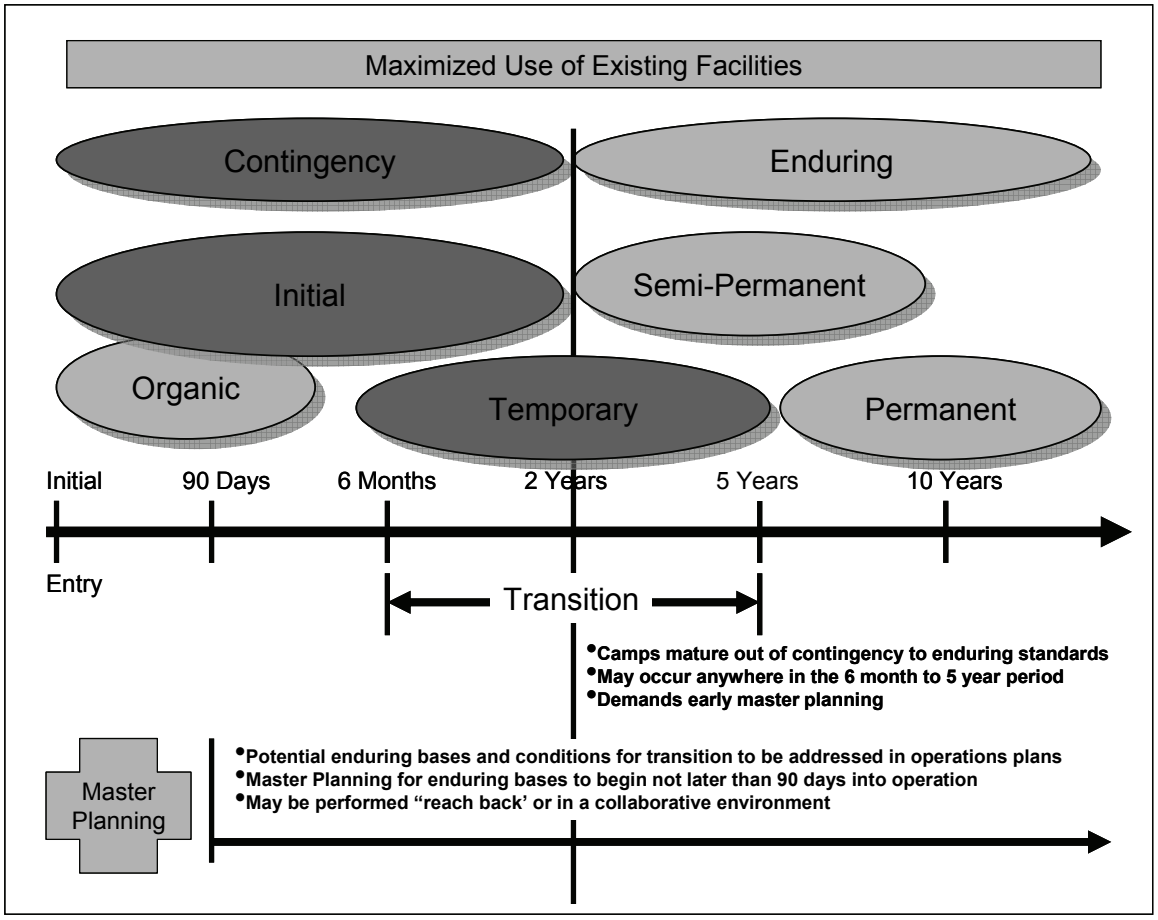

Figure 8-1. Force beddown/base development

8-20. The joint construction standards for base camp development are based on the anticipated lifespan of a facility and are broken down into two phases, the contingency phase and the enduring phase. Department of Defense construction agents, such as the US Army Corps of Engineers, Naval Facilities Engineering Command, or other DOD approved activities, are the principle organizations used to design, award, and manage construction contracts in support of enduring facilities. The construction standards used during those phases are as follows:

- Contingency phase (zero to two years)—
  - Organic construction (a subset of initial standard construction) is set up on an expedient basis with no external engineer support, using unit organic equipment and systems or host-nation resources. Organic construction is intended for use up to 90 days, but may be used for up to six months. Organic construction is typically provided for initial force presence and maneuver activities until the arrival of engineer resources.
  - Initial standard construction is characterized by minimum or austere facilities that require minimal engineer efforts and simplify material transport and availability. This standard is intended for immediate use by units upon arrival in theater for up to six months. Typical to transient mission activities, it may require system upgrades or replacement by more substantial or durable facilities during the course of an operation.
  - Temporary standard construction is characterized by minimum facilities and effort with material transportability or availability. It is intended to increase efficiency of operations for use extending to twenty-four months, but may fulfill enduring phase standards and extend to five years. It provides for sustained operations and may replace initial standard in some cases where mission requirements dictate and require replacement during the course of extended operations.

Temporary standard construction can be used from the start of an operation if directed by the combatant commander. It is typical to nontransient mission activities.

- Enduring phase (over two years) are—
  - Semipermanent construction which is designed and constructed with finishes, materials, and systems selected for moderate energy efficiency, maintenance, and life-cycle cost. Semipermanent construction has a life expectancy of more than two, but less than ten years. The types of structures used will depend on the duration. If directed by the combatant commander, it may be used initially after carefully considering the political situation, cost, quality of life, and other criteria.
  - Permanent construction is designed and constructed with finishes, materials, and systems selected for high energy efficiency, and low maintenance and life-cycle costs. Permanent standard construction has a life expectancy of more than ten years. Construction standards should also consider the final disposition and use of facilities, and any long-term goals for these facilities to support host-nation reconstruction. The combatant commander must specifically approve permanent construction.

8-21. These timelines provide a standard framework and should be used when establishing initial construction standards (may warrant deviations based on the situation). The Joint Facilities Utilization Board should also be used to periodically revalidate construction standards. Ultimately, the combatant commander determines the exact construction type based on location, materials available, and other factors. The MEDCOM (DS) health facility planner, in coordination with theater engineering planners, must recommend the most feasible solutions to each requirement. Construction standards are guidelines and the health facility planner must consider a number of other factors during planning as well.

MEDICAL CONSIDERATIONS

8-22. Service standard designs should be considered for use in support of joint operations and are starting points for Service component general engineer planners. The designs may be modified based on operational, environmental, and unusual site conditions or unique customer requirements. Examples of Service standard designs can be found in the Army's Theater Construction Management System and the Navy's Advanced Base Functional Component System. Field Manual 3-34.400 outlines Army contingency construction considerations and other general engineering planning guidance.

8-23. The longer the anticipated duration of the conflict, the greater the need to support medical treatment through fixed facilities. While medical facilities always entail a considerable amount of environmental considerations in either temporary or fixed facilities, the importance of these considerations will tend to increase over time and should be considered and applied as early in the process as possible to minimize their effects over time. These facilities must have the capacity and degree of sophistication to treat injuries and other health problems sustained during the contingency. Design for a CBRN environment may also be appropriate and must promote rapid, high-quality treatment within the theater to expedite the Soldiers' return to duty.

8-24. As a theater or contingency matures the need to establish or improve physical plants and ensure an environment of care that is more supportive of clinical and operational requirements increases. Facilities should provide the right medical capability at the appropriate location. Continuous improvements in quality and safety result in cleaner and more durable facilities with reliable power, water, lighting, climate control, public address, and patient care systems. Units will naturally transition from expeditionary and initial facilities (tent, extendable, modular, personnel tents) to temporary/semipermanent (preengineered or site built) facilities. This will occur deliberately or spontaneously based on availability of buildings of opportunity. The underlying driver is an inherent need to upgrade facilities to support ever increasing equipment modernization, greater electrical loads, improved utilities reliability, greater safety of patients and staff (such as electrical safety, Occupational Safety and Health Administration standards, life safety, and other code requirements).

8-25. The level of medical support and type of clinics and hospitals will vary, but should be taken into consideration when planning base camps. The specifics range from aid stations through clinics (dental and medical) to CSHs. The actual requirements will directly relate to the mission, medical and dental support

requirements, and the expectations of the command. The following considerations approach health facility planning as a fluid and responsive asset to support a progressively developing theater.

INITIAL OR EXPEDITIONARY FACILITY SOLUTIONS

8-26. Expeditionary facility solutions include the medical platoon's and company's organic tentage as well as tent, extendable, modular, personnel tents and expandable ISO containers that make up DEPMEDS. These solutions are often focused on minimal site prep requirements (typically stable foundations, walkways, access roads, parking and minimalist utility infrastructure) which are quickly assembled on site.

8-27. Due to the unstable and fluid environment within the area of responsibility, expeditionary facility projects should include as much independent utility support as possible. This may include potable water storage containers, continuous electrical generator capacity for 100 percent of the facility loads, and effluent collection tanks. Expeditionary facilities, like the Deployable Rapid Assembly Shelter or DEPMEDS, generally are not hardened facilities. If necessary, nonhardened facilities are protected by other measures (such as T-wall and overhead catchment systems) based on the threat. Mechanical systems in expeditionary solutions are minimal in nature both in construction and maintainability on the ground. Where specialized mechanical systems are needed to support the health care mission, it is generally more oriented towards point of use approaches from room to room as opposed to buildingwide system solutions. Expect these facilities to be replaced (in whole or in part) over the course of extended contingency operations that remain fluid or unstable. In addition, these facilities do not typically have centralized fire suppression systems; instead designs are geared toward maximizing egress and localized fire suppression (A, B, and/or C type fire extinguishers).

8-28. The DEPMEDS facility solutions are organic to military medical units that use them across the DOD. These facility solutions are mobile/deployable, modular in nature (thus scalable), able to be relocated, existing (no immediate procurement action required), coordinated, and outfitted with the associated medical equipment. These facility solutions also have limitations in durability, survivability, and are generally intended to operate on dual voltage/frequency systems (110 volt/220 volt and 50 hertz/60 hertz). However, commercial-off-the-shelf equipment procured to augment critical medical capabilities is often limited to 110 volt/60 hertz. Supporting two parallel electrical systems can be more costly than other types of expeditionary or even enduring solutions. In the absence of DEPMEDS hospitals, use of existing MTFs should be considered or facilities that are easily adaptable for use as MTFs.

TEMPORARY FACILITIES

8-29. Temporary facility solutions range from Southeast Asia huts and prefabricated trailers on the lower end to higher end preengineered modular buildings or steel frame construction purposely designed and built for medical use. Each provides a higher level of protection from the environment beyond the various types of organic tentage, including tent, extendable, modular, personnel tents in the DEPMEDS solution. These solutions may incorporate elements of the DEPMEDS configuration such as radiology ISO containers or trailers and are typically designed around a modular platform.

8-30. Facility solutions beyond DEPMEDS typically include more site and infrastructure development, a level of contracting support, design, construction, and initial outfitting and transitional/standup costs. These solutions may also require increasing levels of maintenance support beyond those skills and assets inherent in military units. While solutions beyond DEPMEDS are scalable, the complexity of increasing the scale of these solutions becomes more difficult as the utilities required become more complex and decisions are made concerning construction materials to be used. Adaptability to changing mission requirements also becomes more complicated with temporary construction types as the ability to disassemble and transport the facility decreases significantly. These considerations must be taken into account to ensure the users (medical), resource managers, and engineering support staffs appropriately balance cost, schedule, and quality.

8-31. While the life-span and quality of each individual solution may vary, the general relationship to life-span is valuable and relevant for quick alignment of mission with durability and quality expectations. Often in a contingency environment the rapid evolution of operations supports trading shorter durability for cost savings and allowing more frequent adaptation of facility solutions to changing mission requirements.

8-32. It should be noted that certain aspects of temporary versus semipermanent standards for health care facilities may overlap, making it desirable (for quality of care, patient and staff safety, environmental or even economical concerns) to apply key characteristics of semipermanent standards but still be within the parameters of temporary standards. Such items may include, but are not limited to: interior finishes; fire suppression systems; piped medical gas systems (particularly oxygen); compressed air; and suction (mainly for support of enduring base camps). This must be done deliberately and the benefits (quality of care and patient and staff safety) should be the primary concern.

8-33. There may also be instances where organic equipment is retained and incorporated into temporary solutions even though it would normally be classified as initial standard. One example would be the reuse of DEPMEDS ISO shelters such as those used to support radiology requirements. The benefit of such use is the ability to rapidly replace or relocate an item if necessary for maintenance or modernization. This is particularly important if the equipment represents a large capital equipment expense or if local construction methods do not provide adequate environment for key capabilities.

SEMIPERMANENT AND PERMANENT FACILITIES

8-34. During the life cycle of a base camp or forward operating site, authorized facilities may progress from initial to semipermanent or may be immediately established at any level depending on operational requirements. Development of semipermanent and permanent standard facilities would include Southeast Asia huts, local site built construction, and prefabricated buildings according to their life expectancy.

8-35. Permanent facilities are designed and constructed with finishes, materials, and systems selected for energy efficiency, low maintenance, and low life-cycle cost with a life expectancy greater than ten years. Permanent facility solutions are traditional buildings and are recommended with a commitment by the US government to maintain a defined presence indefinitely in a particular location. A permanent solution will likely be chosen when the medical mission is determined to be stable and predictable in nature. Permanent solutions are expected to meet the same design and construction requirements prescribed for permanent CONUS health care facilities. Therefore, local building techniques, availability of materials, and maintenance skills available are considered when permanent facilities are established. Due to the decreased flexibility of permanent facilities, complexity of construction and maintenance, and significant increase in costs, permanent facilities are often not recommended for contingency operations nor do they effectively support the pace of the medical mission during most contingency operations. Figure 8-2 lists examples of initial, temporary, and semipermanent health care facilities.

TYPE OF CONSTRUCTION	INITIAL (EXPEDITIONARY)	TEMPORARY	SEMI-PERMANENT
HOSPITAL	Deployable Medical System Medical Materiel Sets; unit tactical generators; organic environmental control units; water points and bladders; fuel bladders	Southeast Asia huts; metal prefabricated buildings; modular building systems or buildings of opportunity; refrigerated containers; tactical generators: high and low voltage distribution; automatic transfer and backup uninterruptible power source on critical systems; field expedient med gas distribution; potable water production and pressurized water distribution systems	Site built construction; metal pre-fabricated buildings (2 to 10 years); Masonry and prefabricated buildings (10 or more years) or buildings of opportunity; Nontactical or commercial power, high or low voltage and automatic transfer/backup uninterruptible power source; pressurized potable water distribution systems; limited piped med gas (oxygen, air, vacuum) distribution system (at enduring locations only).
CLINIC	Unit tents; unit tactical generators	Backup generator with manual transfer switch	Site built construction; relocateable structures; modular building systems or buildings of opportunity.
CLINIC (with FORWARD SURGICAL)	Unit tents; unit tactical generators	Backup generator with transfer switch; Southeast Asia huts; modular building systems; pre-engineered buildings	Same as clinic; backup generators with automatic transfer switch; limited piped gas if at enduring location and workload merits.
AID STATION	Unit tents; unit tactical generators	Southeast Asia huts; modular building systems; pre-engineered buildings	Site built construction; relocateable structures; modular building systems or buildings of opportunity.
DENTAL CLINIC	Unit tents; unit tactical generators	Southeast Asia huts; modular building systems; pre-engineered buildings	Site built construction, relocateable structures and modular building systems or buildings of opportunity.
VETERINARY CLINIC	Unit tents; unit tactical generators	Southeast Asia huts; modular building systems; pre-engineered buildings	Site built construction; relocateable structures; modular building systems or buildings of opportunity.
MEDICAL FORWARD DISTRIBUTION WAREHOUSE	Tents; organic environmental control units	Backup generator; portable refrigeration with freezer units for medical	Backup generator; portable refrigeration with freezer units for medical
MEDICAL LOGISTICS WAREHOUSE	Tents; organic environmental control units	Backup generator; portable refrigeration with freezer units for medical	Backup generator; portable refrigeration with freezer units for medical

Figure 8-2. Examples of initial, temporary, and semipermanent health care facilities

HEALTH FACILITY PLANNING

8-36. The health facility planning process provides the framework in which MTF projects are developed from planning and programming through design. The steps used in the development of general engineering projects are defined in FM 3-34.400, JP 3-34, and theater specific standards. The medical planning team, which consists of clinical, operational, logistics, and facilities staff with reach-back support from US Army Health Facility Planning Agency, produces various products that can be submitted to initiate the health facility planning process. The following is a list of those unique health care related documents that can be submitted for further development, decision, and/or execution:

- Clinical concept of operations.
- Space program.
- Equipment program (room by room).
- Concept/functional design (ten percent).
- Initial outfitting budget.
- Medical specific room guide plates.

8-37. Once developed, these documents would be submitted to the theater engineering staff, construction agent (US Army Corps of Engineers or Naval Facilities Engineering Command), clinical staff, contracting, and medical logisticians.

8-38. The clinical concept of operations is a tool that health facility planners use to aid in investigation and understanding of the key capabilities, scope of services, and interactions within an MTF. The concept of operations is a foundational document that helps to direct the design development of a health facility project and gives design consultants a conceptual view of the future facility and scope of services to be provided in the new or remodeled space. The narrative is used to describe how an area operates and should allow the reader to *walk* through the new area and *see* the operation in action. It should describe the integration of each of the following functional elements, all in support of the services offered:

- Mission.
- Population served.
- Scope of services.
- Manpower.
- Equipment.
- Supply.
- Traffic patterns.
- Procedural policies.
- Adjacencies.

