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ARMY MEDICAL INFORMATION MANAGEMENT

TACTICS, TECHNIQUES, AND PROCEDURES

HEADQUARTERS, DEPARTMENT OF THE ARMY

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PREFACE

This publication establishes Army medical information management (AMIM) procedures and discusses relevant terminology, information technology, and communication systems. These procedures, technology and systems are all a part of the delivery of health service support (HSS) operations. In theater, commanders, information managers, technology managers, HSS planners, surgeons, physician assistants (PAs), other medical officers, and medical enlisted personnel may use this publication. It supplements all Field Manual (FM) 4-02-series and FM 8-series publications but primarily FMs 4-02 and 8-55. It provides tactics, techniques, and procedures (TTP) for AMIM that supports all HSS operations.

Further, this publication establishes the foundation and architectural design for AMIM operations in a theater of operations (TO) at Levels I—IV, through the sustaining base Level V. It addresses a commander's critical information requirement (CCIR).

See Appendix A of this manual for information explaining the medical units/elements information management (IM) and communication capabilities throughout Levels I—IV under the Army of Excellence (AOE). It is also important that the reader become familiar with those communication capabilities, equipment, and the AOE information systems (INFOSYS). Information concerning the INFOSYS and their capabilities is in Appendix B.

This publication is in concert with offensive and defensive information operations (IO) discussed in Joint Publication (JP) 3-13, Army Regulation (AR) 25-1, and FMs 100-6 and 3-13. Further, this publication discusses the synergy of AMIM across the continuum of all military operations. This FM starts with the trauma specialist (formerly referred to as the combat medic) at Level I and discusses the trauma specialist's communication needs and information capabilities from his location with a maneuver element. Each successive chapter discusses what the HSS AMIM communication assets and capabilities are for all the medical units/elements at each level; what their requirements are; who manages the information data from one level to the next; and which INFOSYS is used to disseminate information data from each level. It discusses required procedures; who is responsible for ensuring that information is moved, and how information is passed vertically or horizontally in a TO. This publication identifies all of the medical INFOSYS used throughout all levels of care for AOE, Force XXI, and the Stryker Brigade Combat Team (SBCT) (Appendix A). The publication also discusses:

- Near term technology (Appendices B and C).

- Information management roles from the Office of The Surgeon General (OTSG) level down to the nondigitized and digitized units/elements (Appendix D).

- Enablers (signals and communications systems) that allow for communications for the nondigitized and digitized medical units (Appendix A and B).

- Theater Medical Information Program (TMIP) (Appendix C).

Medical IM is a command responsibility. It is executed under the direction of the organization's information manager as delegated by The Surgeon General (TSG) under the one-staff concept (see Appendix D). Information management procedures and INFOSYS collect, process, store, display, and disseminate data and information. Information management is the scientific portion of command and control (C2). It provides structure through which to communicate. Information management transforms raw information data into usable information so decision-making can occur. The INFOSYS allows for the implementation of those decisions, based on facts, into action using two forms of control—INFOSYS and relevant information.

While IM techniques may assist a commander in making decisions and leading, they are not sufficient to accomplish missions. Management, as stated above, is inherent in C2, but it lacks extensive authority and responsibility in command. Information management is essential to determining critical information, routing information rapidly and accurately, processing information to transform it into knowledge, and disseminating information in a timely manner to lessen confusion that can occur during operations. The Assistant Surgeon General (ASG) for Force Sustainment serves as the principal staff officer for information for HSS (see Appendix D for a complete review). Future INFOSYS ultimately interface with all command communications systems in the continuum of military operations in any environment. Digitization of the Army presents a unique challenge for the future force. The spiral-like development and streamlined acquisition of computer hardware and software have rapidly exceeded the Army Medical Department's (AMEDD's) ability to logistically support these systems. Not only is the AMEDD building the automation support for the fully digitized Force XXI and the SBCT, it is also designing the objective force for the future.

The proponent of this publication is the United States (US) AMEDD Center and School (AMEDDC&S). Comments and recommendations should be forwarded directly to **Commander, AMEDDC&S, ATTN: MCCS-FCD-L, 1400 East Grayson Street, Fort Sam Houston, Texas 78234-5052,** or at e-mail address: Medicaldoctrine@amedd.army.mil.

This publication implements or is in consonance with American, British, Canadian, and Australian (ABCA) Quadripartite Standardization Agreement (QSTAG) 2026, Principles and Procedures for Tracing and Tracking Personnel in an ABCA Coalition Force.

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

The use of trade or brand names in this publication is for illustrative purposes only and does not imply endorsement by the Department of Defense (DOD).

The AMEDD is in a transitional phase with terminology. This publication uses the most current terminology; however, other FM 4-02-series and FM 8-series may use older terminology. Changes in terminology are a result of adopting the terminology currently used in the joint, and/or North Atlantic Treaty Organization (NATO), and ABCA Armies publication arenas. Therefore, the following terms are synonymous—

- Health service support and combat health support.
- Health service logistics (HSL) and combat health logistics.
- Levels of care, echelons of care, and roles of care.

CHAPTER 1

ARMY MEDICAL INFORMATION MANAGEMENT

1-1. General

Advancements in technology have expanded the scope and capabilities of military forces. Information management and information technology (IT) are key elements for maintaining an effective medical force in a contiguous and noncontiguous area of operations (AO). Integrating both digital and analog medical units will be critical to the success of any HSS mission. Digital C2 systems bring a dramatic increase in the level of situational understanding (SU) units may achieve. They can significantly speed the process of creating and disseminating orders, allow for extensive databasing of information, and increase the speed and fidelity of coordination and synchronization of battlefield activities. At the same time, achieving the full potential of these systems requires extensive training, a high level of technical proficiency by both operators and supervisors, and the disciplined use of detailed standard operating procedures (SOPs). Communications planning and execution to support the digital systems is significantly more demanding and difficult than is planning for units primarily relying on frequency-modulated (FM) and mobile subscriber equipment (MSE) communications.

a. Whether to use FM radio or digital means for communications is a function of the situation and SOP. Even though both systems are critical for effective C2 at the battalion level, the FM radio remains the primary method for control at battalion level and below during operations, with additional support from the SU display provided by Force XXI Battle Command Brigade and Below System (FBCB2). There are limitations that commanders must recognize for units/elements not equipped with FBCB2, especially reserve and guard.

b. This chapter discusses the impact of these changes with regards to digitization, new technology and the integration of Army medical information with the Army's information operations; and briefly discusses how the AMEDD manages medical information in a global environment.

c. The remainder of this manual discusses the AMIM from Level I through Level V. It concentrates on two force structures: Force XXI and SBCT. Information networks are changing to pass medical information more efficiently. These systems allow the flow of medical information through various levels to be transmitted from the trauma specialist to continental United States (CONUS), if necessary.

1-2. Army Medical Information Management

In order to conduct full dimension operations, the processing of information and the INFOSYS used in the delivery of that information requires careful coordination and synchronization. The management of information takes on increasing importance in meeting challenges of global operations as IT continues to change and impact HSS in a global medical information environment (see FM 3-13).

a. Army medical information management is critical to the success of HSS operations. Information technology permits the horizontal (across a level of care) and vertical (between levels of care) movement of information. This information provides input to a commander's decision-making process, potentially improving C2. See Appendix B for a complete discussion of current INFOSYS (hardware and software) which will be used in achieving AMIM throughout all levels of care.

b. As forces disperse on the battlespace, lines of communication (LOC) lengthen, requiring forces to act with greater autonomy. Units/elements dispersal may result in decentralized decision authority and an increased requirement for coordinated and synchronized efforts. As SU increases, nominal span of control is increased and the overall SU becomes more difficult. All of this requires a sophisticated INFOSYS. It becomes more important that the commanders share, manage, and move information rapidly among organizations.

c. Army medical information management enables effective planning, preparing, decision-making, and execution of mission objectives. The HSS information management infrastructure within HSS will be dictated by signal priorities within the theater and will be controlled by the warfighter commander. It should serve to eliminate duplication of efforts and unnecessary redundancy. The INFOSYS will deal with time-sensitive, relevant information as well as trivial routine information (see FM 3-13). As vast and complex as INFOSYS are, individual units have the capability to manage connectivity among their organic assets. The difficulty comes in maintaining connectivity outside of the unit, particularly when linked with joint and combined forces using perhaps incompatible communications equipment and INFOSYS.