8-39. In effect, the concept of operations helps to simplify the complexity that surrounds day-to-day operations of a hospital organization. It also provides substance and unity in the planning between multidisciplinary functional areas to avoid assumptions on the part of medical planners, clinicians, engineers, or logisticians.

8-40. The program for design is a room by room, department by department listing of space requirements for the entire facility. The program for design is tied directly to and derived from the concept of operations. The program for design translates the clinical and operational capabilities, personnel, and other functional requirements outlined in the concept of operations into space requirements for the architect to develop a workable solution or design. The space program or program for design is based on DOD space planning criteria. The DOD Space and Equipment Planning System is an automated space and equipment planning tool for health care projects. The Space and Equipment Planning System uses a series of mathematical and logical formulas to create a baseline space program based on answers to questions input into the system. The Space and Equipment Planning System can also produce an equipment plan/cost estimate for a health care project driven by space planning criteria and equipment guides.

8-41. The review, refinement, and approval of the space program is an iterative process between the health facility planner, clinical personnel, engineering staff, and reach back support from US Army Health Facility Planning Agency. Primary criteria used to assess and refine the space plan include scope (relevance and quantity) and cost (within project funding constraints). Guide plates are detailed architectural layouts that include equipment, furnishings, and utility placement. Guide plates are available for many functional room layouts normally found in an MTF setting.

8-42. As previously mentioned, the health facility planning process is an iterative process. The process above describes the practical application of documenting the operational concept and scope of services for MTFs providing medical support during contingency operations. Due to the rapid changes that take place in health care in general, (especially in a large, rapidly maturing theater of operations) a clear operational concept and accurate scope of services is essential for hospital commanders and medical planners.

8-43. A highly structured, yet flexible collaborative approach to health facility requirements development begins with the clinical concept of operations. The concept of operations has been used successfully time and again to translate clinical capabilities into building systems and the facility space required to support them. Initial, up-front investment of time in the requirements development process and subsequent reviews and revisions result in a definitive description of the clinical and operational requirements. Those requirements in turn become the authoritative source for space, building systems, equipment, functional arrangements, and financial justification.

SYNCHRONIZING MISSION DEMANDS AND FACILITY CONSIDERATIONS

8-44. As a theater develops through contingency operations the facility posture at a given location will likely mature over time. The general evolution of the health care facility will likely progress from initial to temporary, semipermanent, and finally to a permanent solution. Additionally, situations within the theater or at a given location may accelerate the progression from DEPMEDS to more enduring facility solutions (such as buildings of opportunity suited for rapid and minimal conversion to support the medical mission or increased operational area security requirements).

8-45. Balancing durability, construction time, and cost are all elements of every health facility project. The pace of many contingency operations require rapid placement of medical support facilities to meet immediate health care missions, which more enduring facility construction solutions would fail to meet in a timely fashion. Until an operational area stabilizes, the facility requirements may be highly evolutionary. Employing expensive or nonflexible health care facilities too early, may adversely affect the ability to adapt or replace existing facilities to meet current medical missions. Complex building solutions may also be impractical to implement or functionally sustain until the AO stabilizes and matures.

8-46. When planning a facility, it is critical to assess the timeframe in which a facility is needed to help make informed command decisions about which type of facility is appropriate to meet mission requirements and timelines. The construction time required for each facility type should include the time needed for project definition and design. Generally, the more permanent and complex the facility solution the longer the construction time needed until the solution is available for use.

8-47. Cost can vary greatly from facility solution to facility solution and is highly influenced by the stability of the AO, availability of materials, skilled craftsmen, and complexity of the facility. In a contingency operation, with local support not familiar with complex infrastructure systems, the only viable solution for maintenance maybe contracting this support from sources outside the theater. A high threat level can also complicate the process.

8-48. Other considerations include medical equipment selection and the ability to maintain it. Often medical contingency operations require dual power and voltage support, which can increase the complexity and expense of more enduring medical facilities. See Appendix D of this FM as well as FM 3-34.400 and JP 3-34 for additional construction standard and facility planning considerations.

Appendix A

Patient Movement Items

Patient movement items are particular medical equipment and supplies required to support the patient during evacuation. For the purposes of this appendix, PMIs are the more expensive/low-density equipment requiring accountability. The less expensive items such as litters, blankets, and litter straps will not be discussed as PMIs. This appendix is consistent with the Army's TAV and joint total asset visibility initiatives. The TAMMIS and DMLSS applications will integrate the PMI automated tracking system with the functional module of DHIMS/MC4.

SECTION I — PATIENT MOVEMENT ITEMS SYSTEM OVERVIEW

A-1. Department of Defense Instruction 6000.11 establishes procedures for the movement of patients, medical attendants, approved patient movement items, specialized medical care team members, and nonmedical attendants on DOD provided transportation. The function of the PMI system is to support in-transit patients, exchange in-kind PMIs without degrading medical capabilities, and provide prompt recycling of PMIs. The PMI system provides seamless ITV for the equipment management process from initial movement to the patient's final destination. The PMITS PlexusD AIS (part of the DHIMS/MC4 family of systems) is used to facilitate the management of PMIs. See Chapter 4 for additional information on the PMITS PlexusD application.

RESPONSIBILITIES

A-2. The USTRANSCOM is the DOD's single manager for patient movement (with the exception of intratheater patient movement) and the program manager for the PMI system. The USTRANSCOM is responsible for the establishment of policy and standardization of procedures and AISs in support of global patient movement. The USAF is responsible for resourcing, maintaining, and recycling PMI to support contingency operations for patient movement. The USAF is also responsible for the establishment of theater PMI centers and cells. The USAF manages and receives Defense Health Program funds to support DOD operational plan patient movement requirements and is responsible for life cycle management of those equipment assets that reside in the PMI centers. The Services, through the Defense Medical Standardization Board, identify and approve PMI equipment. Medical equipment designated for use as PMIs must be tested and certified for use on the appropriate patient evacuation platform (for example, fixed-/rotary-wing). A joint certification label is required to designate airworthiness certification for all PMI equipment. The joint certification label must be affixed to each piece of aeromedical evacuation-certified equipment.

A-3. Intratheater movement of PMIs is the responsibility of the combatant commander. As the theater matures, a SIMLM may be established by the combatant commander. If established, the Services will coordinate (as necessary) with the SIMLM to obtain support in the areas of requisitioning, storage, maintenance, and distribution of PMIs. Forward distribution and exchange of PMIs will be a SIMLM or Service responsibility. The plan for a PMI exchange system and the return of PMIs to the originating MTF will be addressed in theater operations plans. See JP 4-02 for a complete description of the PMI system.

UNITED STATES ARMY

A-4. The PMI system, for Army medical units/elements begins with the request for evacuation from the FST, BSMC/medical troop, or a higher role medical unit, depending on the force structure. Patient movement items required to accompany the patient are identified on the evacuation request. The PMI

requirements are forwarded to the supporting MLC via DHIMS/MC4. The movement of the patient activates two systems. The automated monitoring and tracking system follows the PMIs throughout the evacuation process and maintains accountability of the items. The MEDLOG system moves PMIs from the supporting MEDLOG element to the original/requesting unit. Return of PMIs to the MEDLOG system comes from two sources—MTFs when no longer needed by the patient and from the aeromedical evacuation system when PMIs stay with patients to the CONUS-sustaining base or other safe haven. The supporting MLC is responsible for maintaining accountability, receiving, performing required maintenance, and refurbishing and distributing the item back into the system. The supporting MLC is also required to monitor the PMI demands placed on the system and to ensure that support packages are available for movement forward during periods of high casualties.

A-5. It is the MTF's responsibility to properly prepare the patient for evacuation. The attending physicians must ensure that one to three days of supply (except in the combat zone) of medications and rations accompany their patients.

A-6. Responsibility for oversight of PMIs within medical units operating Roles 2 and 3 MTFs rests with the medical unit commanders. Elements of the MLC support Roles 2 through 3 and have the responsibility for managing, maintaining, and accounting for PMIs. Accountability for PMIs is automated using the PMITS Plexus D application and employs consolidated electronic records for maintenance and accountability, as well as tagging and sensing monitors for visibility. As patients move through the evacuation system, PMI accountability and replenishment information activates issue of replacement items to treatment units to ensure that basic levels of PMIs are maintained. During periods of increased usage where demand for items exceed normal replacement flow, PMI push-packages from the supporting MLC will flow forward. Asset visibility systems monitor the flow of items from the unit and are designed to trigger the flow of push-packages if unit on-hand levels reach a critical low point. The supporting MLC provides maintenance and accountability for PMI assets within its supported area. This support includes the responsibility for refurbishing and providing required maintenance procedures (calibration, repair, quality control, and expendable replenishment) as PMIs return through the supply system. The supporting MLC coordinates PMI support through the SIMLM, or if no SIMLM is designated, directly with the USAF PMI centers to ensure a seamless flow of PMIs through the system. It is essential for the Army PMI system to interface with the supporting USAF system. The plan for a PMI exchange system and the return of PMIs to the originating unit will be addressed in the GCC's operations plan.

SECTION II — EXECUTION

BRIGADE SUPPORT MEDICAL COMPANY/FORWARD SURGICAL TEAM

A-7. The BSMC or FST is responsible for preparing a patient for evacuation. Certain PMIs may accompany the patient in order to support, monitor, and sustain the patient during evacuation. During initial entry into an austere theater, the PMI process may require a *one-for-one* replacement (to include consumables) at the battle hand-off point from the FST to the CSH or to the USAF air evacuation system or from the USAF back to the Army PMI system. The BSMC commander has overall responsibility for maintaining TAV of the PMIs in his AO. The PMITS PlexusD application enables that visibility. A push-package of PMIs (based on mission, enemy, terrain and weather, troops and support available-time available and civil considerations) supports the initial PMI requirements of the BSMC/FST. The BSMC commander issues PMIs to the FST as required.

COMBAT SUPPORT HOSPITAL

A-8. The CSH has the responsibility of receiving patients from lower roles of care and/or from within the AO. Normally, the CSH personnel remove the PMI from the patient to conduct further treatment. The PMI is normally removed by the EMT section. However, various treatment protocols could dictate that the PMI accompany the patient to the operating room preparation area. Therefore, it is imperative that CSH personnel maintain PMI TAV (via an equipment tracking system) within the hospital. The CSH has further responsibility for collecting and consolidating the PMIs, as well as cleaning, and conducting operator

PMCS on the equipment. Equipment considered fully mission capable is placed on a medical evacuation platform and returned to the losing unit as directed by the PMI manager of the supporting MEDLOG element. Patient movement items remaining at the CSH are moved to the supporting MLC by the logistical element's transportation assets, generally via backhaul from a Class VIII resupply delivery.

MEDICAL LOGISTICS COMPANY

A-9. The MLC provides direct support MEDLOG to the BCT and provides area MEDLOG support to CSHs supporting that AO. The MLC has overall responsibility for the management of PMIs in support of the BCT and CSHs, to include refitting of PMI expendable components; conducting PMCS; conducting calibration checks and repairing the PMI as necessary; updating and maintaining TAV, meaning current location and status; materiel demand; and processing PMIs for return shipment to the BSMC/FST location. The MLC is responsible for coordinating/providing the transportation of the PMI to its location for processing and to the BSMC/FST AO. The PMI is part of the ASL maintained by the MLC; therefore, ownership of PMI is to the MLC. The MLC provides PMI management information to the MMB operations section.

A-10. At EAB, the MLC is responsible for PMI direct support to units operating within its AO. The MLC also coordinates PMI support through the SIMLM, or if no SIMLM is designated, directly with the USAF PMI centers to ensure a seamless flow of PMIs through the MEDLOG supply system.

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Appendix B

Legacy Medical Logistics Force Designs

The Army is undergoing major change to become a modular *brigade-based* Army that is more responsive to the GCC's needs, that better employs joint capabilities, facilitates force packaging and rapid deployment, and fights as self-contained units in noncontiguous operational environments. Though much progress has been made to bring about this change, several legacy units remain in the inventory. This appendix describes the various legacy MEDLOG units/elements remaining in the force that were developed under Medical Force 2000 and Medical Reengineering Initiative redesign programs. It is important for medical planners to be familiar with these variations and recognize the mixture of forces found in theater as the Army transforms National Guard, Reserve, and Regular Army units from the current to the future force. This appendix, along with the organizations described in Chapter 2, provide planners the information necessary to develop accurate MEDLOG support plans based on the mixture of units in the force and the capabilities available. The terminology used in describing the organizations and capabilities in this appendix is based on the TOEs of these organizations. Some terminology is no longer current.

SECTION I — LEGACY MEDICAL LOGISTICS SUPPORT UNDER MEDICAL FORCE 2000

B-1. The following Medical Force 2000 MEDLOG units remain in the Army's inventory:

- Medical battalion, logistics (forward).
  - Headquarters and headquarters detachment, medical battalion, logistics (forward).
  - Distribution company, medical battalion, logistics (forward).
  - Logistics support company, medical battalion, logistics (forward).
- Medical battalion, logistics (rear).
  - Headquarters and headquarters detachment, medical battalion, logistics (rear).
  - Logistics support company, medical battalion, logistics (rear).
  - Distribution company, medical battalion, logistics (rear).
- Medical logistics support detachment.

MEDICAL BATTALION, LOGISTICS (FORWARD)

B-2. The MEDLOG battalion (forward) provides Class VIII supplies, optical fabrication, medical equipment maintenance support, and blood storage and distribution to divisional and nondivisional units operating in the supported area at EAB. When deployed, this unit (Figure B-1) is the single point of contact for MEDLOG support at EAB. It should be located near major lines of communications (sea or air) to ease transportation requirements for incoming shipments and facilitate distribution of materiel. The modular nature of this unit allows it to be incrementally introduced in the theater with the supported forces. Forward support platoons of the distribution company should be deployed early to coordinate support and prepare to receive Army reserve stocks and resupply from CONUS.

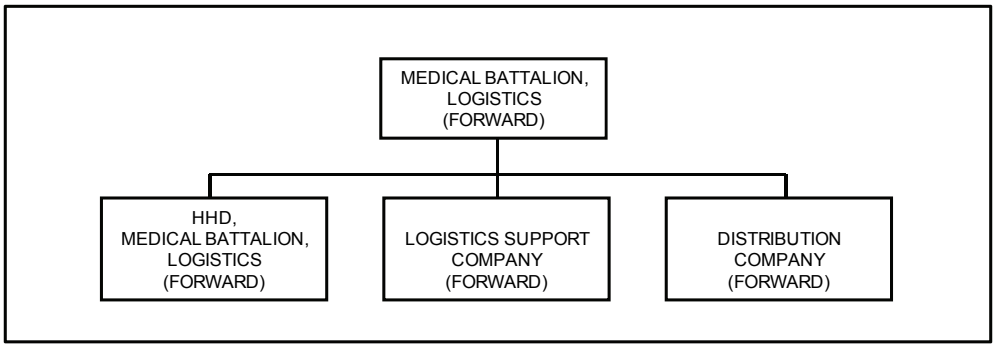

Figure B-1. Medical battalion, logistics (forward) (Table of Organization and Equipment 08485L000)

B-3. This battalion provides C2, staff planning, supervision of operations, and administration of assigned or attached units engaged in providing Class VIII support, including blood management. In selected scenarios, this unit is augmented to perform Class VIII management functions of the MLMC and may also assume the role of SIMLM for the theater, if designated. The unit capabilities include the following:

- Receives, classifies, issues, and provides storage for up to 44.37 short tons of Class VIII supplies per day.
- Provides field maintenance for medical equipment on an area basis.
- Conducts optical single-vision lens fabrication support at EAB.
- Conducts blood collection (on an emergency basis), limited testing, processing, storage and distribution to EAB and division medical units to satisfy operational blood requirements.

HEADQUARTERS AND HEADQUARTERS DETACHMENT, MEDICAL BATTALION, LOGISTICS (FORWARD)

B-4. The headquarters and headquarters detachment (HHD), MEDLOG battalion (forward) (Figure B-2) is responsible for providing C2, staff planning, supervision of operations, administrative services, and logistics support to assigned and attached units. This unit is employed with the logistics support company to plan and direct the execution of the AHS mission in the corps. It should be located near major lines of communications (sea or air) to ease transportation requirements for incoming shipments and facilitate distribution of materiel. The HHD provides field maintenance for nonmedical equipment including organic vehicles, power generation, and recovery operations support to assigned or attached units. The unit also maintains equipment records, repair parts, and fuel distribution. It operates a consolidated property book for assigned units and coordinates with the corps movement control center for routine delivery of Class VIII supplies.