1-3. Integrating Digital and Analog Units

It will be several years before the majority of the Army is digitally equipped. That fact does not escape HSS. Even then, it is completely possible that the digital force will operate with medical units/elements without digital equipment, especially in joint or coalition operations. The units most likely to still be analog are National Guard, Army Reserve, light forces, corps artillery, and corps-level HSL units with whom the digital force and its battalions will operate. This will require that integrating digital with analog units is essential for the SBCT.

a. The FM radio and MSE are the primary communications mediums with the analog medical units/elements.

b. Hard copy orders and graphics are required.

c. The battalion surgeon staff must recognize that integrating an analog unit/element into a digital force requires the retention of most of the analog control techniques. In essence, two control systems must remain in operation with particular attention to keeping the analog unit apprised of all pertinent information that flows digitally.

1-4. Army Medical Information Management Operations

The increased range and lethality of weapons systems, faster tempo, shorter decision cycles, and extended battlespace to include an electromagnetic spectrum will serve to increase confusion and the volume of information. The key to achieving SU and avoiding information overload is identifying relevant information and filtering out distractions.

a. To support the fast-paced battlespace that technology allows, the medical elements have interoperable communications and will share medical information within the scope of the HSS system in any operational environment.

b. The HSS communications systems and digital connectivity in theater must be capable of reading across other Army, joint, host nation, coalition forces, and other governmental agencies and to the CONUS. To support the fast-paced battlespace, the joint medical community must have interoperable and secure communications. The INFOSYS must be capable of transmitting large amounts of information quickly and accurately with all of the imported and supporting units/elements.

CHAPTER 2

ARMY MEDICAL INFORMATION MANAGEMENT FOR THE DIGITIZED BATTALION

2-1. General

This chapter discusses the medical elements within Level I and how they communicate with supporting medical elements from Level II; the communications capabilities of all of the medical functions for both the Force XXI and the digitized force INFOSYS, and networks incorporated at Level I.

2-2. Information Management for the Medical Platoon

All computers will be set to Zulu time in the contiguous and noncontiguous AO. In the event of communications failure or nonavailability, all medical data (at all levels) is transported via the most expeditious means possible. All medical units/elements develop SOPs for continuation of operations, regular backup of local databases (LDB), and purging of unneeded medical data from all Medical Communications for Combat Casualty Care (MC4) computers. (See Figure 2-1.)

a. The medical platoon has three treatment teams versus the two treatment teams fielded in the analog (nondigitized) AOE units and elements (see Appendix A). The digitized medical platoon has one more PA and three more health care specialists than the AOE medical platoon.

b. The battalion surgeon has a FBCB2 tactical computer that is linked through the tactical radio, voice only Single-Channel Ground and Airborne Radio System (SINCGARS) to the data only Enhanced Position Location Reporting System (EPLRS).

c. Refer to Appendix B for a complete discussion of this equipment. The FBCB2 is to be used for requesting medical evacuation (MEDEVAC) requests for casualties in both Force XXI and digitized tables of organization and equipment (TOE) (contiguous and noncontiguous AO) organizations.

(1) The FBCB2 is a digitized battle command INFOSYS that provides on-the-move, real-time and near-real-time battle command information to combat, combat support (CS), and combat service support (CSS) leaders and soldiers. (See Appendix B.)

(2) The EPLRS is a high-speed radio system capable of carrying FBCB2 data to the brigade surgeon, the Adjutant (US Army) (S1), and the Supply Officer (US Army) (S4).

d. The platoon headquarters operates the platoon net control station (NCS). Approaching air ambulances use this net for patient pickup.

(1) When treatment squads/teams of the medical company/troop are deployed in direct support (DS), or are attached to the supported battalion aid station (BAS), they normally operate on the medical operations net of the supported BAS.

(2) The treatment squads/teams must be provided appropriate signal operating instructions (SOI) for support operations.

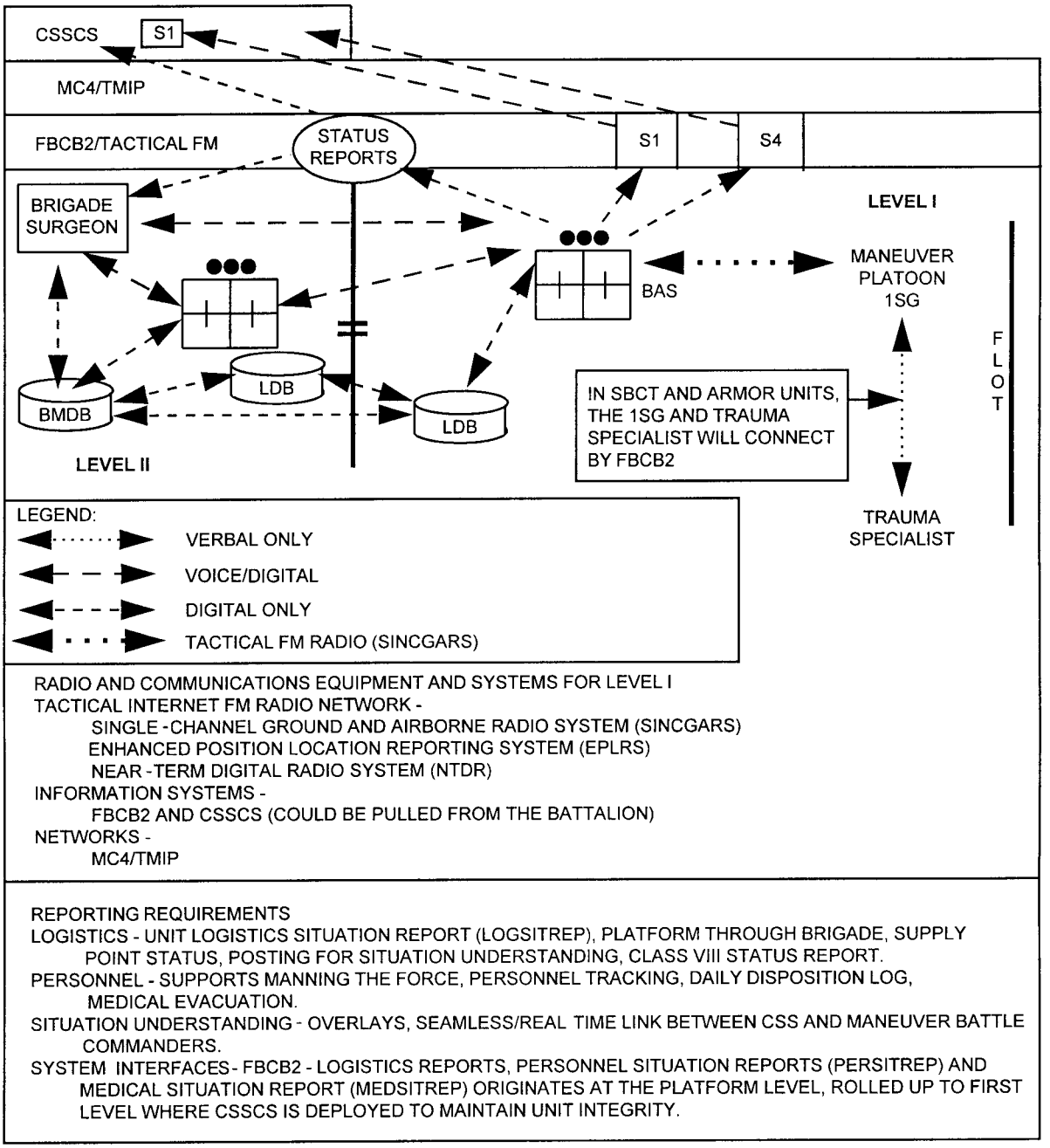


Figure 2-1. Information systems and reporting requirements in Level I.

e. The medical platoon under the digitized force structure consists of—

(1) *Headquarters section.* Under the direction of the medical platoon leader, this section provides for the command, control, and communications (C3) for the platoon. The headquarters section will have access to notebook computers and printers. (See Figure 2-2.)

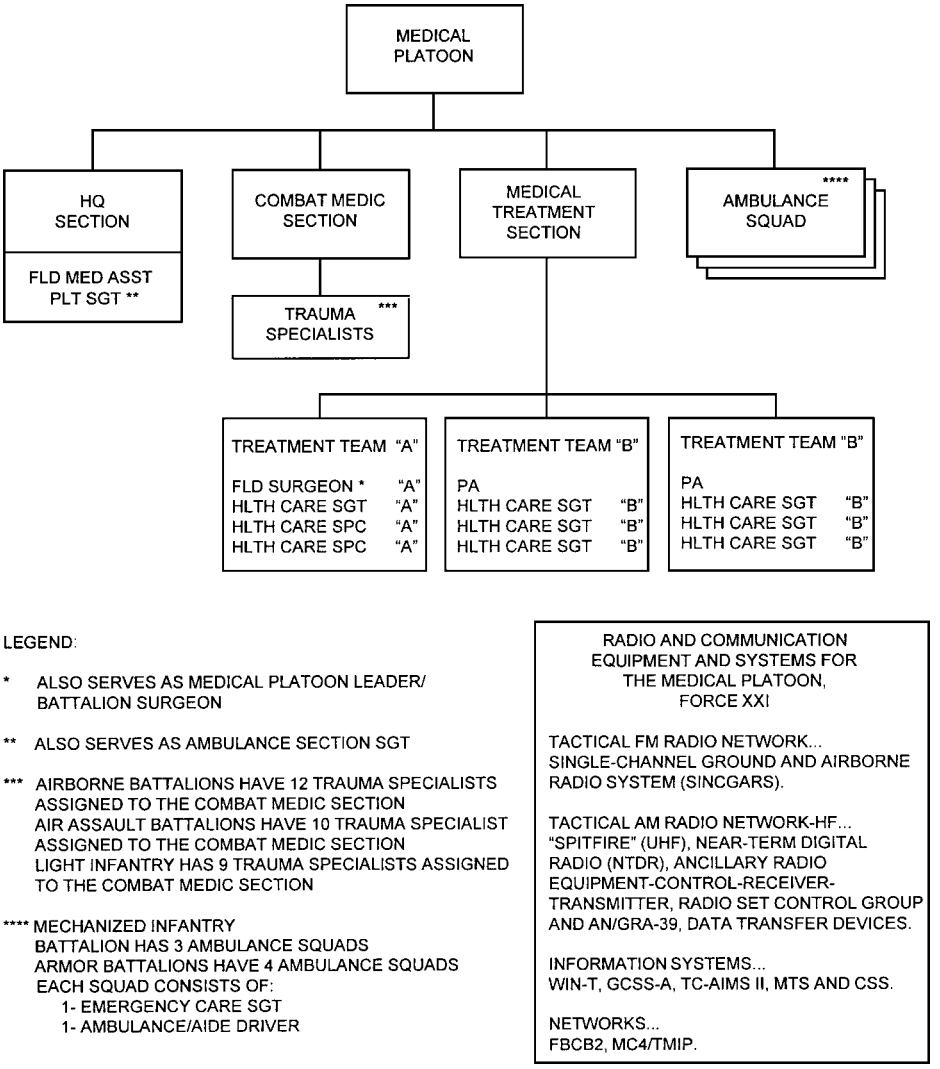


Figure 2-2. The medical platoon under the digitized organizational design.

(*a*) The field medical assistant and the platoon sergeant man the headquarters. The headquarters section is normally collocated with the treatment squads at the BAS. The medical platoon has access to the battalion wire communications network. Wireless communications for this section consists of a tactical FM radio mounted in the platoon headquarters vehicle and serves as the NCS for the platoon (see Appendix B). The medical platoon headquarters section is under the direction of the battalion surgeon and is collocated with the BAS. The headquarters section provides the C3 (through the use of a FM tactical radio) for the medical platoon. The platoon has access to the battalion Area Common User System (ACUS) communications network for communications with all major elements of the battalion and with supporting units in the battalion area.

1. The medical platoon leader is responsible for the—

- Location of the forward treatment site (BAS).

- Ground and air MEDEVAC routes.

- Ambulance exchange points (AXP), and forward casualty collection points (CCP).

2. The battalion surgeon communications responsibilities and communications assets:

- The field medical assistant coordinates HSS operations with the battalion Operations and Training Officer (US Army) (S3) and the S4 using the battalion wire net.

- Patient evacuation is also coordinated with the supporting medical company using a FM tactical radio. The FM tactical radio is normally deployed as the medical platoon's operations net.

3. The medical platoon sergeant—

- Supervises the operations of the medical platoon.

- Prepares reports and requests general supplies as well as medical supplies.

- Advises on supply economy procedures and maintains authorized stockage levels of expendable supplies.

4. The BAS—

- Elements (treatment teams and evacuation teams) use the administrative/logistics net.

- Is under the operational control of the medical platoon leader.

- May operate in a split-team mode for limited periods of time.

- Stabilizes patients requiring further evacuation and returns to duty all other patients as soon as possible.

5. The BAS AMIM functions include—

- Receiving and reporting patient administration data for all patients treated at the medical treatment facility (MTF). The patient administration data is received and reported by messenger with hard media backup files by using the battalion wire communications, administrative/logistics net, or FM radio.

- Providing notification of all patients processed through the BAS to the S1 and battalion surgeon giving identification and disposition of patients.

- Preparing the Department of Defense (DD) Form 1380, US Field Medical Card (FMC), as required for all patients.

- Verifying information contained on the FMC for all patients evacuated to the BAS.

- Requesting MEDEVAC of patients from the forward support medical company (FSMC) by using the tactical FM radio net and/or using ambulance drivers as messengers, if necessary.

6. Within Level I, the medical platoon submits requests for HSL support to the supporting FSMC in the brigade area, transmitting these requests by tactical FM radio or by using messengers. Requests for items not available at the FSMC are forwarded to the division support command (DISCOM) medical materiel management branch (MMMB).

(*b*) Supplies and/or resupply to the BAS are transported directly from the FSMC by ground ambulances, or directly by throughput from corps.

(*c*) Medical resupply may also be by preconfigured Class VIII packages throughput from the medical logistics (MEDLOG) battalion in the corps. Each medical platoon maintains a 2-day (48-hour) stockage of medical supplies. In a tactical environment, the emergency medical resupply (ambulance backhaul) system is used. In this environment, medical supplies are obtained informally and as rapidly as possible, using any available medical transportation assets.

(*d*) Medical evacuation requests are made through the MEDEVAC request, where available, on FBCB2. Where FBCB2 is not available, evacuation requests are made via radio (tactical FM radio) or landline.

(*e*) Medical evacuation notification is made by the BAS to the battalion S1 via FBCB2, landline, or radio.

(*f*) All medical encounter data for each patient is downloaded to a disk/hard media (floppy disk, Zip® disk, tape, and so forth) and transported to the next MTF. Medical documentation (FMC or the Standard Form [SF] 600, Health Record—Chronological Record of Medical Care) for a casualty from the trauma specialist or emergency care specialist accompanies that casualty as he is evacuated.

(*g*) Class VIII resupply requests by the headquarters section use digital transmission—Defense Medical Logistics Standard System—Assemblage Management (DMLSS-AM), MC4/TMIP, FBCB2, or the tactical radio. In the absence of electronic means, requests may be written or saved on a floppy disk and sent to the FSMC via courier.

(*h*) The medical platoon manages their assemblages using DMLSS-AM. As head-quarters section receives Class VIII requests, they are filled from medical platoon stocks.

(*i*) The medical platoon manages the LDB by using a laptop computer. Medical data collected from other computers within the medical platoon are saved to the notebook laptop computer that

serves as the LDB, and then downloaded to the interim theater database (ITDB) in the brigade support area (BSA) per SOP.

(*j*) Local database backups are performed in accordance with (IAW) SOP and sent to the battalion Communications Staff Officer (US Army) (S6).