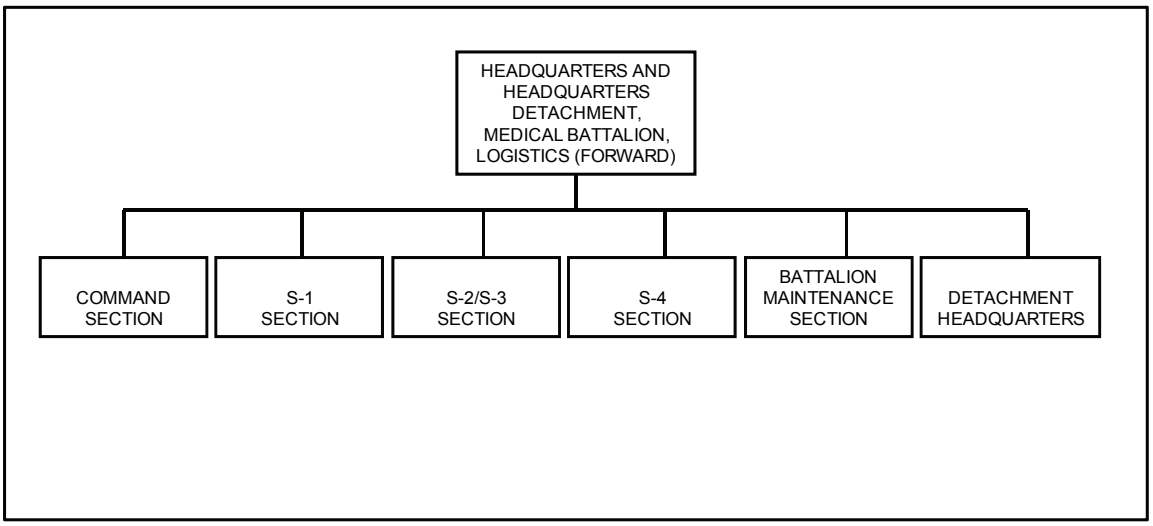

Figure B-2. Headquarters and headquarters detachment, medical battalion, logistics (forward) (Table of Organization and Equipment 08486L000)

LOGISTICS SUPPORT COMPANY, MEDICAL BATTALION, LOGISTICS (FORWARD)

B-5. The logistics support company, MEDLOG battalion (forward) (Figure B-3), executes the planned support of units operating at EAB in the areas of Class VIII supplies, optical fabrication, medical equipment maintenance support and blood processing, storage, and distribution for units located in corps and forward units. It provides food service support for the MEDLOG battalion (forward) and a base for reconstitution of the battalion. The company has the capacity to receive, classify, issue, and provide storage for up to 26.83 short tons of Class VIII supplies per day. It is also capable of providing optical single-vision lens fabrication support to a maximum force of 118,401 Soldiers.

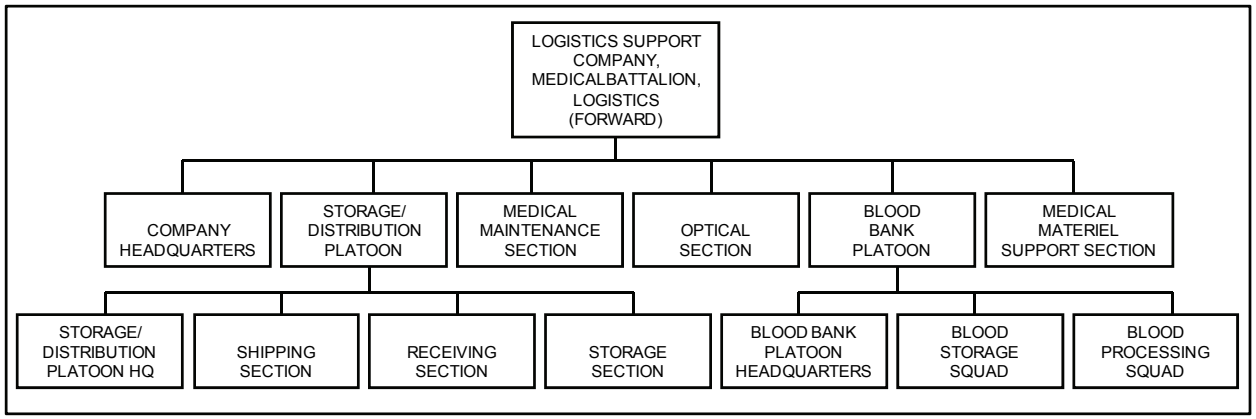

Figure B-3. Logistics support company, medical battalion, logistics (forward) (Table of Organization and Equipment 08487L000)

B-6. The logistics support company is composed of the following elements:

- Company headquarters provides C2 of the company. Company personnel supervise and perform unit plans/operations and general supply functions. The company provides food service for the HHD, MEDLOG battalion (forward) and other assigned or attached units. Command and specific responsibilities and functions are outlined in FM 5-0.
- Medical maintenance section is responsible for field maintenance services for all units within their area of responsibility. It performs field maintenance for units in its area, which do not have organic medical maintenance repairers, assigned or attached, or are not supported by medical maintenance repairmen from other units.
- Optical section provides single-vision lens fabrication to supported units operating at EAB.
- Medical materiel support section coordinates all stock control functions. Also, maintains accountability for all materiel received, stored, and issued within the medical logistics battalion.
- Storage and distribution platoon headquarters ensures that stocks remain in an issuable condition while in storage. This includes the planning prior to receipt of supplies, locating stocks in a way that provides for first-in/first-out handling, using space efficiently and maintaining segregation and disposition of stock. The platoon leader serves as the accountability officer.
- Shipping section plans for and releases Class VIII supplies for shipment, coordination of vehicles, staging shipments for pickup, and preparing movement documents.
- Receiving section plans, coordinates, controls, and manages a variety of functional areas pertaining to the processing of incoming shipments of Class VIII supply and equipment.
- Storage section is responsible for the storage, preservation, issue, locating, and accounting of medical supplies and equipment.
- Blood bank platoon headquarters conducts and directs all phases of blood banking. It has the capability to transport, re-ice, store, and issue 3,000 units each of liquid and frozen blood products on a daily basis.
- Blood storage squad is responsible for the storage, transport, and issue of blood products to supported medical units.
- Blood processing squad processes frozen RBCs.

DISTRIBUTION COMPANY, MEDICAL BATTALION, LOGISTICS (FORWARD)

B-7. The distribution company, MEDLOG battalion (forward) provides Class VIII supplies and medical equipment maintenance support to divisional and nondivisional medical units operating in the supported AO, including medical assets from other Services supporting at EAB. The company has the capacity to receive, classify, issue, and provide storage for up to 17.54 short tons of Class VIII materiel per day.

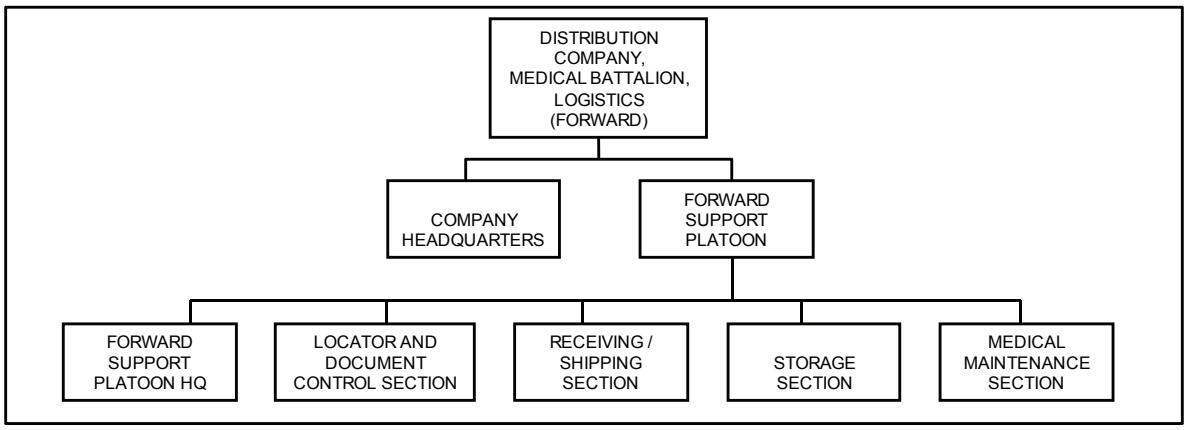

Figure B-4. Distribution company, medical battalion, logistics (forward) (Table of Organization and Equipment 08488L000)

B-8. This unit employs a company headquarters and organic forward support platoons to provide Class VIII support on an area basis. The company provides limited Class VIII supply support for high volume consumables and facilitates the support of BMSOs and EAB forces deployed in the division area. The distribution company is composed of the following elements:

- Company headquarters provides C2, administration and logistical support required to conduct unit operations.
- Forward support platoon provides Class VIII logistics support through the use of document control procedures that regulate the receiving, shipping, and storage functions. They also provide field maintenance services.
- Locator and document control section is responsible for control of documentation and/or automated records supporting the receipt, storage, and issue of Class VIII supplies or equipment.
- Receiving and shipping section is responsible for the use of receipt and shipping documents or preparation of automated receipt and shipment records to promptly and accurately process incoming and outgoing shipments. They also plan for releases to transportation, coordinate for vehicles, stage shipments for pickup, and prepare movement documents.
- Storage Section is responsible for ensuring that stocks remain in issuable condition while in storage. This includes the planning prior to receipt of supplies, storing stocks in a way that facilitates first-in/first-out handling, using space efficiently, and maintaining segregation and disposition of stock as determined by the accountable officer.
- Medical maintenance section performs field maintenance services to all supported units within the company's AO. The section also performs unit maintenance for medical units/elements assigned/attached or not supported by medical maintenance repairers from other units.

MEDICAL BATTALION, LOGISTICS (REAR)

B-9. The MEDLOG battalion (rear) (Figure B-5) provides Class VIII supplies and equipment, optical fabrication, medical equipment maintenance support and blood processing, storage, and distribution to EAB units and the MEDLOG battalions (forward) for items not shipped directly to the requester. This unit must also be prepared to function as the SIMLM for a joint theater in conjunction with the MLMC, if designated. This battalion has the capacity to receive, classify, issue, and provide storage for up to 59.83 short tons of Class VIII materiel per day. The unit is also capable of providing optical single-vision and multivision lens fabrication support to a maximum force of 397,847 personnel.

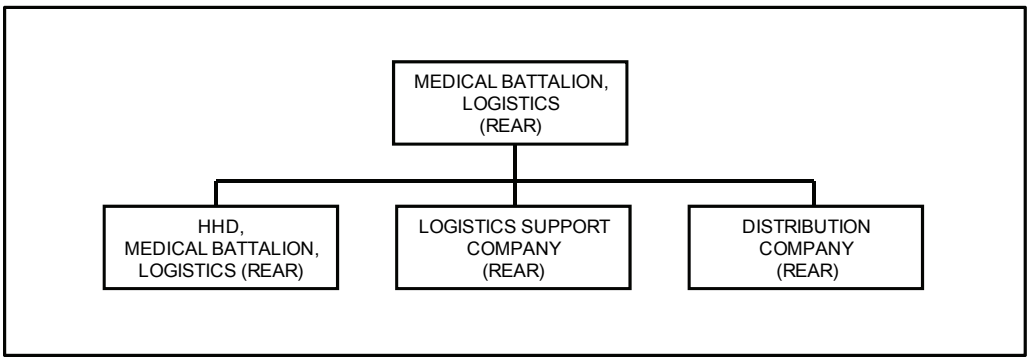

Figure B-5. Medical battalion, logistics (rear)
(Table of Organization and Equipment 08695L000)

HEADQUARTERS AND HEADQUARTERS DETACHMENT, MEDICAL BATTALION, LOGISTICS (REAR)

B-10. The HHD, MEDLOG battalion (rear) (Figure B-6) is responsible for providing C2, administrative services, and logistics support to assigned and attached units. This unit is located near transportation networks, major logistical ports of entry, and major lines of communications (sea or air) in the sustainment area. It is employed with the logistics support company to plan and direct the execution of the MEDLOG mission in the sustainment area. The HHD provides field maintenance for nonmedical equipment and recovery operations support to assigned or attached units. It operates a consolidated property book for assigned units. It coordinates with the theater movement control center for routine delivery of Class VIII supplies.

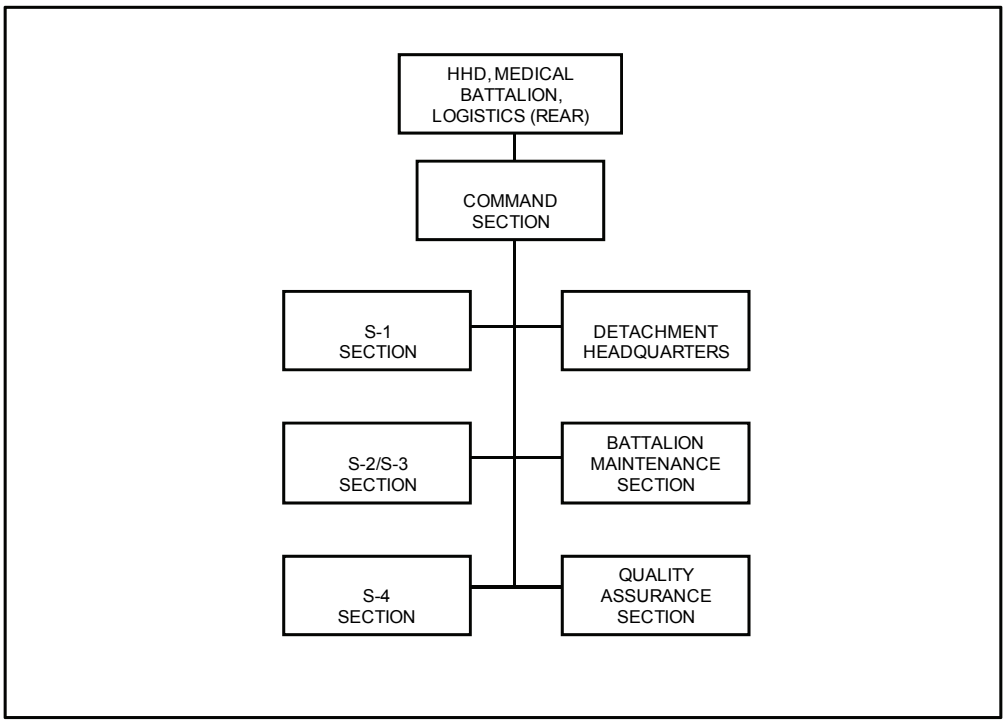

Figure B-6. Headquarters and headquarters detachment, medical battalion, logistics (rear) (Table of Organization and Equipment 08696L000)

B-11. The organizational structure and function of the HHD, MEDLOG battalion (rear) is similar to the HHD of the MEDLOG battalion (forward). The primary differences are the placement of each unit in the AO and the addition of a quality assurance section. This section implements and coordinates the battalion quality assurance program to include the inspection and surveillance of the entire spectrum of medical supplies and equipment in accordance with established directives and standards.

LOGISTICS SUPPORT COMPANY, MEDICAL BATTALION, LOGISTICS (REAR)

B-12. The logistics support company, MEDLOG battalion (rear) (Figure B-7) executes the planned support of the theater in the areas of Class VIII supplies, optical fabrication, medical equipment maintenance support, and blood processing, storage, and distribution. It supports medical units of other Services in the company AO. The company receives, classifies, issues, and provides storage for up to 31.99 short tons per day. It also is capable of providing optical single-vision and multivision lens fabrication support for a maximum force of 397,847 Soldiers. It provides food service support for the MEDLOG battalion (rear). This unit is dependent on the HHD MEDLOG battalion (rear) for field maintenance on nonmedical equipment.

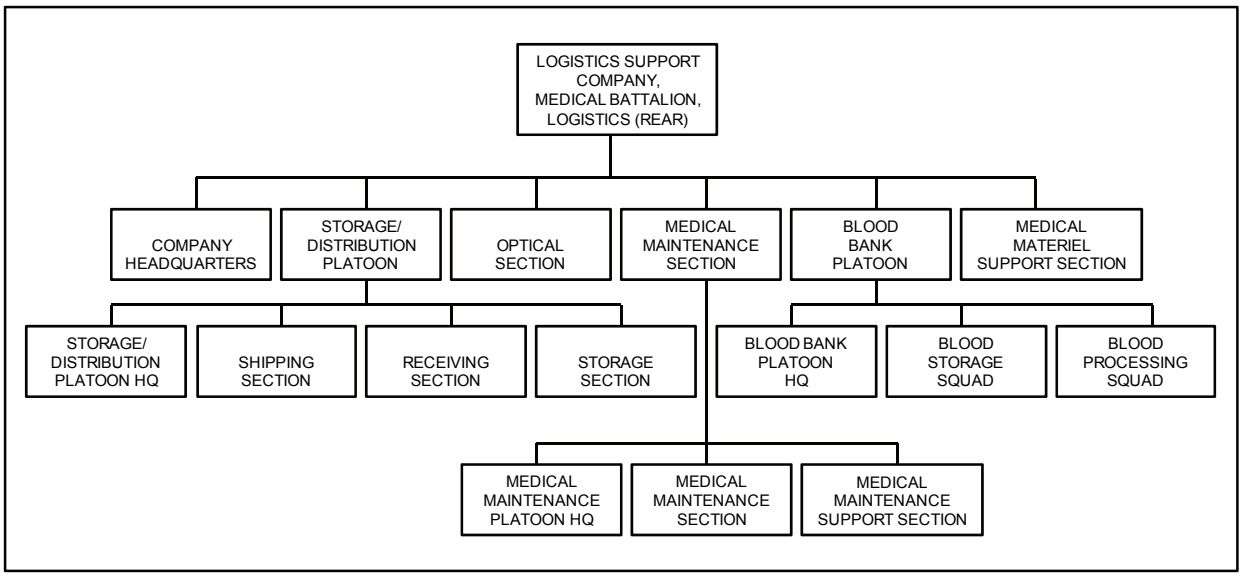

Figure B-7. Logistics support company, medical battalion, logistics (rear) (Table of Organization and Equipment 08697L000)

B-13. The organizational structure and function of this company is similar to the logistics support company in the MEDLOG battalion (forward) with the following additional elements:

- Medical maintenance platoon headquarters provides field-level maintenance for all supported units within the company AO that do not have organic medical maintenance equipment personnel assigned or attached or are not supported by medical equipment repairers from other units.
- Medical maintenance section is responsible for sustainment maintenance services for all supported units within the company AO. They perform unit maintenance for those units that do not have organic biomedical equipment specialists assigned or attached and are not supported by other units.
- Medical maintenance support section is responsible for sustainment maintenance services for all supported units within the company AO. They perform unit maintenance for those units that do not have organic medical equipment repairers assigned or attached and are not supported by other units. This section rebuilds end items, components, and complex modules for return to the medical supply system and can deploy two CRTs as required.

DISTRIBUTION COMPANY, MEDICAL BATTALION, LOGISTICS (REAR)

B-14. The distribution company, MEDLOG battalion (rear) provides Class VIII supplies and medical equipment maintenance support to EAB units and MEDLOG battalions (forward) for nonthroughput requirements operating in the supported area. This unit is located near transportation networks and major logistical ports of entry in the sustainment area. This unit employs a company headquarters and organic area support platoons to provide Class VIII support on an area basis. This company provides limited Class VIII supply support for high-volume consumables and facilitates the support of EAB units in the AO. The organizational structure and function of this company is similar to the distribution company in the MEDLOG battalion (forward) with the exception of the forward support platoon, which is replaced by the area support platoon here (Figure B-8).

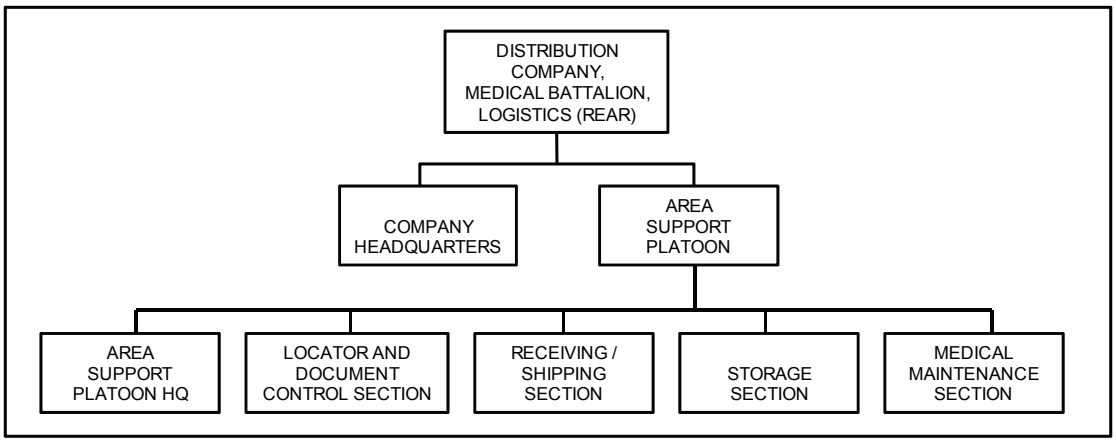

Figure B-8. Distribution company, medical battalion, logistics (rear) (Table of Organization and Equipment 08698L000)

B-15. The basis of allocation for the distribution company is one per MEDLOG battalion (rear). The unit is capable of the following:

- Receives, classifies, issues, and provides storage for up to 27.86 short tons of Class VIII supplies per day.
- Builds and pre-positions resupply packages as required in support of EAB units or contingencies.
- Provides unit maintenance support for medical equipment to supplement additional units that are not otherwise provided such support.
- Conducts Class VIII resupply by using air and ground evacuation assets.
- Builds modules for reconstitution of MEDLOG units.
- Conducts emergency delivery of Class VIII supplies.
- Deploys modular area support platoons to provide Class VIII support on an area basis.

MEDICAL LOGISTICS SUPPORT DETACHMENT

B-16. This detachment (Figure B-9) provides Class VIII supply support including optical fabrication and medical equipment maintenance. This unit is attached to a MEDLOG battalion (forward) or a MEDLOG battalion (rear). It tailors the capabilities of a MEDLOG battalion where work load or Army Special Operations Forces require an increment of less than a battalion-sized unit. This unit may be deployed early in an operation to coordinate support to a BMSO and prepare to receive pre-positioned stocks and resupply from CONUS.

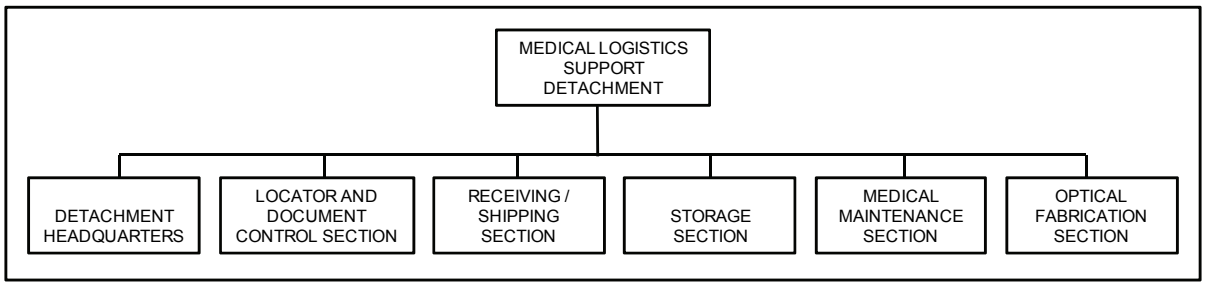

Figure B-9. Medical logistics support detachment (Table of Organization and Equipment 08903L000)

B-17. The detachment is composed of the following elements—

- Detachment headquarters provides C2, administration and logistical support required to conduct unit operations.
- Locator and document control section is responsible for control of documentation and/or automated records supporting the receipt, storage and issue of Class VIII supplies or equipment.
- Receiving and shipping section prepares and processes receipt and shipping documents for incoming and outgoing shipments. It is also responsible for the planning and coordination of transportation for shipments of medical supplies and equipment.
- Storage section ensures that stocks remain in an issuable condition while in storage. This includes the planning prior to receipt of supplies, storing stocks in a way that provides for first-in/first-out handling, using space efficiently, and maintaining segregation and disposition of stock. The section leader is the accountable officer.
- Medical maintenance section performs field or sustainment medical maintenance services to all units within the unit's AO. It also performs field maintenance on organic equipment.
- Optical section. This section provides lens fabrication to units operating in the supported area.

B-18. The basis of allocation for the MEDLOG support detachment is one per division, armored cavalry regiment, or separate brigade not supported by a MEDLOG battalion; one per 25,000 joint Service populations in the AO to include EAB; one per 50,000 joint Service populations; one per MEDLOG battalion (forward) supporting three divisions. The company's capabilities include—

- Providing augmentation to the MEDLOG battalion for Class VIII supplies, optical single-vision lens fabrication, and medical equipment maintenance.
- Receiving, classifying, and issuing Class VIII supplies.
- Providing field maintenance for medical equipment.

SECTION II — LEGACY MEDICAL LOGISTICS SUPPORT UNDER THE MEDICAL REENGINEERING INITIATIVE

HEADQUARTERS AND HEADQUARTERS DETACHMENT, MEDICAL BATTALION, LOGISTICS

B-19. The HHD, MEDLOG battalion (Figure B-10) is responsible for providing C2, staff planning, and supervision of operations, training, and administration for a variable number of attached MLCs, logistics support companies, and blood support detachments. The support provided by this unit covers the whole spectrum of MEDLOG services including Class VIII materiel, optical lens fabrication and repair, medical maintenance, blood and blood product collection, processing, storage, and distribution. One HHD, MEDLOG battalion is employed per 3 to 6 subordinate units.

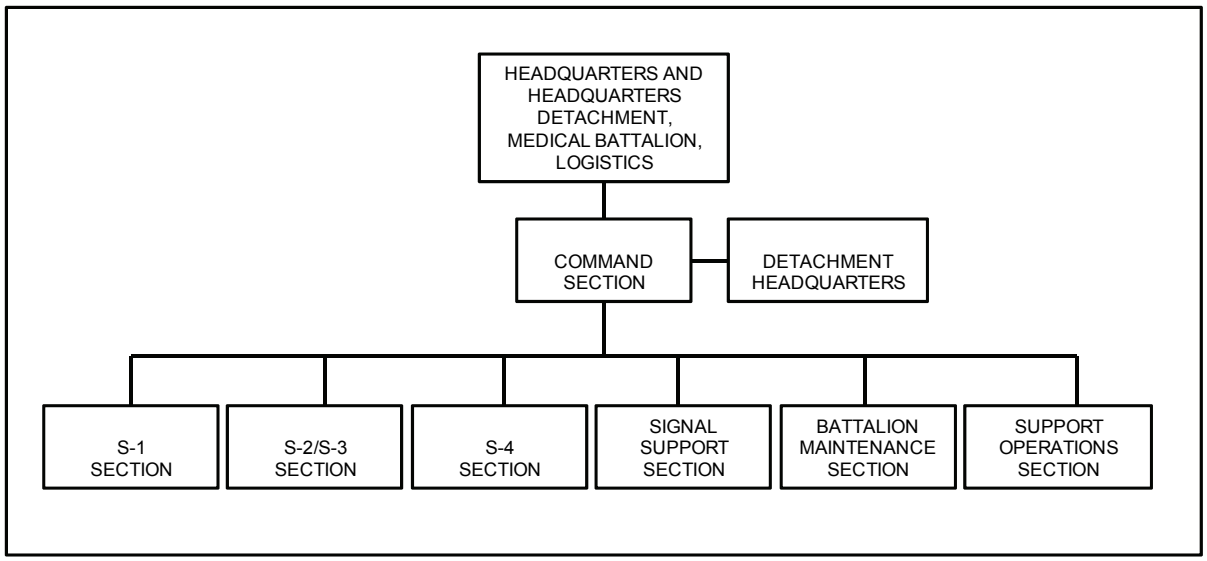

Figure B-10. Headquarters and headquarters detachment, medical battalion, logistics (Table of Organization and Equipment 08496A000)

B-20. The support operations section is responsible for all coordination of operational day-to-day customer support and quality assurance functions, to include monitoring supported unit locations and inventory management for Class VIII within the AO. It is responsible for the installation and operation of logistics information processing systems for the battalion. This section also provides liaison for distribution of Class VIII supplies, and blood and blood products to the TSC. When designated by the combatant commander and augmented by USAF/Navy personnel, the support operations section performs customer support functions of the distribution management portion of the SIMLM mission. In the theater, the HHD, MEDLOG battalion is assigned to a headquarters and headquarters company MEDBDE or at the EAB level, the headquarters and headquarters company of the MEDCOM (DS). This unit of assignment applies to all deployed MEDLOG battalions.

LOGISTICS SUPPORT COMPANY, MEDICAL BATTALION, LOGISTICS

B-21. The logistics support company (Figure B-11) provides medical materiel, medical maintenance, and optical lens fabrication and repair to EAB medical units operating within the AO. It also provides backup support to the MLC (TOE 08488A000). The logistics support company is assigned to the HHD, MEDLOG battalion or senior medical headquarters in the AO. The logistics support company has no internal automation capability for MEDLOG management. It is dependent upon the HHD, MEDLOG battalion, for their logistics automation. Five divisions will normally require two logistics support companies under the C2 of a HHD, MEDLOG battalion.

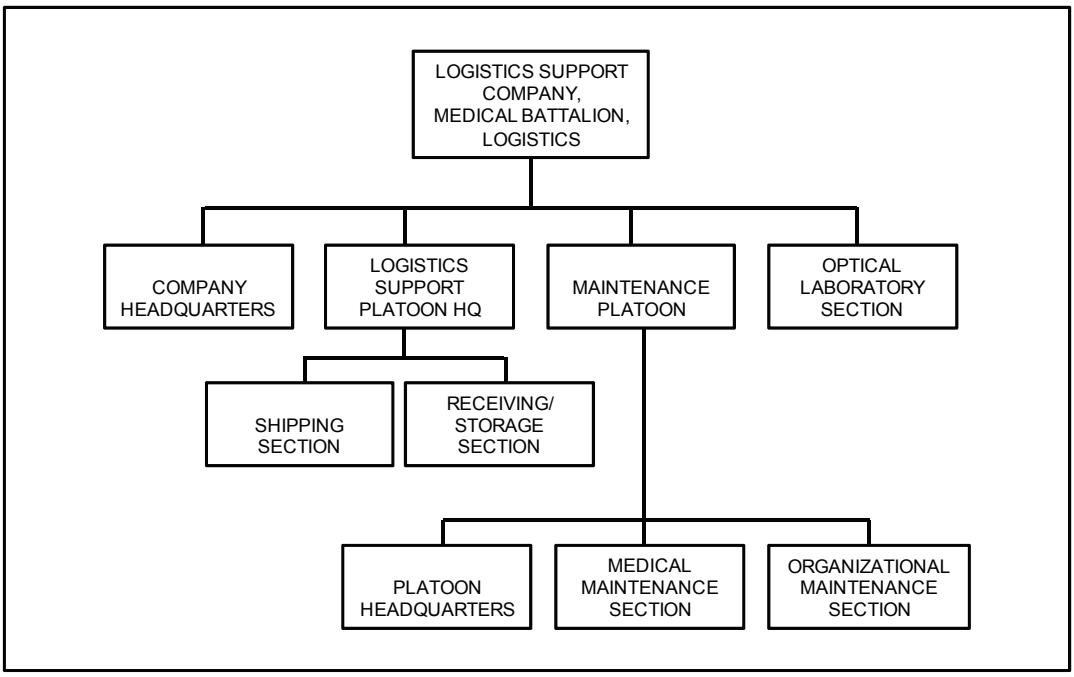

Figure B-11. Logistics support company, medical battalion, logistics (Table of Organization and Equipment 08497A000)

B-22. The logistics support company is composed of the following elements:

- Company headquarters provides C2 of the logistics support company. Company personnel supervise and perform unit plans/operations and general supply functions. This company provides food service for the HHD, MEDLOG battalion, the blood support detachment and other assigned or attached units.
- Logistics support platoon headquarters ensures that stocks remain in an issuable condition while in storage. This includes the planning prior to receipt of supplies, locating stocks to provide first-in/first-out handling, using space efficiently, and maintaining segregation and disposition of stock. This platoon consists of the following sections:
  - Receiving/storage section processes receiving documents for incoming shipments. It is also responsible for the storage, preservation, location, and accountability for medical supplies and equipment. This section is capable of deploying a five-person mobile forward cell for split-based operations.
  - Shipping section plans and coordinates for release of materiel to transportation, stages shipments for pickup, and prepares movement documents. This section is capable of deploying a five-person mobile forward support cell in support of split-based operations.
  - Optical laboratory section provides C2 and quality assurance over the optical fabrication mission within the AO. It also provides optical fabrication and repair. All requisitions for contact lenses (for AH-64 aviators only) are submitted to and approved by this section.
- Maintenance platoon headquarters is responsible for field and sustainment medical maintenance on an area basis and organizational equipment maintenance within the company.
- Medical maintenance section performs limited sustainment medical maintenance services to all units within the company's AO. It also performs field medical maintenance services for units in its AO that do not have organic medical equipment maintenance personnel assigned or attached or not supported by medical equipment repairmen from other units. This section can deploy three mobile support teams.
- Organizational maintenance section is responsible for vehicle maintenance, equipment records and repair parts, internal refueling operations, and power generation repair.

Appendix C

Automatic Identification Technology

Radio frequency-automatic identification technology is an assemblage of commercial-off-the-shelf equipment built around identification tags that have embedded data of container contents, shipment information, and vehicle identification. This appendix describes the contributions that automatic identification technology can make to distribution management operations and the different types of automatic identification technology equipment, hardware, and technology available to the force.

SECTION I — AUTOMATIC IDENTIFICATION TECHNOLOGY DATA STORAGE DEVICES

C-1. The RFID tags are mounted on containers, equipment, or vehicles at the source (such as a shipping depot or supply point for supply items) and can be read by fixed or mobile RFID tag readers/interrogators located at various en route locations, ports of embarkation, ports of debarkation, installations, and at the final destination. Data input for the RFID tags is generated at the source supply activity. For sustainment shipments flowing from EAB, supply item data is entered through a fixed burn station into the RFID tag. For remote EAB supply locations, supply item data may be entered using a portable handheld interrogator.

C-2. Automatic identification technology captures identification information for individual items of materiel and materiel consolidated for shipment to ensure ITV can be established. Information is captured electronically and passed to distribution-related AISs, where it is incorporated with other information relevant to that item or shipment. Automatic identification technology includes a variety of *read and write* data storage technologies used to process asset identification information. These technologies include bar codes, magnetic strips, integrated circuit or *smart* cards; optical memory cards (OMCs), RFID tags, and magnetic storage media. These identification tools are used for marking or *tagging* individual items, multipacks, unit equipment, air pallets, or containers. Automatic identification technology offers a wide range of data storage capacities, from a few characters to thousands of bytes. The information on each automatic identification technology device can extend from something as small as a single part number up to a self-contained data base.