(*k*) For administration, a notebook laptop computer serves as the LDB for the BAS. Medical data is collected from the other BAS computers, stored on the LDB, and then sent to the ITDB as well as to each of the command surgeon databases.

(*l*) The unit mission application administrator (MAA) and mission application users (MAU) perform a daily backup of the BAS LDB. The backup is stored at the battalion S6, not at the medical platoon level.

(*m*) Security. The battalion S6 assigns passwords and roles. System rights depend on the user's role.

(*n*) Network.

1. Internal. The BAS notebooks connect to the battalion local area network (LAN).

2. External. Data sent to the ITDB and the various command surgeon databases are only sent from the BAS LDB.

(2) *The combat medic section.* Trauma specialists are allocated on a basis of one trauma specialist per maneuver platoon and a senior health care sergeant per each company. The combat medic section assigns trauma specialists to support the maneuver companies and their subordinate platoons. The platoon trauma specialist positions himself near the element leader trailing the base squad forward of the second team. The company trauma specialist normally collocates with the unit's/element's first sergeant (1SG). The individual platoon trauma specialist does not have dedicated two-way communications equipment in Level I under Force XXI.

(*a*) The trauma specialist must rely on the maneuver platoon radio operator to communicate with the company trauma specialist through the unit's 1SG. The information requirements for the trauma specialist supporting the maneuver platoon include—

- Requesting MEDEVAC support.
- Requesting medical resupply.
- Requesting augmentation or reinforcement.
- Reporting patient treatment information.

(*b*) The trauma specialist will use the FMC for documenting all emergency treatment for a patient. All entries will be made by hand. Patient data generated by the trauma specialist will accompany the casualty during MEDEVAC. The FBCB2 MEDEVAC and text messages, where available, will be used to advise the BAS of the need for a MEDEVAC and any special requirements. Where FBCB2 is not available, the evacuation request will be transmitted via tactical voice radio.

1. Sick call documentation of patient encounter data will be written to the FMC or SF 600. Completed documentation will be transported to the BAS by the ambulance team or other vehicles, as they are available.

2. For Class VIII resupply the trauma specialist requests resupply through the 1SG/company trauma specialist. However, the trauma specialist will use FBCB2, where available, to request Class VIII from the BAS. Where FBCB2 is not available, resupply requests will be verbal or handwritten requests made by the trauma specialist to the emergency care specialist (ECS). Whenever possible, the ECS will resupply the trauma specialists from the medical supplies carried on the evacuation vehicles.

NOTE

Trauma specialists assigned to units that do not have a treatment team (such as engineer companies) will send their emergency and sick call patient encounter data to the BAS that will provide area medical support. When their unit moves into an area, the trauma specialist will notify the supporting BAS and identify their medical support requirements.

3. The request may be made through the maneuver platoon radio operator, verbally and/or in writing, to the supporting ground ambulance driver. The trauma specialist must be able to request MEDEVAC (to include aeromedical evacuation) in a timely manner. Once the trauma specialist determines his evacuation requirements, he notifies the maneuver platoon radio operator of his requirements. (The ground ambulance driver serves as a messenger in medical channels when required. Refer to FM 8-10-6 for additional information.)

4. If the maneuver platoon trauma specialist is wounded or killed, or is faced with a mass casualty situation, a request for reinforcement, augmentation, or replacement is made through the maneuver platoon radio operator to the company 1SG/company trauma specialist.

- The company's senior trauma specialist must have a SU of the battle as it unfolds, so he may—
  - Direct forward-sited MEDEVAC platforms to the platoons requiring support.
  - Reallocate resources to stay abreast of the changing tactical situation.

- Request replacement, augmentation, or reinforcement, as required from the BAS.

- Monitor the company CCP.

NOTE

When the trauma specialists are not issued voice communications equipment, all communications with the BAS is passed from the trauma specialist to the platoon 1SG (FM 4-02.4).

- The trauma specialist uses the FMC to document patient treatment. All entries are made by hand. Patient data generated by the trauma specialist accompanies the casualty during MEDEVAC. The FBCB2 MEDEVAC and text messages, where available, are used to advise the BAS of the need for a MEDEVAC and any special requirements. Where FBCB2 is not available, the evacuation requests are transmitted via voice radio.

- Patient encounter data is written on the FMC or SF 600. Completed documentation is transported to the BAS by the ambulance team or other vehicles, as they are available.

NOTE

Trauma specialists assigned to units that do not have a treatment team (such as engineer companies) send their emergency and sick call patient encounter data to the BAS that provides area medical support. When their unit moves into an area, the trauma specialist notifies the supporting BAS and identifies their medical support requirements.

(3) *Medical treatment section*. The medical platoon's medical treatment section is the basic treatment element of the BAS. For communications, each treatment team uses a FM tactical radio and is deployed in the medical platoon's operations net. Under certain tactical conditions, the battalion S4 may require BAS elements to use the S4 net. There are three treatment teams in the digitized medical battalion; they are the basic medical treatment elements of the BAS and provide medical treatment and care at Level I. Patient encounter information that is collected and collated by the treatment teams is transmitted to the LDB. The maneuver platoon's radio operator notifies the maneuver platoon's 1SG to request MEDEVAC. If dedicated MEDEVAC assets are unavailable, the maneuver platoon's 1SG may advise the trauma specialist to use any available transportation platform to perform casualty evacuation. (For an in-depth discussion on the differences between casualty evacuation and MEDEVAC, refer to Joint Pub 4-02.2 and FM 8-10-6.)

(*a*) As a patient is treated, his information is entered into the daily disposition log and patient medical records are maintained IAW AR 40-66.

(*b*) Medical treatment records for patients being evacuated accompany the patient to the next MTF in the form of written or digital media.

(*c*) All patient encounter data saved on the treatment section notebook computers are purged on a regular basis, per the unit SOP, once the data has been transferred to the medical platoon LDB.

(4) *The ambulance section*. The ambulance section provides ground evacuation within the battalion. Ambulance teams provide MEDEVAC and en route medical care from the soldier's point of injury or company CCP to the BAS.

(*a*) En route documentation. The emergency care specialist documents en route care on the FMC.

(*b*) Data transportation. The trauma specialist transfers patient encounter data to the receiving emergency care specialist.

(*c*) Sick call. Sick call data transfer procedures are the same as (*b*) above.

(*d*) Patient encounter data. All patient encounter data generated or collected is transferred to the BAS LDB.

2-3. Army Medical Information Management under the Stryker Brigade Combat Team Organizational Design

a. Level I Under the Stryker Brigade Combat Team Organizational Design. The basic structure of the medical platoon is identical to that described under the Force XXI design at this Level of care. In addition to the information elements discussed in paragraph 2-1 and the information capabilities discussed under the Force XXI organizational design, the SBCT incorporates an electronic information carrier (EIC) to be used to record the individual soldier's most current medical status. When fully fielded under MC4/ TMIP, each soldier deployed within the SBCT is issued an EIC that contains all predeployment medical data.

b. Electronic Information Carrier. This enabler is an electronic device that stores personal medical information about the individual soldier. Each time a soldier receives medical care, the information is recorded on the EIC allowing the soldier to have his most current medical information on his person. When fielded, the medical data stored on the EIC is transferred to the LDB. The LDB forwards all medical information on a prescribed timetable (per theater SOP) to the ITDB. The ITDB, under regulatory guidelines, forwards the medical data out of theater and ultimately to the Clinical Data Repository. During processing for deployment, the medical staff is able to read off the soldier's digital medical information—immunizations, medical, and dental history—directly from the device, greatly speeding up the process.

Once in the operational theater, the soldier's EIC serves as one source for the medical events that occur during the deployment.