C-3. As automatic identification technology devices are interrogated, their information is fed electronically into AISs to update status records. The primary function of automatic identification technology is the storage of information in a device that accepts storage in a coded form that can be retrieved by being read, either by scanning or interrogation. The device is hand carried by personnel or attached in some way to equipment and containers. The following lists four basic components of automatic identification technology:

- Automatic identification data storage device (such as, bar code label, OMC, smart card, RFID tag, or contact memory button).
- Automatic identification technology hardware used to write information onto the data storage devices and later, read the data from the devices.
- Automatic information systems that can receive and use automatic identification technology data.
- Reliable communications infrastructure linking the automatic identification technology hardware to the AISs and further connection to global in-transit and TAV systems.

C-4. The automatic identification technology enablers allow the Transportation Coordinator's Automated Information for Movement System II users to create and attach RFID tags on cargo and equipment. When the tags are interrogated, the tag data is sent to appropriate CONUS/regional ITV servers, which in turn sends the interrogated tag data to the GTN. The GTN updates the Global Command and Control System.

The automatic identification technology, in conjunction with the Transportation Coordinator's Automated Information for Movement System II, will ultimately provide the theater with a joint transportation system capability supporting the force with visibility of transportation assets in the distribution pipeline. A goal of logistics transformation is to have the nodes of the DOD global distribution system to read and write to/from automatic identification technology devices.

SECTION II — BAR CODED DATA

C-5. The DOD and the Army use two types of bar codes; linear and two-dimensional (2-D). All logistics nodes are used to read and write both types. Each node of the DOD transportation system, including commercial vendors, reads and writes linear and 2-D bar coded shipping labels that contain both transportation and supply information. Reader equipment scans the bar code, decodes it, and transfers the data to supporting AISs.

LINEAR BAR CODE

C-6. The linear bar code provides item identification and document control information for individual items and shipments. Linear bar codes have limited storage capacity, normally consisting of approximately 20 characters. The commercial automatic identification manufacturer's bar code-1 (Code 39), the standard for linear bar codes, is used throughout the DOD. Linear bar codes are used to represent essential data elements (for example a national stock number, document number, or transportation control number). Figure C-1 shows an example of linear bar code.

Figure C-1. Linear bar code example

TWO-DIMENSIONAL BAR CODE

C-7. A 2-D bar code has a much greater data storage capacity than a linear bar code. It is currently capable of holding 1,850 characters. A 2-D bar code can sustain considerable damage and still be read because of the redundancy of data within the bar code. The DOD standard 2-D bar code is the commercial standard Portable Data File 417. The 2-D symbology provides comprehensive data on documents, individual items, or shipments, and consolidation data on multipacks and air pallets. Figure C-2 shows an example of a 2-D bar code matrix.

Figure C-2. Two-dimensional bar code example

C-8. Military shipping labels incorporate 2-D bar code fields, as well as linear bar codes. Figure C-3 shows an example of a military shipping label with linear bar codes used in blocks 1, 9, and 16; and 2-D bar code technology being used in block 18. Using bar code redundancy on the military shipping label ensures against the loss of shipping data.

Figure C-3. Military shipping label using both two-dimensional and linear bar code

C-9. The OMCs use compact disk technology. Data is etched into the card with a high-intensity laser creating a series of pits in the card. A low-power light beam is used to read the pits and collect the data. Data is written to an OMC in sequential order. As changes occur, all the shipment data is rewritten on the card (data on the card cannot be overwritten). The card can be reused until all available memory space is filled. The OMC has a very large data capacity (2.4 megabytes), and DOD accepts the Drexler European License Association standard format. Optical memory cards are relatively inexpensive, reusable, and unaffected by climatic changes. They are best used to carry large amounts of shipment data to facilitate receipt processing at final destination. Optical memory cards are normally used for sustainment cargo that is being containerized. Army supply practices strive to create single consignee packs that can be throughput to the end user's location.

C-10. Optical memory cards can also be used to support container movement in a unit movement operation. Optical memory cards can be used to account for detailed container and pallet content. The unit movement officer uses the Transportation Coordinator's Automated Information for Movement System II handheld reader to scan bar codes as items are packed into the container. Once the container is loaded, the unit movement officer coordinates to produce OMCs for containers, using the supporting Transportation Coordinator's Automated Information for Movement System II. (This scenario would require advance coordination with intermediate and destination nodes, as OMC use for unit packed containers is not a normal business practice.)

SMART CARDS

C-11. A smart card (also known as the common access card) is a plastic card similar in shape to a credit card. Unlike a credit card, the smart card contains an integrated circuit chip with an 8-bit embedded microprocessor and 1 to 8 kilobyte memory capacities. Smart cards may also contain one or more other methods (such as magnetic strip, bar code, digitized photo, printed information) for storing information related to the cardholder. Newer cards will have 16- and 32-bit microprocessors and a data storage capacity between 16 and 32 kilobytes. In addition to memory capacity, smart cards can contain security

measures such as personal identification numbers, passwords, encrypted data, photos, or thumb print technology.

SECTION III — RADIO FREQUENCY IDENTIFICATION TECHNOLOGY

C-12. Radio frequency identification technology is used to provide automated data capture of movements at transportation nodes. Radio frequency identification technology also provides commanders container or pallet content visibility and can be used to locate tagged items in congested ports, container yards, or staging areas.

TECHNOLOGY ENABLERS

C-13. Radio frequency identification technology tags contain a microchip, a long-life battery, and an RFID transceiver. The microchip contains unique tag identification information and can be loaded with data to identify the items traveling with the tag. Frequency identification technology write stations are used at the point of origin to write supply and transportation data to the tag and to report the same information to a central database. As the tag passes an interrogator during movement, the tag responds by sending data to the interrogator. The interrogator then passes this information and a date-time stamp to a supporting AIS or a regional ITV server. The interrogator can also be set to activate a tag beeper for all the tags within its range or activate a specific tag number. Using this option, operators can find specific tags and associated equipment.

TYPES OF RADIO FREQUENCY IDENTIFICATION TAGS

C-14. The Army is currently using two RFID tags, the Seal Tag II and the Tag 410. Eventually the Army intends to transition to a single tag. Both tags hold data in the same format and transmit the data on the same frequency. Each tag has a unique tag number, has a *beeper* option, and can store up to 128 kilobytes of data. The tags have an omnidirectional, unobstructed range of approximately 300 feet. The battery life of the tag is approximately nine years, based on two collections per day. Battery life is an important consideration and should be checked closely when source data is written to the tag. The organization writing the tag should ensure that low batteries are replaced. Additionally, the theater ITV plan will identify nodes in the force projection process where the battery life should be checked and low batteries replaced. Battery life can be checked by a fixed or handheld interrogator or by viewing the regional ITV server low battery pages.

CONTACT MEMORY BUTTONS

C-15. Contact memory buttons are an automatic identification technology tool used by the Department of the Navy. The Naval Supply Systems Command attaches the buttons to pieces of equipment to provide ready access to a component's maintenance history. The Army Logistics Integration Agency and the Army maintenance community are currently exploring the use of contact memory buttons for similar purposes on Army equipment. A contact memory button is a very small, fast, read-write data storage device impervious to the elements in most harsh operating environments. It has a data storage capacity of between 128 and 32,000 bytes. A button does not require a battery to retain its memory and has a life expectancy of 100 years or one million read-write cycles. Contact memory buttons cannot be read remotely. Data is read from the button by touching a probe to the outside of the container. Contact memory buttons can be read-only, write-once-read-many-times, or read/write to allow updates.

AUTOMATIC IDENTIFICATION TECHNOLOGY HARDWARE

C-16. Automatic identification technology hardware consists of tools used by operators to write information to automatic identification technology data storage devices and to interrogate and read the data stored on the data storage device. Some of the tools currently used by the Army are discussed in the paragraphs below.

RADIO FREQUENCY IDENTIFICATION WRITE STATION

C-17. The RFID write station is a hardware interface unit called a tag docking station, which is connected to AISs. The tag docking station is used to write data to RFID tags, one tag at a time. The tags are inserted into the docking station and data is transferred.

Note. It is normally not recommended to change information on a tag using a handheld interrogator unless it is certain that the changed data will be uploaded to the regional ITV server. If the data is not uploaded, viewers of the tag data on the regional ITV server (via the World Wide Web) will see different tag information than what is actually on the tag.

SECTION IV — RADIO FREQUENCY RELAY

C-18. The radio frequency (RF) relay functions as a wireless modem and is used as a substitute for cable connections between fixed interrogators and the host computer. The RF relay has a 7,500-foot range (unobstructed). Radio frequency relays can be used in pairs to form a repeater for data transmission over longer distances or around obstructions.

HANDHELD INTERROGATORS, SCANNERS, AND DATA COLLECTION DEVICES

C-19. Handheld interrogators and scanners operate much like fixed interrogators but are not directly connected to the host computer. Data from handheld interrogators are downloaded to the host computer using a cable or infrared port. The handheld interrogators can be used to locate a specific tag, view the tag details, or to locate a specific item contained within one of several tagged containers or pallets. The tag data on handheld interrogators can change (update) without using a tag docking station, and can write data to a new RFID tag (see note above). Handheld interrogators are also used to scan bar codes if that feature is available.

C-20. Handheld data collection devices are used by personnel to scan and record bar coded data. Some of the devices are directly connected to the computer (tethered), while others are portable. The portable devices store information for a connected download to the computer system or they may have the ability to transmit data directly to the computer using a wireless local area network.

BAR CODE LABEL PRINTER

C-21. Bar code readability is affected by print quality, smears, poor contrast, improper label stock, incorrect ink, and poor printer adjustment. Operational tests have found these factors can cause as much as 50 percent of the bar coded labels printed at some locations to be unreadable. Proper printer maintenance and care is important for producing readable bar codes.

ENABLING DISTRIBUTION MANAGEMENT WITH RADIO FREQUENCY IDENTIFICATION TECHNOLOGY

C-22. Radio frequency identification technology equipment supports the function of TAV for the movement of materiel. Radio frequency identification's main purpose is to provide stand-off *in-the-box* visibility of container contents, as well as ITV of the container and its contents. The RF tags and interrogators (handheld or fixed) are used to identify cargo and monitor movement from the point of origin to the POE to the port of debarkation to theater nodes. A fixed RFID interrogator transmits queries to and receives data from all active RFID tags in its area. The maximum unobstructed radius is approximately 300 feet. At the depot or distribution terminal, air pallet and container content data is written to the RF tag by radio frequency or docking station and the tag is attached to the container/pallet. Omnidirectional interrogators, installed at key transportation and supply nodes, read the tagged containers as they arrive and depart those nodes. The interrogators pass data to a regional server in support of the Army TAV program. Fixed RFID interrogators are positioned permanently in warehouses, central receiving points, and selected points within transportation networks. The interrogator operates by sending a *wake-up* signal to the RFID

tag, which then transmits data back to the interrogator on a different frequency. In some configurations, such as a Gate Reader, a motion sensor is included to activate the interrogator for data collection of tags on vehicles approaching the sensor. The RF relay functions as a wireless modem and is used as a substitute for cable connections between fixed interrogators and the host computer.

C-23. Automatic identification technology devices enhance the visibility and control of assets during the logistical process from the identification of cargo to receipt by the user. Some automatic identification technology devices use RF as the method of communicating data to AISs. Automatic identification technology is used virtually anywhere the requirement exists to capture data automatically that otherwise would require manual labor to capture and turn it into usable information. Automatic identification technology includes a wide range of capabilities, which may or may not require an operator as part of the data entry or retrieval. Automatic identification means that a single event can result in the capture of a stream of data. It eliminates many of the manual techniques used in all retail and wholesale logistics operations. Automatic identification technology supports all operations of SSAs, ports, terminals, warehouses, installations, and depots.

C-24. A satellite-tracking system provides the ability to track the exact location of sustainment vehicles and convoys. The latitude and longitude locations of trucks, trains, and other transportation assets equipped with a transceiver are transmitted periodically via a satellite to a ground station. Some systems also provide two-way communications between a vehicle operator and a ground station for safety, security, and rerouting. Satellite tracking uses a cellular or satellite-based transmitter or transceiver unit to communicate positional information, encoded and text messages, and (in the case of sensitive DOD ordnance movements in the CONUS) emergency messages from in-transit conveyances to the ground station. Transceiver-based technologies also permit communications from a ground station to the in-transit conveyance. A user can compose, transmit, and receive messages with small handheld devices or with units integrated with computers.

C-25. At the SSA, automatic identification technology is integrated into operations to provide a paperless, automated capability for data identification, collection, entry, processing, storage, and retrieval. Automatic identification technology is used at one or more locations within the overall distribution system. At the EAB SSA, the predominant technology will be RFID, which is omnidirectional; read/write radio frequency for ITV; and inside the box visibility. Tactical units place demands for supplies and equipment on a designated SSA responsible for providing field support on a unit or area basis. The operational efficiency of the field/sustainment unit support may be enhanced by the suite of automatic identification technology (RFID, Automated Manifest System readers/writers, and interrogators, handheld and fixed). This information, along with other pertinent data unique to the requisitions, is to be uploaded into GCSS-Army, which manages the commodity, including the Logistics Intelligence File and the GTN. All of these systems will be alerted to shipment actions as they occur or are about to occur. This process represents the *upward* flow of information. The *downward* flow of information is initiated at the wholesale supply level. Commodities are prepared for shipment based on requisitions that reach wholesale level. This is after requisitions have not been satisfied at intermediate levels or replenishment requisitions have not been filled. Automatic identification technology enables distribution management by coupling a network of laser cards and RF tags/interrogators with the Movement Tracking System and the Standard Army Retail Supply System. The laser cards note the individual contents of a multipack and tie the multipack to a tracking control number. The tracking control number is subsequently assigned to a specific conveyance (pallet, flatrack, or container). The RF tag, which carries transportation control and movement documents and individual DD Form 1348-6 (DOD Single Line Item Requisition System Document (Manual Long Form)) record information, is then attached to the conveyance. The RF interrogators are placed at appropriate distribution nodes, railheads, bridges, and trailer transfer points. They detect the arrival/departure of the conveyance and pass this information to a web-based ITV server and GCSS-Army. The Movement Tracking System is being enhanced with direct tag reading and tag reporting capability that will also feed information to the ITV server.

C-26. Key activities for automatic identification technology application include critical item identification for arriving supplies at the SSA, researching NSNs, and finding sources of supply. In addition, automatic identification technology assists in arrival status activities, stockage (sorting, binning, and accounting), updating the Standard Army Retail Supply System, and shipping activities. Other Standard Army Retail Supply System functions supported by automatic identification technology are requisition routes, lateral

searches, visibility of excess position, summary record asset visibility of sub- Standard Army Retail Supply System activities, and selective item visibility.

C-27. The Automated Manifest System is a multimodular cargo inventory control and release notification system for sea, air, and rail carriers. The Automated Manifest System speeds the flow of cargo and entry processing and provides participants with electronic authorization to move cargo prior to arrival. The Automated Manifest System facilitates the intermodal movement and delivery of cargo by rail and trucks through the in-bound system.

C-28. The Automated Manifest System reduces reliance on paper documents and speeds the processing of manifest and waybill data. As a result, cargo remains on the dock for less time, participants realize faster tracking, and logisticians provide better service to the deployed force. Although not as visible at the EAB level, the Automated Manifest System provides the input for the Transportation Coordinator's Automated Information for Movement System II and Movement Tracking System to pick-up once the cargo is in-country.

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Appendix D

Medical Logistics Planning

The intense planning and management of all aspects of MEDLOG support within a developing or mature theater is essential. Continuous logistics planning is a must given the probable change in requirements as the theater matures. This appendix is intended to provide general planning considerations for MEDLOG support, a sample MEDLOG operations plan, and the latest Class VIII planning factors that can be used to assist in the planning process. See FM 8-55 for a detailed description of AHS support planning requirements.

SECTION I — GENERAL PLANNING

ARMY HEALTH SYSTEM SUPPORT PLANNING

D-1. The provision of AHS support is a complex process that requires continuous coordination and comprehensive planning. Army Health System planners must be involved early-on in the planning process and be prepared to support numerous types of operations simultaneously. By taking part in the development of the operations plan, the medical planner can determine the capabilities needed and plan for assets required to support the mission. To ensure effective and efficient support, medical plans must adhere to the principles of AHS support, the commander's planning guidance, medical intelligence related to the operational area, and other planning considerations.

D-2. Development of the AHS support estimate and concept of operations are important steps in the planning process. The medical planner must also conduct planning to address unforeseen contingencies and ensure coordination of efforts among the Services to maximize the use of available resources. Normally, in joint operations each Service operates its own health care delivery system. However, medical support (such as medical facilities, medical equipment and supplies, and personnel) may be provided on a joint basis.

D-3. The theater evacuation policy, health threat, troop strength or size of the population supported, the type, intensity, and duration of the operation are some of the factors that must be considered when determining medical requirements to support the operations plan. The medical staff's running estimates and medical workload (patient estimates) are also developed during planning. The patient estimate is derived from the casualty estimate which is prepared and disseminated by the G-1 (human resources staff officer). In-depth analysis is critical at every level of the operation to ensure the flexibility to quickly react to changes in the mission and continue to provide the required support. The observations of commanders, disease and nonbattle injury rates, and running estimates are the primary means of assessing an operation to ensure that the concept of operations, mission, and commander's intent are met. These factors and continuous analysis help to make certain that once developed, the plan includes the right number and combination of medical assets to support the operation.