2-4. Generating Medical Data on the Automated Patient Record

Any medical data generated for an individual is to be entered onto the MC4/TMIP INFOSYS personal automated patient record. The following discussion illustrates how the MC4/TMIP system is to be applied in an operation involving the Force XXI and SBCT.

a. When a soldier is wounded, the soldier himself, a buddy, or a combat lifesaver (CLS) may administer first aid.

b. If the soldier needs further treatment, it is here that the casualty first encounters the MC4/TMIP system capability of the trauma specialist equipped with the Type I handheld personal digital assistant (PDA) computing device (being fielded now, see Appendix B). The PDA is capable of reading the casualty's personal automated patient record. After the trauma specialist provides any medical treatment to the casualty, this care is recorded on the personal automated patient record. Where communications assets allow, information is transmitted to the supporting BAS or supporting brigade clearing station in Level II.

c. If the patient's injuries or illness require treatment beyond the trauma specialist's abilities, the trauma specialist notifies the maneuver platoon radio operator. The radio operator then relays the request for support/evacuation using the FBCB2 to the company's 1SG.

d. The 1SG dispatches an ambulance to the casualty's location, or if necessary (in mass casualty situations) to a CCP for evacuation to the BAS or to a higher level of medical care.

CHAPTER 3

ARMY MEDICAL INFORMATION MANAGEMENT IN THE DIGITIZED BRIGADE

3-1. General

This chapter concentrates on the communications capabilities, medical reporting, and information moved within the digitized medical units and elements in Level I and II.

3-2. The Digitized Force

The digitized force includes both Force XXI and the SBCT designed organizations. The Army's Force XXI Division represents a leap forward into the realm of 21st Century technology. The smaller Force XXI Division possesses greater lethality, quicker mobility as well as the CSS imperative of SU. Real time SU means a complete, common relevant picture (CRP) of the battlefield for every commander. This information enables Force XXI commanders to quickly mass forces, allowing this division to defeat a larger, but less technologically advanced enemy.

a. The CSS structure's capability to project, receive, and support this force will directly impact the effectiveness of future military operations. The Force XXI battlefield imposes new challenges on support functions and leaders, as it calls for independent logistical systems and procedures. Using the Force XXI enhanced digital logistical awareness and forecasting capabilities, CSS leaders at all levels must provide the foresight and responsiveness necessary to anticipate and maintain the division's operations tempo (OPTEMPO). Force XXI logistics will require new organization, new doctrine, as well as advanced distribution equipment and IT. The Force XXI organizational structures reflect a paradigm shift from a supply-based CSS system in AOE (see Appendix A) to an advanced distribution-based CSS system for Force XXI. Technology enhances this capability.

b. Medical units under the Force XXI and SBCT design have the same types of communications equipment and IO capabilities. The SBCT is an early entry force. It may be deployed as part of a Joint Task Force (JTF) or under an Army headquarters. At the brigade level both Force XXI and SBCT medical staffs and units have similar capabilities.

3-3. Brigade Surgeon Section, Level II

The brigade surgeon section (BSS) is responsible for consolidating all medical requests and reports, coordinating and conducting brigade HSS operations. The BSS is assigned to the brigade headquarters and headquarters company and operates out of the brigade main contiguous and noncontiguous AO. The BSS is comprised of a surgeon cell and a medical plans operations cell (see FM 3-90.3 and FM 4-02.21).

a. *Brigade Surgeon Section Communications Assets*. The following communications assets are available:

- Single-Channel Ground and Airborne Radio System.

- Enhanced Position Location Reporting System.
- Digital nonsecure voice terminal (DNVT).
- Mobile Subscriber Equipment facsimile (FAX); one tactical local area network (TACLAN) Weather System (WS).
- Local Area Net router.
- Force XXI Battle Command Brigade and Below System computer.

b. Evacuation Requirements Support. The brigade surgeon section will monitor patient evacuations within the brigade using FBCB2. As needed, the brigade surgeon will direct shifting the FSMC/brigade support medical company (BSMC) ambulances to support evacuation requirements within the brigade.

3-4. Brigade Surgeon

Under the digitized organizational design, the brigade surgeon has access to the tactical radio (FBCB2), the MC4/TMIP, Battle Command Sustainment Support System (BCS3), and the Movement Tracking System (MTS) as the main sources of communication networks (see Figures 3-1 and 3-2). These systems are to be fielded within the brigade support battalion (BSB)/forward support battalion (FSB) for CSS situational understanding. They allow for the centralized management and distribution of Class VIII. The BSS establishes communication with all medical units and elements operating within the brigade area.

a. The brigade surgeon will have a notebook computer that will serve as the brigade medical database (BMDB). The brigade surgeon will monitor the BMDB for medical trends and medically significant events.

b. For MEDEVAC, requests will be made through the MEDEVAC on FBCB2. Where not available MEDEVAC requests will be made via tactical radio or landline.

(1) Medical evacuation notification will be made by the division support medical company (DSMC) to the brigade S1 via FBCB2, landline, or tactical radio.

(2) The BSS shares communication assets with the brigade Intelligence Officer (US Army) (S2/S3). The BSS maintains communications with medical functions supporting the maneuver brigade through its amplitude-modulated (AM)/FM radios. The BSS may also use the FSMC command net for brigade-wide medical communications. Situational understanding is monitored using the FBCB2 and by personal contact with other brigade staff elements.

c. The following is a listing of reports generated within the BSS that are generated at brigade and below level for disposition within the battalion. The report forms are depicted graphically in Appendix G. See Figure 3-3 (page 3-5) for information flow.

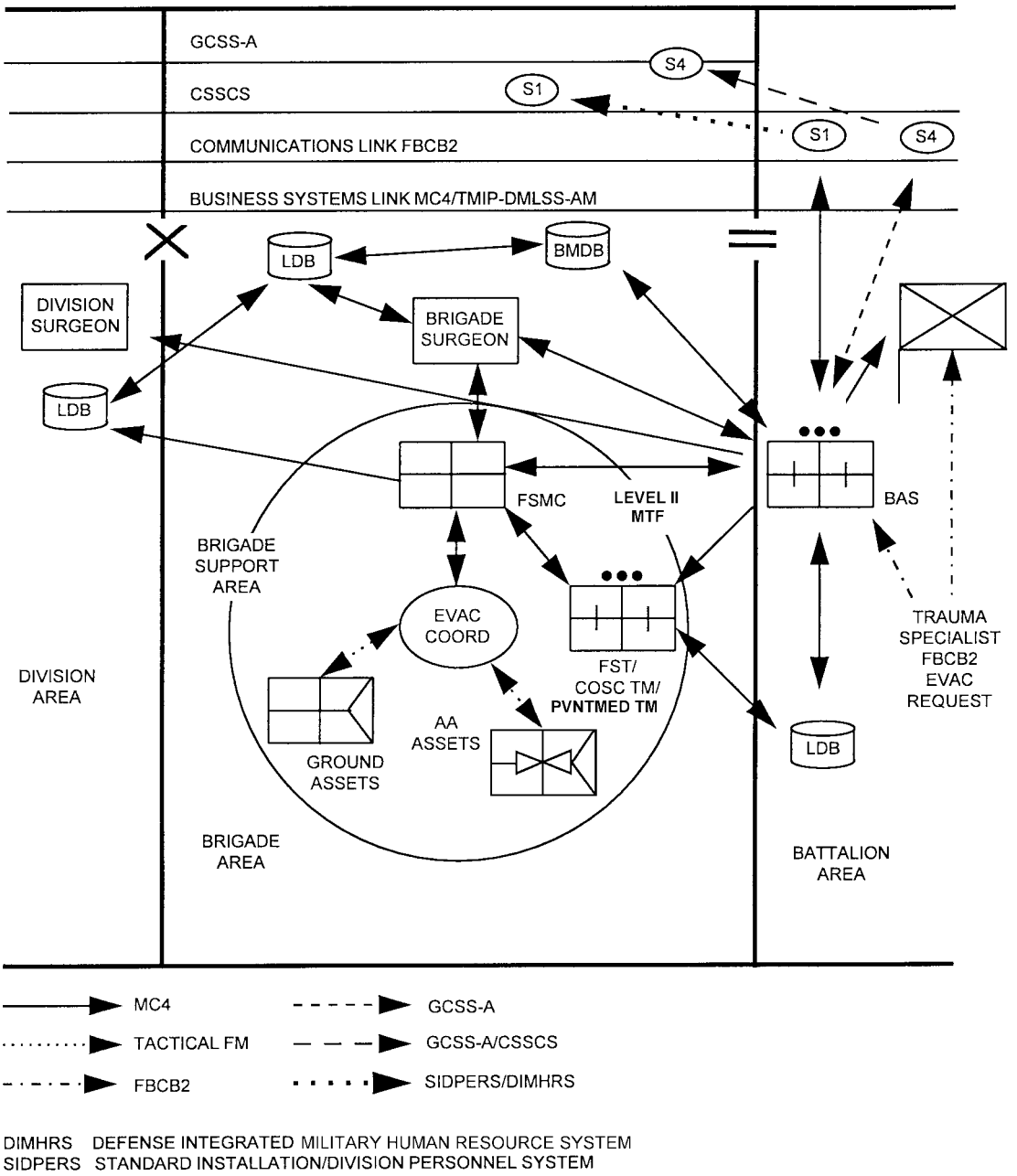


Figure 3-1. Horizontal and vertical lines of communication for the brigade surgeon.