D-4. The key to mission success is anticipation of requirements and the synchronization of AHS support to the tactical commander's mission. Availability of information and open lines of communication are also vital. Common data and information must be shared among the various elements of command from the tactical to the strategic level. The commanders and medical planners must maintain situational awareness, in-transit visibility and tracking of patients and equipment, and a COP of the AO. This information is obtained through various plans, reports, and information systems available to commanders and planners to facilitate the decision making process. See FM 8-55 for additional information on the medical planning process.

SECTION II — MEDICAL LOGISTICS PLANNING

MEDICAL LOGISTICS SUPPORT PLANNING

D-5. Resupply to the theater is preplanned and defined in appropriate logistical plans. Due to the technical nature of the MEDLOG system, coupled with the likelihood of a rapidly changing operating environment, planners must build flexibility into the plans. The MEDLOG planner must have a comprehensive understanding of operational and tactical plans as well as a thorough knowledge of the entire logistics system (including those organizations and activities responsible for specific aspects of support).

D-6. Planning for mobilization of MEDLOG units to arrive early in the time-phased force and deployment data flow and the buildup of MEDLOG support will need to be synchronized to support the flow of the medical force. To enhance Class VIII support, the MEDLOG planner will—

- Identify the specified and implied time-phased materiel requirements necessary to support the operations plan.
- Identify the capabilities, limitations, and requirements of aerial and sea ports of debarkation.
- Ensure coordination for the movement of supplies and equipment.
- Identify pre-positioned stocks in theater.
- Identify host-nation support, if available.
- Identify joint and multinational logistics support requirements to include the distribution plan.

D-7. Class VIII supply support (including blood management/distribution), optical fabrication, medical maintenance, medical contracting, and health facilities planning are all key aspects of the MEDLOG support plan, which is a part of the AHS support plan. When approved, the MEDLOG plan becomes a directive to medical logisticians in subordinate commands and serves as a guide for working out the details involved in the provision of Class VIII supply support for the command.

MEDICAL LOGISTICS CONSIDERATIONS

D-8. The following is a list of considerations for use in developing the MEDLOG plan (this list is provided as a guide only and is not intended to be all inclusive):

- Are procedures unique to medical supply described?
- Are resupply procedures established?
- Does the command address ASL objectives?
- Are special medical supply requirements identified based on the mission and the AO?
- Are special storage requirements satisfied?
- Is the transportation support system described?
- Have the proper quantities of special containers and materiel packaging equipment needed to support distribution been identified and planned?
- Are special handling procedures for cold–chain managed materiel properly described in the appropriate annexes so they can be followed by transportation personnel tasked to support Class VIII distribution?
- Are procedures in place to ensure proper handling of controlled and regulated Class VIII materiel items (including maintaining the proper chain-of-custody)?
- Are medical oxygen requirements identified and resupply procedures described?
- How are blood management functions conducted?
- Which unit is responsible for optical fabrication support?
- Are procedures identified for handling medical materiel and equipment captured from the enemy?
- What are the support requirements for collection and disposal of medical waste?
- Do disposal procedures meet applicable environmental standards?

- Is local purchase an option?
- Have individuals been trained/appointed for local procurement?
- Has the command established local purchase procedures?
- Are there adequate provisions in the plan for contracting support?
- Have an adequate number of contracting officers with the proper warrants been provided?
- Are procedures in place for managing the reverse flow (retrograde operations) of medical equipment and materiel?

MEDICAL MAINTENANCE CONSIDERATIONS

D-9. The following are a list of considerations for use in developing the medical maintenance support portion of the MEDLOG plan (this list is not intended to be all inclusive, but to serve as a guide only):

- Are special medical maintenance requirements addressed?
- Are mandatory parts lists or bench stock requirements specified?
- Have power requirements been identified (voltage, phase, frequency, and anticipated load)?
- Does the plan cover TMDE repair and calibration?
- Does the plan address how field and sustainment maintenance is to be provided?
- Are MEDSTEP procedures or reparable items covered (including evacuation of reparable items)?
- Are replacement items addressed?
- Is contractor support integrated into the maintenance plan?

HEALTH FACILITIES PLANNING CONSIDERATIONS

D-10. Health facility planning, design, and management decisions must be executable and sustainable. The construction, maintenance, and operations capabilities within the theater of operations must also be adequate to ensure that the facility will meet the needs of the health care mission. Planning, design, and management considerations include:

- Site selection.
  - Does the site drain water adequately?
  - Is there appropriate access to the building/campus site for helicopters, ground ambulances, ambulance buses, and pedestrians?
- Function and flow.
  - Does the layout of the facility support the natural flow of patients through the facility?
  - Are ancillary services adjacent to the departments they support?
  - Is a proper sterilization path provided to prevent the crossing of clean and dirty functions?
- Architectural elements.
  - Are the interior finishes durable and cleanable?
  - Are seamless finishes provided in critical care areas?
  - Are the doors in the emergency, radiology, surgical, and intensive care areas of sufficient durability to withstand extreme use and regular contact with beds and equipment?
- Electrical systems.
  - Are 110 voltage alternating current and/or 220 voltage alternating current power required for the facility? The equipment plan needs to be coordinated with the electrical plan to ensure adequate power is provided in order to avoid overloaded circuits.
  - What is the source of primary power?
  - Is back-up power required?
  - How is back-up power being provided?
- Mechanical systems.
  - How are temperature and humidity controls being provided within the building?
  - How are positive and negative pressures being provided?
  - How is filtration being provided in critical care areas?

- How will waste anesthesia gas be removed from the operating rooms?
- How is suction being provided?

- Plumbing systems.
  - How is steam being provided for sterilization?
  - Do surgical and hand washing sinks have goose neck faucets, touchless controls, and/or paddle handles to facilitate appropriate hand washing?
- Medical gas systems.
  - How will medical gases be provided within the facility?
  - If hard piped gases are desired, is a certified installer available within the theater of operations?
- Medical equipment.
  - What DEPMEDS equipment is going to be used?
  - What non-DEPMEDS equipment is going to be used? Coordinate the mechanical, electrical, and plumbing requirements for each piece of equipment with the building's design.
  - Which organization is responsible for coordinating and funding the initial outfitting and transition of equipment?
- Facility management.
  - Has a command facility management policy been established?
  - Has a unit-level point of contact been identified for facilities work order submissions?
  - Are work orders reconciled (at least monthly) for follow-up or close out?
  - What organization is responsible for performing operations and maintenance for the facility?
  - What organization is responsible for funding regular operations and maintenance?

MEDICAL LOGISTICS SUPPORT PLAN

D-11. Figure D-1 below is an example that can be used when developing the MEDLOG support plan. The sample follows the operations order/operations plan format provided in FM 5-0. At a minimum the plan should provide special general supply instructions applicable to medical units; special medical supply procedures applicable to the current operation (such as procedures for procurement, storage, and distribution); transportation instructions; details for the provision of medical maintenance support; optical support; and blood distribution support. The plan should also include policy statements for the inspection of locally procured items, captured medical supplies, and CBRN contaminated Class VIII. Figure D-2 depicts an example of a joint MEDLOG operations plan and Figure D-3 provides an example of a blood support appendix to the joint MEDLOG operations plan. These figures can also be used to assist in the planning process.

(Classification)

TAB H (MEDICAL LOGISTICS) TO APPENDIX 6 (MEDICAL) TO ANNEX I (SERVICE SUPPORT) TO OPERATIONS ORDER ## [code name]—[issuing headquarters]

Time zone used throughout the operations plan/operations order:
The time zone used throughout the operations plan/operations order (including attachments) is the same time zone applicable to the operation. Operations across several time zones use universal (ZULU) time. Place the classification and short title of the plan/order at the top of the second and any subsequent pages of the base operations plan/operations order.

Task Organization: List the number and coordinates of medical units here or in a trace or overlay. If you do not list units here, omit this heading).

1. SITUATION. (State the general factors affecting medical logistics (MEDLOG) support for the operation. Include any information essential to understanding the current situation as it influences MEDLOG support. This information can be taken from paragraph 1 of the related operations plan/operations order.)

a. Enemy forces. (Refer to the appropriate operations plan/operations order or its intelligence annex, if published. List the available information about the composition, disposition, location, movements, estimated strengths, and identification of enemy forces. List the enemy capabilities that could influence the MEDLOG support mission, such as enemy activity on or near main supply routes. If available, list the enemy logistics situation, to include information on how well supplied the enemy/opposition force is with food, clothing, or other vital logistics factors. It may also include the financial backing and availability of future support from outside individuals/groups/nations.)

b. Friendly forces. (List pertinent information concerning friendly forces [other than those referenced in the operations plan/operations order or that subsequent paragraphs of this plan/order include] that might directly influence the MEDLOG support mission. This is addressed from the perspective of the host nation or US-backed group and US national interests. Emphasis should also be placed on Class VIII supply support operations and responsibilities for higher and adjacent units. Also list the logistics situation as it relates to friendly forces. Since medical evacuation vehicles are used to conduct emergency resupply of forward deployed medical units, the MEDLOG planner must maintain visibility of the availability of medical evacuation assets.)

c. Environment.

(1) Terrain. (Refer to related operations plan/operations order or the related engineer annex. List all critical terrain aspects that would impact MEDLOG support operations.)

(2) Weather. (Refer to related operations plan/operations order or its intelligence annex. List all critical weather aspects that would impact MEDLOG support operations.)

(3) Civil considerations. (Refer to related operations plan/operations order or its civil-military operations annex. List all critical civil considerations that would impact MEDLOG support operations.)

d. Attachments and detachments. (Refer to related operations plan/operations order.)

e. Assumptions. (Service support or operations plan only. List any assumptions that apply to the operation. Refer to related operations plan/operations order)

2. MISSION. (Statement of the overall MEDLOG support mission — the type of activity to be supported [such as offensive, defensive, stability or civil support operations].)

3. EXECUTION.

a. Concept of operations. (Outline the general plan for Class VIII supply support and any instructions that succeeding paragraphs do not adequately cover.)

(Classification)

Figure D-1. Example of a medical logistics support plan

(Classification)

TAB H (MEDICAL LOGISTICS) TO APPENDIX 6 (MEDICAL) TO ANNEX I (SERVICE SUPPORT) TO OPERATIONS ORDER ## [code name]—[issuing headquarters]

b. Coordinating instructions. (List only instructions applicable to two or more units and not covered in the unit's tactical standing operating procedures.)

4. SERVICE SUPPORT.

a. Materiel and services.

(1) Supply. (Refer to tactical standing operating procedures or another annex whenever practical. Class VIIIB or blood support, can be addressed here or in a separate tab.)

(a) General supply. (Provide special instructions applicable to the unit. Also consider stockage levels for all classes of supply, as units will be operating in an austere environment and at extended distances from the full compliment of medical resources.)

(b) Class VIII (to include blood and blood products). (Provide special procedures applicable to the operation.)

1. Requirements. (Provide details of materiel required to sustain US and multinational forces including resupply and stockage levels required. This includes estimates of the population to be supported or the number of patients anticipated to be treated as well as any supplies required for teaching or training.)

2. Procurement. (Provide detailed discussion of procedures and/or contracting support for the operation. Funding sources should be identified and procedures for obtaining the supplies described, as well as any limitations or restrictions on the use of the supplies, should be included.)

3. Storage. (Special procedures and equipment [such as cold storage, refrigeration, or other special handling] requirements for maintaining storage and the appropriate shelf life of medical materiel in an austere environment should be included.)

4. Distribution. (This should include the method of distribution and any limitations or restrictions that are applicable. Additionally, if special transportation requirements exist, they should also be noted.)

5. Coordination. (Inter-service, allied forces, US agencies, multinational forces, host nation government, nongovernmental organizations, and means of communicating requests for supply.)

(c) Supplies required for stability operations missions and not for support of US or multinational force. (This includes foreign humanitarian assistance, disaster relief, or other stability operations missions.)

(d) Medical logistics activities. (This includes the location of the medical supply support activity supporting the AO and means of communicating requests for resupply.)

(e) Salvaged medical equipment and supplies. (Ensure policy and procedures are in place for classification, storage, and use of such items.) Example… *Recaptured US medical supplies will be turned over to the nearest medical treatment facility for determination of further use. Samples will be forwarded through command intelligence channels to the National Center for Medical Intelligence.*

(f) Captured medical supplies. (This should include disposition instructions.) Example… *Captured medical supplies and equipment will not be destroyed. Units having custody of enemy supplies and equipment will turn them over to the supporting medical facility. Local or captured Class VIII materiel will only be used to support enemy prisoners of war or civilian detained/retained personnel.*

(Classification)

Figure D-1. Example of a medical logistics support plan (continued)

(Classification)

TAB H (MEDICAL LOGISTICS) TO APPENDIX 6 (MEDICAL) TO ANNEX I (SERVICE SUPPORT) TO OPERATIONS ORDER ## [code name]—[issuing headquarters]

(g) Civilian medical materiel. (This may include information or policy on purchasing medical supplies on the local economy. NOTE: The procurement of medical supplies on the local economy must be approved by the command surgeon. Due to Food and Drug Administration stringent standards for medications, the local procurement of these products is usually not feasible.) Example…*Transfer of Class VIII to host nation: Units are forbidden by US laws, DOD directives, and Army policy from giving Class VIII supplies and equipment to host nation personnel except under limited authorizations or in order to prevent mission failure. Units must follow published guidance and seek legal review prior to transfer of any Class VIII.*

(h) Other medical logistics matters. (This can include the receipt, repackaging, storing and distribution of donated medical supplies for use in foreign humanitarian assistance operations. Requesting procedures should also be included. Other multinational concerns [such as supplies and equipment provided by the United Nations] and/or interagency operations should be considered).

(i) Medical equipment maintenance and repair. (This should describe equipment maintenance capability available for supported units including procedures for the requisition of required medical equipment and responsibilities for medical equipment repair. Include in separate subparagraphs the location, mission, hours of opening or closing of medical maintenance and/or repair teams.)

(j) Optical fabrication and spectacle repair. (Is this service available in the theater? If not, where are the supporting facilities located and what procedures are used to request this support.)

(k) Class VIIIB, blood and blood products. (This includes location of blood support units, reporting requirements, requisition procedures, coordination requirements [with other Services].)

(2) Services to Army Health System units and facilities. (Include information on the following services: laundry, bath, utilities, fire fighting, construction, real estate, graves registration religious, personnel, and finance.)

(3) Transportation. (This includes use of various transportation assets and avenues [such as ground, rail, water, and air] available for resupply of Class VIII.)

(a) Movement control and traffic regulation, if applicable. (This can include requirements for armed escort; requirements for crossing international boundaries, convoy restrictions, or other circumstances affecting transport or supply route operations.)

(b) Security requirements. (Include information on physical security requirements for the storage of Class VIII.)

(4) Labor. (Include policies with any restriction on using civilian internees or detainees and enemy prisoners of war in labor units. Allocate and prioritize available labor. Include designation and location of available labor units. Depending on the scenario, it may be possible to contract nonmedical personnel for support positions.)

(5) Maintenance. (This includes priority of maintenance, location of facilities, collection points, maintenance time lines, and evacuation procedures.)

(Classification)

Figure D-1. Example of a medical logistics support plan (continued)

(Classification)

TAB H (MEDICAL LOGISTICS) TO APPENDIX 6 (MEDICAL) TO ANNEX I (SERVICE SUPPORT) TO OPERATIONS ORDER ## [code name]—[issuing headquarters]

5. COMMAND AND SIGNAL

a. Command. (State the map coordinates for command post locations and at least one future location for each CP. Identify the chain of command if not addressed in unit standing operating procedures.)

b. Signal. (Refer to appropriate operations plan/operations order. When not included in the basic operations plan/operations order, include the headquarters location and movements, liaison arrangements, recognition and identification instructions, and general rules concerning the use of communications and other electronic equipment, if necessary. Use an annex when appropriate.)

MISCELLANEOUS. (Address areas of support not previously mentioned which may be required or needed by subordinate elements in the execution of their respective MEDLOG support mission such as command post locations, signal instructions, medical intelligence, claims, and special reports that may be required and international or host-nation support agreements affecting MEDLOG support.)

ACKNOWLEDGE: (Include instructions for the acknowledgement of the plan or order by addressees. The word "acknowledge" may suffice or you may refer to the message reference number. Acknowledgement of a plan or order means that it has been received and understood. The commander or authorized representative signs the original copy. If the representative signs the original, add the phrase "For the Commander".)

(The signed copy is the historical copy and remains filed in headquarters files. Use only if the commander does not sign the original order. If the commander signs the original, no further authentication is required and only the last name and rank of the commander appear in the signature block.)

(Commander's last name)
(Commander's rank)

OFFICIAL:
(Authenticator's Name)
(Authenticator's Position)
(Use only if the commander does not sign the original order. If the commander signs the original, no further authentication is required. If the commander does not sign, the signature of the preparing staff officer requires authentication and only the last name and rank of the commander appear in the signature block.)

DISTRIBUTION: (Furnish distribution copies either for action or for information. List in detail those who are to receive the plan or order. If necessary, also refer to an annex containing the distribution list or to a standard distribution list or standing operating procedure. When referring to a standardized distribution list, show distribution to reinforcing, supporting, and adjacent units, since that list does not normally include these units. When distribution includes a unit from another nation or from a NATO command, cite the distribution list in full.)