COMBAT NET RADIOS (CNR)

- TACTICAL FM RADIO–SINGLE-CHANNEL GROUND AND AIRBORNE RADIO SYSTEM
- TACTICAL AM RADIO–HF
- SATELLITE RADIO ULTRA-HIGH FREQUENCY (UHF)
- NEAR-TERM DIGITAL RADIO (NTDR)
- ANCILLARY RADIO EQUIPMENT–CONTROL RECEIVER–TRANSMITTER
- RADIO SET CONTROL GROUP DATA TRANSFER DEVICES
- MOBILE SUBSCRIBER EQUIPMENT

INFORMATION SYSTEMS

- ARMY BATTLE COMMAND SYSTEM
- TRANSPORTATION COORDINATOR'S AUTOMATED INFORMATION FOR MOVEMENT SYSTEM II
- AREA COMMON USER SYSTEM
- BATTLE COMMAND SUSTAINMENT SUPPORT SYSTEM
- MOVEMENT TRACKING SYSTEM
- GLOBAL COMBAT SUPPORT SYSTEM–ARMY

NETWORKS

- WARFIGHTER INFORMATION NETWORK–TACTICAL
- FORCE XXI BATTLE COMMAND BRIGADE AND BELOW
- MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE

Figure 3-2. Equipment, systems, and networks within the brigade support area that support the digitized force.

(1) *Patient accountability*. Individuals entering the medical treatment chain must be accounted for at all times. Prompt reporting of patients and their health status to the next higher headquarters is necessary for the maintenance of a responsive personnel replacement system and the Army Casualty System. Patient accountability and status reporting is required to—

- Provide the commander with an accurate account of personnel losses due to enemy action and related battlefield losses.
- Verify personnel replacement requirements.
- Assist the command surgeon in the preparation of the CHS estimate and plan.
- Alert PVNTMED personnel to the medical threat in a given AO.

(*a*) *Field Medical Card*. The FMC is used to record data similar to that recorded on the inpatient treatment record cover sheet (ITRCS) and SF 600. The FMC is used by BAS, clearing stations, and nonfixed troop or health clinics working overseas, on maneuvers, or attached to commands moving between stations. It may also be used to record an outpatient visit when the health record is not readily available at an MTF. The FMC is used in the contiguous and noncontiguous area of operations during times of hostilities. It also may be used to record carded for record only (CRO) cases. The FMC is

made so that it can be attached to a casualty. The cards are issued as a book, with each card set consisting of an original card and a pressure sensitive paper duplicate. For additional information on the preparation and use of this card, refer to AR 40-66 and FM 8-10-6.

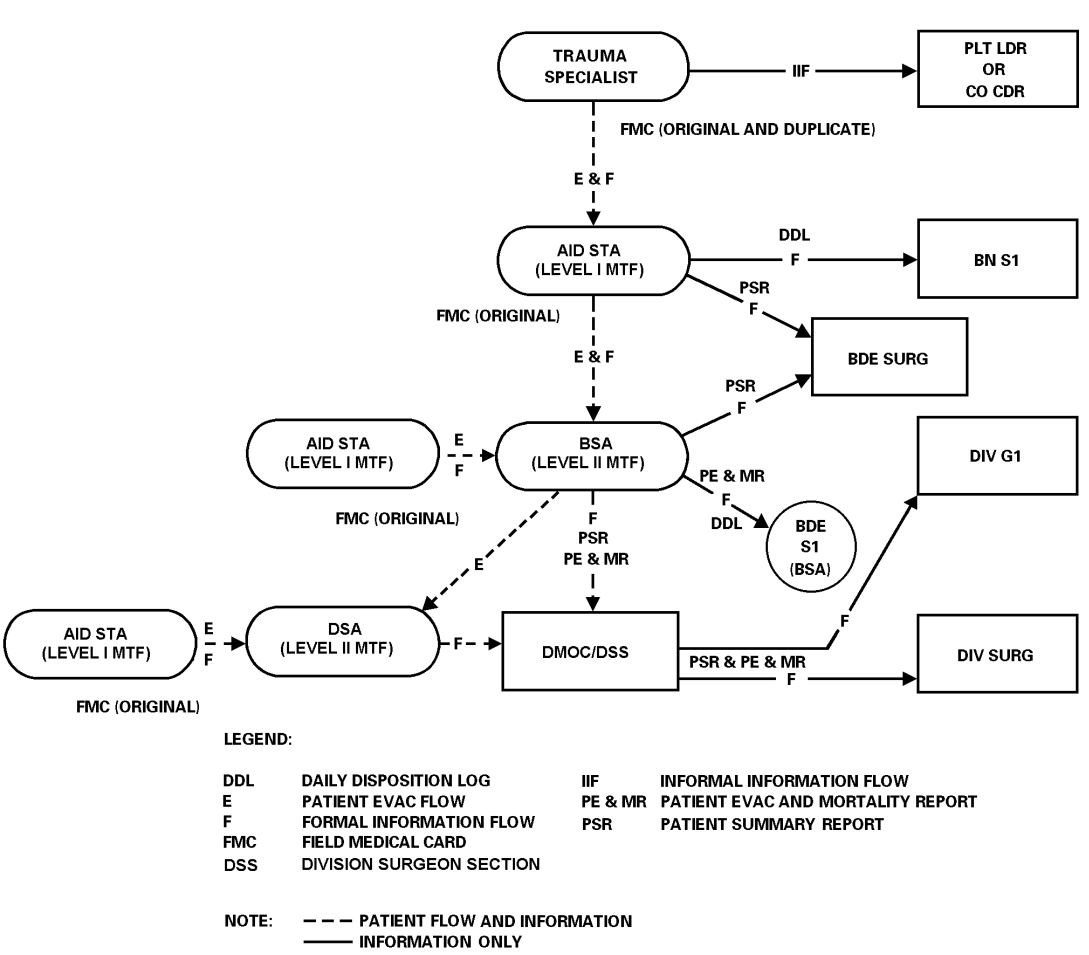


Figure 3-3. Information flow for patient accountability and status reporting from Level I through Level III.

(*b*) *Daily disposition log*. Originates at the Level II MTF, to include the forward surgical team (FST) and the area support medical detachments, maintains the Daily Disposition Log (DDL). The information from this log is extracted, when required, and provided to the S1 or supported unit requesting the information. The DDL is also the primary source document for information needed in the preparation of the Patient Evacuation and Mortality Report (PE&MR). This log is maintained by all

divisional (Levels I and II) MTF. It does not lend itself for transmission. However, the information may be extracted and provided via courier or electronic means to agencies responsible for preparing consolidated reports and/or casualty feeder reports.

(*c*) *Patient Summary Report*. This is a weekly report, compiled as of 2400 hours, Sunday. It is prepared by Levels I and II MTF and is submitted to respective surgeons as shown in Figure 3-1, usually on the following Monday. The command surgeon can, however, dictate the frequency of submission to meet command requirements.

(*d*) *Patient Evacuation and Mortality Report*. The PE&MR is prepared by Levels I and II MTF. It is disseminated as shown in Figure 3-3. The PE&MR primarily serves as a medical spot report. The command surgeon establishes the frequency of this report.

(2) *Medical Reports*. In addition to patient accountability reports, a number of other medical reports may be required for preparation at brigade and below.

(3) *Blood Reports*. Blood management reports are required to request blood and blood products and to report the status of blood maintained at the medical company/FST. Echelon II MTF may only request blood Group O red blood cells (RBC). Depending on the tactical situation and the command policy, the blood report may be transmitted by voice or written means (transmitted electronic message, telephonically, or by courier). For additional information on blood reporting requirements and formats to be used refer to FM 4-02.6, FM 4-02.1, and Joint Pub 4-02.1.

(4) *Battle Command Sustainment Support System*.

(*a*) The BSS uses the BCS3 for—

- Casualty visibility.
- Medical surveillance and updates, clinical and outpatient data collection, C2, evacuation, and e-mail consultation from Division and Corps MTF.

(*b*) The FSMC uses the communications systems to receive and transmit—

- Command and control.
- Casualty data.
- Health service logistics requisitions.
- Patient evacuation requests.
- Medical surveillance and occupational and environmental health updates.
- Clinical data collection.

- Updated outpatient consultation.

(5) *The forward surgical team*. The FST may be deployed with a FSMC/BSMC. Its communication capabilities are limited to—

- Frequency-modulated radios.

- Mobile subscriber equipment (relies on the supported FSMC/BSMC for additional communications support).

(6) *Forward surgical team medical reporting requirements*. All reports are submitted through the FSMC/BSMC. Routine reports may include—

- Patient data information. All medical encounter data will be downloaded to a disk/ hard media (floppy disk, Zip® disk, tape) and transported to the next MTF. Medical documentation for a casualty will be obtained from the trauma specialist or CLS. The FMC will accompany that casualty as he is evacuated.

- Surgical status.

- Class VIII status.

(7) *Health service support logistics*. As the medical platoons use Class VIII supplies, they will request resupply from the medical supply element of the company headquarters. These requests will be consolidated into a Class VIII requisition. The requisition from the brigade is sent to the corps medical supply company using the DMLSS-AM software on the MC4 notebook computer in the medical supply element of the company headquarters. An information copy of these requisitions will be forwarded to the DISCOM MMMB.

(*a*) The DSMC will manage their assemblages using DMLSS-AM.

(*b*) As resupply requisitions are received from the supported BAS, they will be filled from DSMC Authorized Stockage Levels (ASL). Requests that cannot be filled will become part of the DSMC resupply requisition that is sent to the corps medical logistics company.

(*c*) A notebook computer serves as the LDB for the DSMC. Medical data will be collected from the other DSMC computers, stored on the division LDB, and sent to the ITDB at corps as well as to each command surgeon database.

3-5. The Reach Capability of the Brigade Surgeon

The "reach capability" of the brigade surgeon for the digitized force for HSL support-based medical command (MEDCOM) supply activities is currently under development. For early sustainment of units deployed to areas without support outside of continental United States (OCONUS), support centers such as

the US Army Medical Materiel Command–Europe (USAMMCE) and 16th MEDLOG Battalion in Korea provide rapid access of information from CONUS and conduct collaborative information sharing. These units receive support from other units deployed in theater by geographic proximity, level, or command relationship. "Reach" does not include information from, coordination with, or support within the blood supply unit (BSU).

a. "Reach" capabilities provide access to physical and informational resources from other commands and the national sustaining base. The physical resources it makes available extend operational reach. This technique provides an accurate common operational picture at the higher levels of organization. Intelligence sharing allows essential and accurate common operational pictures of the potential battlespace to the planners at higher headquarters.

b. "Reach," allows in-theater intelligence and operational personnel to consult out-of-theater subject matter experts. This two-way information exchange helps commanders refine and deepen their SU by filling information gaps. By giving commanders access to out-of-theater expertise from subject matter experts and intelligence produced by national assets, "reach" helps in-theater commanders mass the information element of combat power.

c. Subordinate, adjacent, and higher commanders use similar factors but different perspectives to visualize their battlespace. Commanders increase the depth and sophistication of their visualizations through exchanges with other commanders. Advanced C2 systems support this type of association by making it possible for commanders to share a common operational picture.

3-6. Modular Flexibility

The division communications system provides AMIM capabilities throughout the division area and back to the corps. The modules are designed to provide greater flexibility, mobility, and patient care capabilities than were previously available. The following are key personnel, support units, and higher level support elements that may be attached to or supported to/by the division area under the Force XXI contiguous and noncontiguous AO organizational designs:

- Division surgeon section.
- Division support command.
- Medical operations cell.
- Medical materiel management branch.
- Division support battalion health service support officer (HSSO).
- Division support medical company.
- Forward support medical company.

For detailed discussions of the above medical units, organizations, and elements in the division area, see FM 4-02.1, 4-02.4, 4-02.6, 4-02.17, 4-02.19, and 4-02.21. The following systems support communications for HSS in the division:

- Battle Command Sustainment Support System (see Appendix B).
- Medical Communications for Combat Casualty Care—Theater Medical Information Program (see Appendix C).
- Global Combat Support System—Army (GCSS-A) (see Appendix B).
- Warfighter Information Network—Tactical (WIN-T) (see Appendix B).
- Defense Medical Logistics Standard System—Assemblage Management (DMLSS-AM).
- Force XXI Battle Command Brigade and Below System (see Appendix B).

CHAPTER 4

ARMY MEDICAL INFORMATION MANAGEMENT—DIGITIZED CORPS AND ECHELONS ABOVE CORPS

Section I. MEDICAL INFORMATION MANAGEMENT AT CORPS

4-1. Health Service Support at Corps and Echelons above Corps

a. Under the Medical Reengineering Initiative (MRI) organizational design, the medical groups are eliminated from the corps area.

(1) The hospital communications system includes wire, wireless, and digital communications between hospital departments and personnel. It provides connectivity to supported and supporting organizations. A WIN-T Subscriber Node, organic to the MRI combat support hospital (CSH), replaces the current organic analog switch and the MSE small extension node (SEN) provided by the supporting signal battalion. The new system provides the internal voice and data services in the communications and automation intensive CSH that the Switchboard (SB)-86 and supporting MSE cannot accommodate. It employs telemedicine in various forms (voice, still imagery, x-ray, and full motion video) internally as well as externally to MTF in theater and CONUS. During split-based operations, where the CSH has hospital elements forward, both the organic subscriber node and a comparable signal battalion system is required.

(2) The hospital Automated Information System (AIS) provides an integrated electronic patient database, including laboratory and radiology results, pharmacy orders, medications, allergy information, physician's orders, and required formats for reports. The deployed hospital patient database is capable of transparent interface with other DOD patient databases. Individual patient records are accessible on a central database and stored electronically on a personal automated patient record device. The hospital AIS provides access to theater logistics, blood, medical regulating, and other medical AIS.

(3) The hospital utilizes a digital imaging network system. This system transmits diagnostic quality medical images; high resolution still images utilizing digital cameras, radiological images, dental images, and automated patient record images between hospital workstations, as well as via satellite or other communications systems from the deployed MTF to the consulting MTF. For near-to-mid-term, the personal automated patient record will not have the capacity to hold images.

(4) The hospital uses video teleconference systems. A desktop video system may be incorporated into key hospital workstations, allowing for the display of interactive video, as well as the various images of the digital imaging network. Large screen video has the potential to display images in the operating room or the emergency medical treatment (EMT) area. Direct satellite broadcast supports medical education, medical situation understanding, and PVNTMED operations.

b. At Level IV, those patients not expected to return to duty (RTD) within the theater evacuation policy are stabilized and evacuated to Level V facilities. Those patients expected to RTD are provided convalescent care and rehabilitative services. Hospitals at this Level will integrate telemedicine and hospital information and communications systems as identified for Level III.

c. Level V care is provided in DOD fixed hospitals and Department of Veterans Affairs (VA) hospitals. Under the National Defense Medical System (NDMS), patients overflowing DOD and VA

hospitals will be cared for in designated civilian hospitals. Level V hospitals provide the expert consultation base that could be accessed by deployed medical treatment units. Level V hospital information and communications systems that provide voice, digital, and video capabilities will be compatible with those systems used by deployed medical organizations and MTF.