(Classification)

Figure D-1. Example of a medical logistics support plan (continued)

CJCSM 3122.03C
17 August 2007

(Format, Medical Logistics (Class 8A) System Appendix)

CLASSIFICATION

HEADQUARTERS, US EUROPEAN COMMAND
APO AE 09128
25 May 200X

APPENDIX 5 TO ANNEX Q TO USCINCEUR OPLAN 4999-05
MEDICAL LOGISTICS (CLASS 8A) SYSTEM

References: List documents essential to this appendix.

1. Situation

a. Facilities. Identify available medical logistic facilities. Outline what medical logistic units are introduced early in the deployment process to augment existing resources.

b. Assumptions. List any critical assumptions or command-unique definitions.

2. Mission

3. Execution

a. Organization and Function. Describe the organization of health logistics throughout the theater to include Single Integrated Medical Logistics Management (SIMLM) responsibilities, if applicable; address medical supply and resupply.

b. Tasks. Identify tasks for organizations and agencies providing medical materiel support.

c. Coordinating Instructions.

4. Administration and Logistics

a. Medical Materiel Sustainability Assessment. Describe briefly the number of days that existing theater stocks can support the combatant command.

b. Policy. Outline the command policies for provision of medical materiel support, list of pharmaceuticals, minimum-essential accompanying supplies for deploying troops and priorities for use of in-theater medical materiel stocks.

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Figure D-2. Example of a joint medical logistics operations plan

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CJCSM 3122.03C
17 August 2007

5. Command and Control. Outline the chain of command for all theater medical logistics support units; this may require regional breakouts. Identify communications requirements to support medical resupply.

Tab {Note: Format not provided, tab corresponds with a MAT table.}
A- - Time-phased Class 8A Requirements

CLASSIFICATION

Figure D-2. Example of a joint medical logistics operations plan (continued)

CJCSM 3122.03C
17 August 2007

CLASSIFICATION

HEADQUARTERS, US EUROPEAN COMMAND
APO AE 09128
25 May 200X

APPENDIX 2 TO ANNEX Q OF US EUROPEAN COMMMAND OPERATIONS PLAN 4999-05
JOINT BLOOD PROGRAM

References: List documents essential to this appendix.

1. Situation

a. Friendly. Identify available capabilities.

b. Assumptions. Identify unique assumptions for the joint blood program.

2. Mission

3. Execution

a. Concept of Operations. Describe the joint blood program concept and how it supports the mission.

b. Tasks. Assign tasks by sub-unified or component command, including administrative, funding, communications, staffing, and logistics support.

c. Coordinating Instructions. Identify other organizations with which coordination must occur to ensure effective blood or blood component support.

(1) Storage and inventory levels by level of care

(2) Document and record management

(3) Use of DBSS

(4) Emergency whole blood collections and retrospective testing

(5) Transfusion of non-US, FDA blood

4. Administration and Logistics

a. Provide requirements and shortfalls.

b. Describe the blood or blood component distribution throughout the theater.

c. List work force personnel requirements and responsibilities by component.

CLASSIFICATION

Figure D-3. Example of an appendix for joint blood support

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CLASSIFICATION

d. Identify blood program facility requirements.

5. Command and Control.

a. Command Relationships. Describe the command line through the Joint Blood Program Office (JBPO) to the lowest level blood organization in theater.

b. Communications. Identify communications requirements using the following:

(1) Specify US Message Text Formats.

(2) Specify level of classification of messages.

(3) List communication system support requirements.

(4) State direct communication policy.

(5) Delineate modes and priorities available to transmit information.

Tabs {Note: Formats not provided, tab corresponds with a MAT table.}
A--Joint Blood Program Operational Structure
B--Blood Requirements and Capabilities
C--Theater Blood Distribution System
D--Joint Blood Program Manpower Requirements

CLASSIFICATION

Figure D-3. Example of an appendix for joint blood support (continued)

SECTION III — CLASS VIII CONSUMPTION COMPUTATION

D-12. There are several considerations used by MEDLOG planners when determining Class VIII support requirements. These include the computation of MEDLOG support and transportation requirements and the use of MRSs during early-entry operations. Medical resupply sets and preconfigured push-packages are the primary means of resupply within the BCT prior to the establishment of line item requisitioning. Demand history, casualty estimates, and specialty sets are used when basic mission requirements become more definitive.

MEDICAL LOGISTICS SUPPORT AND TRANSPORTATION REQUIREMENTS

D-13. A pounds-per-Soldier-per-day and pounds per wounded in action admitted computation is used by medical logisticians when planning for Class VIII support and transportation requirements. The patient

estimate (derived from the casualty estimate) is the basis for applying these computations as discussed in Section I of this appendix. Table D-1 lists the Class VIII planning factor for each role of care and illustrates the consumption computation for the wounded in action patient category. The Class VIIIA (excludes Class VIIIB blood) planning factors presented here are no longer tied to a specific Total Army Analysis patient stream. They were developed using generic patient streams that are intended to include various types of patients.

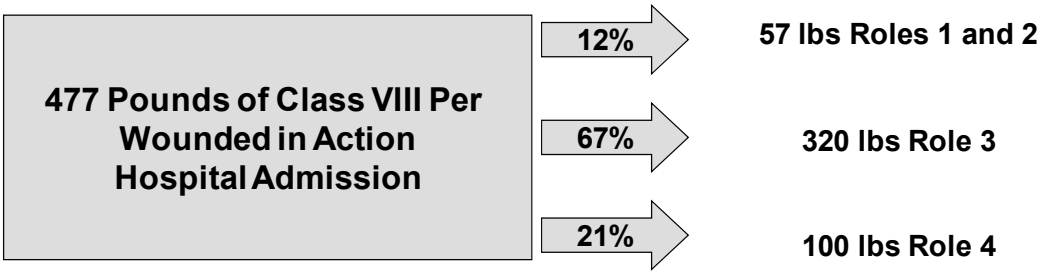
Table D-1. Class VIII planning factors

CLASS VIII PLANNING FACTOR PERCENTAGES BY ROLE OF CARE

ROLE OF CARE	*Wounded in Action Planning Factor = 477 pounds/ Hospital Admission*	*Disease and Nonbattle Injuries Planning Factor = 122 pounds/ Hospital Admission*	*Blister Planning Factor = 36 pounds/ Hospital Admission*	*Nerve Planning Factor = 110 pounds/ Hospital Admission*
Roles 1 and 2	12%	22%	7%	6%
Role 3	67%	69%	55%	81%
Role 4	21%	9%	38%	13%

Note. Population Supported Items Planning Factor = 0.19 Pounds per Soldier per day (such as sunscreen, foot powder, and other items as provided under Common Table of Allowance 8-100).

ILLUSTRATION



Note. The percentages and information presented in this section are provided as a guide and are not intended as a substitute for more specific data.

D-14. These planning factors are primarily used by medical planners at EAB to determine support requirements such as the number of MLCs necessary to support a specific mission based on their short ton delivery capability. These factors can also be applied to planning Class VIII distribution support when weight limitations are a factor (such as sling load or other aerial resupply operations). Table D-2 expands on the information provided in Table D-1 by converting the percentages to pounds per type of admission.

Table D-2. Class VIII pounds per admission type

Roles of Care	*Wounded in Action Planning Factor as Pounds/Wounded in Action Hospital Admission*	*Disease and Nonbattle Injuries Planning Factor as pounds/ Disease and Nonbattle Injury Hospital Admission*	*Blister Planning Factor as pounds/ Blister Hospital Admission*	*Nerve Planning Factor as pounds/ Nerve Hospital Admission*
Roles 1 and 2	57 pounds	27 pounds	3 pounds	7 pounds
Role 3	320 pounds	84 pounds	19 pounds	89 pounds
Role 4	100 pounds	11 pounds	14 pounds	14 pounds
Note. Population Supported Items Planning Factor = 0.19 Pounds per Soldier per day.				

MEDICAL RESUPPLY SET AND PUSH-PACKAGE PLANNING

D-15. When estimating Class VIII requirements for MCOs in the BCT, it is more practical to base initial planning on unit MES and MRS capabilities. Medical equipment sets and MRSs apply to TOE units only and are designed and updated based on historical precedents (patient numbers, mission types, and injury types from past MCOs), operational experience, and emerging medical technologies. Periodic review of these sets by medical subject matter experts insure that the contents continue to meet the needs of medical professionals supporting the deployed force. Medical assemblage is also a term used to describe these medical sets as well as dental equipment sets, MMSs, OESs, and others. An Army medical assemblage is an identified grouping of medical and nonmedical supplies and or equipment designated to facilitate a specific health care function based on a unit's minimum mission essential wartime requirements to support MCOs. The Army has two types of medical assemblages, minor and major assemblages.

MINOR MEDICAL ASSEMBLAGES

D-16. Minor medical assemblages or MESs are Army-unique assemblages consisting of a grouping of medical and nonmedical items under a single stock number including expendable (consumable) supplies, durables, and nonexpendable equipment developed to support a certain TOE mission or clinical function. Medical equipment sets are managed by the AMEDD and used primarily by the Army. Each MES is designed to meet minimum mission essential wartime requirements to sustain MCOs or high intensity conflict for 72 hours or 3 days. They are used primarily in the BCT Roles 1 and 2 MTFs and the ASMC.

MAJOR MEDICAL ASSEMBLAGES

D-17. Major medical assemblages or MMSs are DEPMEDS equivalent Army-unique sets that consist of a grouping of medical and nonmedical items under a single stock number managed by the AMEDD and are used primarily by the Army. Each MMS is developed specifically for EAB medical units and is designed to meet the minimum mission essential wartime requirements to sustain MCOs or high intensity conflict for 72 hours or 3 days. Potency and dated medical materiel is not included in the MMS, but is provided separately upon deployment as part of the UDP (refer to Chapter 3 for a description of the UDP). These assemblages are traditionally found in the CSH at EAB.

MEDICAL RESUPPLY SETS

D-18. The MRS is a preconfigured list of supplies designed to refill MESs (minor sets) for medical units operating at brigade and below (Roles 1 and 2 MTFs including the ASMC). There are no resupply sets for the MMSs (major sets) used by EAB medical units. Each MRS is designed by the AMEDD and is developed to replace consumable items in the MES. The MRS constitutes an additional 7 days of supply and is typically used until line item requisitioning is established. The MRS is intended to operationally

sustain the MES for which it was developed (such as the MRS, Trauma, which would be used to resupply the MES, Trauma). The MRS is used for contingency planning, does not have an assigned line item number, and is not authorized by TOE/modified TOE.

PUSH-PACKAGES

D-19. Push-packages are a predetermined amount of supplies designed and managed by the using unit in coordination with the supporting IMSA or SSA. Ideally, these packages are coordinated for by the unit prior to deployment and issued during early-entry operations on a scheduled basis or upon request.

SPECIALTY SETS

D-20. Stability and civil support operations require more definitive or tailored assemblages such as Humanitarian Assistance Sets. There are three types of Humanitarian Assistance Sets, the—

- Humanitarian Assistance Surgical Augmentation Set.
- Humanitarian Assistance Pediatric Augmentation Set.
- Humanitarian Assistance Adult Augmentation Set.

D-21. These sets were established to augment an existing CSH and are not intended for use as standalone sets. They contain special medical and surgical supplies and equipment that are not currently authorized in DEPMEDS-equipped hospitals, but are essential for providing AHS support to a civilian population during stability or civil support operations. Humanitarian Assistance Sets do not have an assigned line item number and are not authorized by TOE/modified TOE. There is no basis of issue for these sets. Units must determine if there is a need for the sets during planning or as dictated by OTSG and medical mission requirements. Humanitarian Assistance Sets are managed by USAMMA. The Army Deputy Chief of Staff, Logistics (G-4) is the release authority for these sets. For the latest information and questions concerning Humanitarian Assistance Sets refer to the USAMMA website at www.usamma.army.mil.

TRANSITION TO LINE ITEM REQUISITION

D-22. As operations stabilize or transition from MCO to stability operations, the Class VIII system will transition from MRS and push-package use to line item requisitioning. This type of resupply relies upon an on-hand stock or ASL (100 to 300 lines of *critical* line items) located at the BMSO and established resupply channels between higher levels of Class VIII sustainment.

ADDITIONAL INFORMATION

D-23. The USAMMA website has several automated tools that provide unit assemblages, functional descriptions, and detailed component listing reports. These component listings provide both hospital (Role 3) and nonhospital (Roles 1 and 2) unit assemblage reports. To research a particular set the Unit Assemblage database provides listings for multiple years under the same line item number. To research specific medical equipment items the Medical Services Information Logistics System (MEDSILS) provides a database that cross-references key unit assemblage component materiel data. Both databases have on-line tutorials. For additional information access the USAMMA website at www.usamma.army.mil.

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Appendix E

Medical Logisticians in the Army Service Component Command, Theater Sustainment Command, Sustainment Brigade, and Brigade Combat Team

Department of the Army Pamphlet 611-21 provides information on the classification of all Army personnel including a description of each position and the duties involved. This appendix focuses on the medical logistician or health services materiel officer and the medical logistics specialist. It expands on the information found in the DA Pamphlet and provides actual tasks performed by medical logisticians at various levels of command within the AO, including the ASCC, TSC/ESC, sustainment brigade, and the brigade support battalion. The duties of the medical logisticians in the MEDCOM (DS), MEDBDE, MMB, MLC and other MEDLOG elements are covered in previous chapters in this FM as well as FM 4-02.12 and will not be included in this appendix. The tasks listed are not intended to be all inclusive, but are provided as a guide for medical logisticians in the operational force.

SECTION I — MEDICAL LOGISTICIANS IN THE ARMY SERVICE COMPONENT COMMAND

E-1. The ASCC serves as the Army component headquarters for a GCC. The command develops and coordinates requirements, plans, and participation of US forces, and when so designated, Joint/Combined forces. The ASCC is also responsible for developing MEDLOG plans and policy for all units and operations within the theater. There are three health services materiel officers and two medical logistics specialists in the ASCC.

SUPPORT OPERATIONS BRANCH

E-2. The medical logisticians within the ASCC are part of the support operations branch. The MEDLOG personnel within the support operations branch are responsible for—

- Providing policy and plans for the use of medical organizations within the theater. The branch also plans for and promulgates policy for the prevention of disease, treatment and movement of patients, hospitalization, return to duty, evacuation, dental, veterinary and laboratory services.
- Ensuring the provision of health care support to all medical units and facilities.
- Advising the commander on health care support activities.
- Planning and managing health care and medical resource management programs.
- Ensuring that medical units and facilities are requesting and receiving the proper resources to meet mission requirements.
- Providing deputy chief of staff, medical representation in the RSOI of medical materiel (the exact functions to be performed will be determined by mission, enemy, terrain and weather, troops and support available-time available and civil considerations).
- Planning, directing, and supervising health delivery activities within the operational area.

- Keeping the commander informed of health or health delivery concerns.
- Performing management of stock record/warehouse functions pertaining to receipt, storage, distribution, and issue of medical inventory for the command.

E-3. The primary mission of MEDLOG personnel within the ASCC is to provide oversight or C2 of all Class VIII supply support functions within the theater.

SECTION II — MEDICAL LOGISTICIANS IN THE THEATER SUSTAINMENT COMMAND/EXPEDITIONARY SUSTAINMENT COMMAND

E-4. The role of the TSC/ESC is to provide forward-based C2 of TSC logistics forces. The ESC's organizational structure mirrors the TSC with fewer personnel assigned.

DISTRIBUTION MANAGEMENT CENTER

E-5. The ESC's distribution integration branch, under the DMC, coordinates and synchronizes the movement of all personnel, equipment, and supplies, provides capacity visibility, and ensures an uninterrupted flow of logistics support into and out of the AO or the joint operations area. The MEDLOG personnel in the DMC are responsible for managing Class VIII storage and distribution operations for the command as well as the following—

- Providing materiel distribution management of the Class VIII commodity by synchronizing medical materiel requirements with distribution capabilities and tracking the supplies and equipment to their final destination.
- Assisting the MLMC forward support team in expediting critical medical supplies.
- Examining current sustainment operations to ensure that the MEDLOG support provided contributes to the desired effects of the supported commander.
- Maintaining situational awareness of the Class VIII commodity through the use of TAV/ITV AISs.

E-6. Theater-level management of Class VIII is accomplished by the MLMC forward support team that collocates with the TSC/ESC DMC. The MLMC forward support team provides visibility and control of all Class VIII inventory for the MEDCOM (DS) and the capability to integrate Class VIII distribution requirements with those of the TSC/ESC. The medical logisticians in the ESC provide support for the TSC and its supported units.

SECTION III — MEDICAL LOGISTICIANS IN THE SUSTAINMENT BRIGADE

E-7. The sustainment brigade headquarters synchronizes, monitors, and controls sustainment support for all assigned and attached units. The health services materiel officers within the sustainment brigade are part of the brigade surgeon's section.

SUSTAINMENT BRIGADE SURGEON SECTION

E-8. The role of the MEDLOG personnel in the surgeon's section is to coordinate, synchronize, and execute Class VIII resupply operations for all supported units operating within the supported AO as well as the following—

- Advise the sustainment brigade commander on all issues related to MEDLOG readiness.
- Develop all support plans for optical fabrication, medical equipment maintenance and Class VIII supply support for the brigade.
- Provide liaison support between internal and external points of contact for all medical logistics related issues.
- Coordinate resourcing of medical logistics support for organic units and supported units within the brigade AO.

- Analyze Class VIII replenishment operations, identifying trends in performance, and providing technical advice, as necessary.
- Analyze medical maintenance operations, identifying trends in performance, and providing technical advice, as necessary.

SECTION IV — MEDICAL LOGISTICIANS IN THE BRIGADE SUPPORT BATTALION

E-9. The medical logisticians within the brigade support battalion of the BCT are found in the support operations section and the BMSO of the BSMC. The health services materiel officers and medical logistics specialists in the brigade support battalion are responsible for the coordination, synchronization, and execution of Class VIII resupply operations for all supported units operating within the supported area.

SUPPORT OPERATIONS SECTION

E-10. The MEDLOG personnel assigned to the support operations section of the brigade support battalion perform the following tasks:

- Advise the brigade surgeon and brigade support battalion commander on issues related to medical supply and equipment readiness.
- Coordinate for external MEDLOG support for organic units and supported units within the brigade AO.
- Develop support plans for optical fabrication, blood, medical equipment maintenance and Class VIII supply support for the brigade.
- Coordinate resourcing of medical logistics support.
- Provide oversight on aspects of BMSO operations and ensure continuous synchronization with the brigade OPLAN.
- Manage equipment fielding, modernization, and reset operations for the brigade in support of ARFORGEN.

BRIGADE MEDICAL SUPPLY OFFICE

E-11. The MEDLOG personnel in the BMSO perform the following tasks:

- Advise the support operations section MEDLOG officer and BSMC commander on issues related to medical supply and equipment support operations in the AO.
- Manage the execution of support plans for medical equipment maintenance and Class VIII support for the brigade.
- Manage customer support requirements for organic/supported units within the brigade AO.
- Provide oversight on the internal aspects of BMSO operations ensuring proper management of pharmaceuticals, medical/surgical items, compressed medical gasses, scheduled/unscheduled medical maintenance support, maintenance repair parts and controlled substances.
- Analyze Class VIII replenishment operations, identify trends in performance, and provide technical advice as necessary.
- Conduct distribution planning in coordination with the support operations section.
- Develop MEDLOG related policies and procedures including the management of the MEDLOG standing operating procedure for the BCT.
- Manage Class VIII special handling procedures including disposition and destruction of expired medical supplies.
- Manage warehousing including receipt, storage, distribution, and turn-in of supplies.
- Provide support for customer service including direct interface with customers to establish accounts and maintain updated signature cards.
- Provide internal quality control operations, Medical Material Quality Control message distribution, and oversee narcotics receipt, storage, and distribution.
- Execute Class VIII special handling procedures, disposition documentation, and destruction of expired medical supplies.

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Appendix F

Medical Logistics Considerations in a Chemical, Biological, Radiological, and Nuclear Environment

Proper logistics planning and preparation is extremely important to ensure effective medical support in a CBRN environment. Logistics plans should provide not only for medical supplies and equipment but also general supplies, such as food, clothing, water purification apparatus, radiation detection and measurement instruments, communications equipment, and modes of transportation.

GENERAL CONSIDERATIONS

F-1. Medical logistics personnel must be prepared to provide logistical support in preparation for and in response to a CBRN incident. Medical treatment personnel and MTFs may have a limited stock of pharmaceuticals, blood and blood expanders, burn kits, dressings, medical equipment, and other Class VIII items on hand. Therefore, the supply system must be prepared to respond to increased demand for these items as well as individual protective clothing, decontamination equipment, radiation detection indication and computation instruments, improved chemical agent monitors, M8 detector tape, and M222A Automatic Chemical Agent Detector Alarms. Whether or not a CBRN attack actually occurs, the threat alone will increase the demand for chemical suits, masks, filters, decontamination apparatus, and other related equipment.

F-2. There will also be a dramatic increase in the demand for Class VI items. Bathing, shaving, and sanitation supplies may become mission essential items since maintaining a close shave is necessary to obtain a proper fit when wearing the protective mask. Soldiers will need more than what is provided in health and comfort packs as keeping clean takes on a new meaning. Such items must be readily available for continuous response in the event of a CBRN attack.

PROTECTION OF SUPPLIES AND EQUIPMENT

F-3. Most medical supplies and equipment are not protected or hardened against CBRN contamination. Medical personnel and supporting units must be prepared to address contaminated or damaged equipment in the event of a CBRN attack. Alternative or uncontaminated equipment must be provided for use in patient decontamination and treatment operations.

F-4. In the presence of a CBRN threat, equipment and supplies should be kept in unopened, sealed or covered containers until required for use. During shipment, supplies can be protected by placement inside military vans or cargo containers, in covered enclosed vehicles, or by wrapping them in several layers of plastic, tarpaulins, or other protective material. The use of chemical agent resistant material will provide good protection against liquid contamination and the use of conventional tentage will significantly reduce liquid agent contamination for a limited period. Medical logistics and other sustainment units must plan for additional use of tarpaulins and plastic sheeting to reduce radioactive dust or CBRN contamination of supplies and equipment.

F-5. When personnel are in mission-oriented protective posture gear, more time is required to perform normal activities such as equipment operation, maintenance and repair, and supply operations of any type. Sleep deprivation also becomes a real issue because of the endless false or real alerts and suiting up into the resulting mission-oriented protective posture Level 4 posture. All personnel should receive, at a minimum, 7 to 8 hours of continuous sleep within a 24-hour period. See FM 6-22.5 for more definitive information.

F-6. Sustainment units, under these conditions, find it difficult to conduct unit distribution. Therefore, resupply by LOGPACs every 24 hours may have to be coordinated based on the tactical situation. For example, delivery of hot meals may have to be planned in accordance with the pace of the operation. Water resupply schedules and methods may also need to be flexible if the local water utility is damaged. Delivery of Class IV materials, such as concertina wire, and sandbags will become important items for increasing the physical security of unit perimeters.

NONMEDICAL EQUIPMENT

F-7. Nonmedical equipment and supplies required to provide medical support may include such items as garden hoses, shower heads mounted on pipe stands, disposable gowns, or toxicological agent protective aprons, liquid soap, wash cloths, high test hypochlorite/hypochlorite solution or household bleach, sponges, brushes, buckets, and bath towels for patient decontamination at the receiving MTF. High-test hypochlorite or household bleach can be used to clean patient equipment. See FM 4-02.7 and FM 3-11.5 for patient/equipment decontamination procedures. Individual protective equipment must be provided for medical staff including mission-oriented protective posture and/or Environmental Protection Agency Levels A, B, C, and D ensembles, depending on the operational environment. Tarpaulins and protective material such as rolls of plastic material can be used for covering supplies that cannot be stored inside containers or buildings.

AUTOMATED INFORMATION SYSTEMS

F-8. Conservation of limited supplies requires efficient stock control procedures. Medical logistics AIS' are available to assist in achieving the necessary degree of control. However, when these systems are employed, consideration must be given to the establishment of protected sites, alternate facilities, and hardening to reduce vulnerability. Only a limited number of computer facilities will be available and their protection is essential.

F-9. Where possible, all communications assets and hardware must be hardened against the electromagnetic pulse effects of a nuclear blast, and all units should have redundant data storage media and data storage locations. Further, at a minimum, MEDLOG managers must know the basics of operating a manual system as outlined in AR 710-2 and related publications. Dispersion among units is one of the best defenses against any type of CBRN attack; it reduces the possibility of the enemy delivering a *knock-out blow*. However, dispersion reduces coordination between units. It also increases distance between units, which in turn, hampers operational area security efforts. This increases the demand for concertina wire, barrier materials, and sandbags as units attempt to provide for a greater degree of security. Dispersion also lengthens lines of communications escalating delivery times and exposing convoys to more enemy attacks.

PHARMACEUTICALS AND BLOOD

F-10. Advanced planning for critical materiel is a key element of MEDLOG preparedness. Therefore, antidotes, pretreatments, therapeutics, barrier creams, blood and blood expanders must be made available before a CBRN event occurs. See FM 4-02.33, FM 4-02.283, FM 8-284, FM 4-02.285, and FM 4-02.7 for detailed information on essential pharmaceuticals. Regardless of the operational environment, blood and pharmaceuticals should have environmentally controlled warehouses or covered shelters to reduce the vulnerability to contamination. Host-nation agreements will play a large part in securing needed protection for these supply items.

F-11. Blood support operations in a chemical environment will be the same as in any other conflict. However, when personnel are placed in mission-oriented protective posture, the CBRN environment will have a detrimental impact on blood banking capabilities. All procedures may be performed until mission-oriented protective posture Level 4 is reached. After mission-oriented protective posture Level 4 is reached, procedures requiring intricate manual manipulations such as deglycerolizing, thawing, and crosshatching procedures will be difficult. Chemically-protected overwraps for the standard liquid blood shipping container are available (blood box liner, NSN 6530-01-325-4360) and should be used to cover all unprotected boxes of blood in the event of a possible CBRN attack.

MEDICAL EQUIPMENT MAINTENANCE

F-12. When a CBRN threat is present, medical equipment will be stored as identified in paragraph F-5 above. While the equipment is in storage, periodic checks/services must be performed on critical operating systems such as patient monitors, infusion pumps, ventilators, anesthesia machines, and lab equipment. All these systems are critical to patient diagnosis, treatment, and survival under any type of CBRN attack. Failure to perform these checks/services increases the risk of medical equipment failure at the most critical moment, initial emergency response to a CBRN incident.

F-13. Medical maintenance personnel will perform checks/services in a CBRN secured working environment in order to ensure the physical and clinical security and internal integrity of the medical equipment. All possibly contaminated medical equipment or equipment used in the actual treatment of a CBRN incident will be decontaminated internally and externally prior to being turned over to medical equipment maintenance personnel for services. Medical maintenance personnel will also program for an adequate number of MEDSTEP assets to support a CBRN incident and maintain a constant state of medical readiness. These MEDSTEP items will not be used for programmable expansion missions unless directed by the commander.

F-14. For more information concerning medical operations in a CBRN environment, refer to FM 4-02.7 and the US Army Center for Health Promotion and Preventive Medicine Technical Guide 244, CBRN Medical Battlebook.

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Glossary

SECTION I — ACRONYMS AND ABBREVIATIONS

2-D	two-dimensional
ABCA	American, British, Canadian, Australian, and New Zealand
ABCS	Army Battle Command System
AHS	Army Health System
AIS	automated information system
AJBPO	Area Joint Blood Program Office
AMEDD	Army Medical Department
AO	area of operations
APS	Army pre-positioned stocks
AR	Army regulation
ARFORGEN	Army force generation
ASCC	Army Service component command
ASL	authorized stockage list
ASMC	area support medical company
AWRS	Army War Reserve Sustainment
BAS	battalion aid station
BCS3	Battle Command Sustainment Support System
BCT	brigade combat team
BMSO	brigade medical supply office
BSMC	brigade support medical company
C	celsius
C2	command and control
CBRN	chemical, biological, radiological, and nuclear
CONUS	continental United States
COP	common operational picture
CRT	contact repair team
CSH	combat support hospital
DA	Department of the Army
DCAM	Defense Medical Logistics Standard Support Customer Assistance Module
DD	Department of Defense
DEPMEDS	Deployable Medical Systems
DHIMS	Defense Health Information Management System
DLA	Defense Logistics Agency
DMC	distribution management center
DMLSS	Defense Medical Logistics Standard Support
DOD	Department of Defense

DODAAC	Department of Defense Activity Address Code
DS	direct support
EA	Executive Agent
EAB	echelons above brigade
EBTC	Expeditionary Blood Transshipment Center (United States Air Force)
ESC	expeditionary sustainment command
FFP	fresh frozen plasma
FHP	force health protection
FM	field manual
FST	forward surgical team
FWB	fresh whole blood
GCC	geographic combatant command
GCSS	Global Combat Support System
GCSS-Army	Global Combat Support System-Army
GCSS-AV	Global Command Support System-Asset Visibility
GCSS (CC/JTF)	Global Combat Support System Combatant Command/Joint Task Force
GTN	Global Transportation Network
HHD	headquarters and headquarters detachment
HSS	health service support
ISO	International Organization for Standardization
ITV	in-transit visibility
JBPO	Joint Blood Program Office
JP	joint publication
JTF	joint task force
LBE	left behind equipment
LOGCAP	Logistics Civil Augmentation Program
MAC	maintenance allocation charts
MCDM	medical chemical defense materiel
MC4	Medical Communications for Combat Casualty Care
MCO	major combat operation
MEDBDE	medical brigade
MEDCOM (DS)	medical command (deployment support)
MEDLOG	medical logistics
MEDSTEP	Medical Standby Equipment Program
MER	medical equipment repairer
MES	medical equipment set
MHS	Military Health System
MLC	medical logistics company
MLMC	medical logistics management center
MLST	medical logistics support team
MMB	medical battalion (multifunctional)

MMS medical materiel set
MOS military occupational specialty
MRS medical resupply set
MTF medical treatment facility
NATO North Atlantic Treaty Organization
NSN national stock number
OCONUS outside the continental United States
OES optical equipment sets
OMC optical memory card
OTSG Office of The Surgeon General
P&D potency and dated
PMCS preventive maintenance checks and services
PMI patient movement items
PMITS Patient Movement Item Tracking System
RBC red blood cells
RCHD Reserve Component Hospital Decrement
RF radio frequency
RFID radio frequency identification
Rh rhesus
RSOI reception, staging, onward movement, and integration
S-1 personnel staff officer
S-2 intelligence staff officer
S-3 operations staff officer
S-4 logistics staff officer
SALE Single Army Logistics Enterprise
SB supply bulletin
SIMLM single integrated medical logistics manager
SSA supply support activity
STANAG standardization agreement
TAMMIS Theater Army Medical Management Information System
TAV total asset visibility
TDA table of distribution and allowances
TLAMM theater lead agent for medical materiel
TM technical manual
TMDE test, measurement, and diagnostic equipment
TOE table of organization and equipment
TSC theater sustainment command
TSG The Surgeon General
UA unit assemblage
UDP unit deployment package
US United States

USAF	United States Air Force
USAMC	United States Army Materiel Command
USAMEDDC&S	United States Army Medical Department Center and School
USAMEDCOM	United States Army Medical Command
USAMMA	United States Army Medical Material Agency
USAMRMC	United States Army Medical Research and Materiel Command
USTRANSCOM	United States Transportation Command

SECTION II — TERMS

Army Health System

(Army) A component of the Military Health System that is responsible for operational management of the health service support and force health protection missions for training, predeployment, deployment, and postdeployment operations. Army Health System support includes all mission support services performed, provided, or arranged by the Army Medical Department to support health service support and force health protection mission requirements for the Army and as directed, for joint, intergovernmental agencies, coalitions, and multinational forces. (FM 1-02)

force health protection

(joint) Measures to promote, improve, or conserve the mental and physical well-being of service members. These measures enable a healthy and fit force, prevent injury and illness, and protect the force from health hazards. (JP 1-02) (Army) Force health protection encompasses measures to promote, improve, conserve or restore the mental or physical well-being of Soldiers. These measures enable a healthy and fit force, prevent injury and illness, and protect the force from health hazards. These measures also include the prevention aspects of a number of Army Medical Department functions (preventive medicine, including medical surveillance and occupational and environmental health surveillance; veterinary services, including the food inspection and animal care missions, and the prevention of zoonotic disease transmissible to man;combat and operational stress control; dental services [preventive dentistry]; and laboratory services [area medical laboratory support]) (FM 1-02).

health service support

(joint) All services performed, provided, or arranged to promote, improve, conserve, or restore the mental or physical well-being of personnel. These services include, but are not limited to the management of health services resources, such as manpower, monies, and facilities; preventive and curative health measures; evacuation of the wounded, injured, or sick; selection of the medically fit and disposition of the medically unfit; blood management; medical supply, equipment, and maintenance thereof; combat and operational stress control and medical, dental, veterinary, laboratory, optometry, nutrition therapy, and medical intelligence services. (JP 1-02) (Army) Health service support encompasses all support and services performed, provided, and arranged by the Army Medical Department to promote, improve, conserve, or restore the mental and physical well-being of personnel in the Army. Additionally, as directed, provide support in other Services, agencies, and organizations. This includes casualty care (encompassing a number of Army Medical Department functions—organic and area medical support, hospitalization, the treatment aspects of dental care and behavioral /neuropsychiatric treatment, clinical laboratory services, and treatment of chemical, biological, radiological, and nuclear patients), medical evacuation, and medical logistics. (FM 1-02)

installation medical supply activity

In the continental United States, the installation medical support activity is the supply support activity for medical materiel for an installation or geographic area. Outside the continental United States, it is normally the primary supply support activity for medical materiel for a designated geographic area.

in-transit visibility

(joint) The ability to track the identity, status, and location of Department of Defense units and nonunit cargo (excluding bulk petroleum, oils, and lubricants) and passengers; patients; and personal property from origin to consignee or destination across the range of military operations. (JP 4-01.2)

***Medical Standby Equipment Program**

This program includes end items, components, or assemblies used to support activities with serviceable items when the primary item is unserviceable and is economically repairable (previously called operational readiness float).

patient movement items

(joint) Medical equipment and supplies required to support a patient during evacuation. The patient movement items accompany a patient throughout the chain of evacuation from the originating facility to the destination treatment facility. (JP 4-02)

total asset visibility

(Army) Total asset visibility provides the capability for both operational and logistics managers to obtain and act on information on the location, quantity, condition, movement, and status of assets throughout the Department of Defense's logistics system. Total asset visibility includes all levels and all secondary items, both consumable and reparable. (FM 4-0)

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