(1) The primary focus for current or future communications zone (COMMZ) and corps major medical C2 units is on the Army component and corps commander's intent. These command medical units plan, coordinate, and synchronize HSS to meet the requirements of the warfighter commanders' objectives. They provide medical command, control, communications, computers, and intelligence (C4I) for major subordinate medical units.

(2) These major medical C2 units will require state-of-the-art communications equipment to employ wire, wireless, and digital systems and satellite linkages. These capabilities are required to enable the commands to provide medical C4I for all assigned or attached units.

(3) The major medical C2 units require reliable communications network interconnectivity with the Department of the Army (DA) AIS architecture, including access to the DOD and global automated systems architectures, to acquire and provide real-time HSS operations information. Commands and subordinate units to transmit and receive real-time mission requirement information, both vertically and horizontally, throughout the Army and the DOD information infrastructure also require this capability.

(4) Joint, interagency, or multinational operations headquarters requires communications connectivity with the other Services, allied and coalition forces, host nation (HN), and other governmental and nongovernmental agencies.

(5) The OCONUS/CONUS sustaining base hospital and other Army medical organizations supporting global HSS operations are included in Level V. In contingency operations, the major medical C2 organization deploying to an operations area is responsible for linking medical functionally emulative increments with the Army component commander's staff. Level V hospitals and other medical organizations supporting global HSS require state-of-the-art communications equipment to employ wire, wireless, and digital systems and satellite linkages.

(*a*) These organizations require access to commercial and military space communications technologies. The major medical C2 organization preparing to deploy its functionally emulative increments and its subordinate units and other supporting medical organizations requires communications capability and reliable network interconnectivity with the DA information architecture. This also includes access to the DOD and global automated systems architectures.

(*b*) The fielding of new technology and systems, such as the electronic theater medical record and the computerized medical records for the military health system (MHS) will enhance all aspects of HSS. A necessary component of these systems are the personal automated patient record. The personal automated patient record is envisioned as a data repository (as small as an identification tag) for important information that will be carried by military personnel pre- and postdeployment.

(*c*) These computer-based records may contain information related to prevention, surveillance, medical deployability, and health status and wellness of the active component and reserve component.

(*d*) The personal automated patient record provides a timely and accurate source of the patient's information as the patient moves through the continuum of care. See Appendix A for discussion on personal automated patient record.

d. Under Force XXI, MC4/TMIP, when operational, an evacuation platform (either air or ground) will be equipped with an onboard computer, which will read the casualty's personal automated patient record and will also be transmitted to the destination MTF. Digital linkages to medical C2 units/ medical regulators allow for redirecting the casualty en route should the need arise.

e. Within Level III, the MEDEVAC battalion provides ground and air MEDEVAC for supported divisions. Ground ambulance evacuation support for the corps is provided by the area support medical company (ASMC) on an area support basis. Air ambulance support will be provided with air ambulances (AA) from the MEDEVAC battalion. Corps areas supported may include ports, airheads, and offshore and afloat facilities. Medical evacuation assets must be capable of communicating with supported and supporting units, and with medical C2 organizations, other Services, allied and coalition forces, HN, and other governmental and nongovernmental agencies. (Airborne is the exception to the rule here; they have their own evacuation airframes.) Communications capability will include wire, wireless, digital, video, casualty locator, global positioning system (GPS), and satellite linkages. Additionally, medical personnel providing en route medical care must have the capability to input information into the personal automated patient record and the digitized medical record.

(1) A formal system of patient regulating is initiated at Level III. Communications (including AMIM) between the medical brigade, hospitals, MEDEVAC battalion, and other MTF are required.

(2) Level III medical regulating office (MRO) must be able to coordinate with supported and supporting units, the other Services, DOD agencies, allied and coalition forces, HN, and other governmental and nongovernmental agencies.

(3) The medical regulating mission requires the capabilities to transfer patient information to designated receiving facilities, to arrange for modes of transportation, to provide movement to appropriate embarkation points, to provide patient tracking, and to provide medical treatment information.

(4) To accomplish this mission, communications using wire, wireless, digital, and satellite linkages must be available.

f. Within Level IV, MEDEVAC assets are centralized under a medical C2 organization and provide MEDEVAC support to and from airheads and ports and support patient transfers between Level III and Level IV facilities. They also provide MEDEVAC support on an area support basis at echelons above corps (EAC). The capability for telementoring and teleconsultation is required at this Level. The United States Transportation Command (TRANSCOM) assets perform the actual mission of MEDEVAC out of Level III and Level IV. Communications in the form of wire, wireless, digital, global positioning, casualty locator, and satellite linkages must be available.

(1) Communications between medical C2 organizations, hospitals, US Army MEDEVAC assets, and medical holding facilities are required. Level IV MRO must be able to coordinate with supported and supporting units, the other Services, DOD agencies, allied and coalition forces, HN, and other governmental and nongovernmental agencies.

(2) Just as with Level III, the medical regulating mission necessitates the capability to transfer patient information, designate receiving facilities, arrange modes of transportation, move patients to appropriate embarkation points, perform patient tracking, and provide medical treatment information. To accomplish this mission, communications means using wire, wireless, digital, and satellite linkages must be available. Furthermore, information and data from the DOD Health Affairs (HA), TRANSCOM Regulating and Command and Control Evacuation System (TRAC2ES), and other standard automated systems must be capable of digital exchange through the integration of these systems and communications networks to form a seamless information web.

(3) Memorandums of Agreement or Understanding between the US Army and local communities may exist to provide MEDEVAC support to neighboring civilian communities, as well as providing MEDEVAC support during disasters.

4-2. Corps Surgeon

For C2 the MC4 system automatically provides information, such as evacuation status, current fitness for combat, and hazard exposure to the commander's situational understanding system. The MC4 system will provide the commander with the ability to track and record the date and location of exposure to a variety of health hazards, including environmental, occupational, industrial, and nuclear, biological and chemical (NBC) hazards. This information is critical to the force protection health hazard analysis necessary to identify emerging disease and nonbattle injury (DNBI) problems and trends. Commanders will have real-time information on food source safety/quality, operationally significant zoonotic diseases, health surveillance/trends, and near-real-time health hazard assessment data for NBC/endemic disease threats and occupational or environmental health threats. This information will be provided to the commander from the MC4 system functional digital systems through GCSS-A to BCS3. Commanders, for the first time, will have a complete picture of the battlefield, allowing them to accurately influence current operations while synchronizing HSS with other activities.

a. Echelon V. All care/exposure information is digitally stored. The documentation of immunizations, for example, will eliminate challenges that have surfaced postdeployment for vaccines such as anthrax and botulism. This information is stored not only in the Echelon I database supporting the soldier, but is transmitted to the ITDB and the soldier's permanent computerized record. The digital documentation of medical treatment/exposure information makes addressing health exposure issues, as seen in the Gulf War and more recent deployments, much easier.

b. Medical Command and Control Application. Under MC4, medical information on soldiers is stored at different levels. This will allow commanders and command surgeons at the various echelons to access medical information on their soldiers to find out specific information and to conduct analysis of

disease/injury trends. These lower echelon databases also provide a means for information redundancy should destruction of an information node or communications outage occur. Each database will feed the databases above it. Personnel (medical commanders, staff surgeons) at each echelon with MC4 management functionality will be able to query the database. The HSS information required by the BCS3 will pass from the MC4 system through GCSS-A to BCS3.

c. *Information Database*. Command surgeons maintain a database containing medical information relevant to the soldiers in the command. This will be the ITDB that provides information to update sustaining base medical information systems such as the computer based patient record and health surveillance system.

d. *Enablers*. The capabilities of the medical assets available to warfighter commanders and their surgeons will be optimized with technological enablers for equipment and supplies, and with digital enablers to include FBCB2, BCS3, MC4, TMIP, WIN, and the EIC.

4-3. Hospitalization in a Theater of Operations

a. Desktop servers will serve as the LDB, composite health care system server, and TMIP server for the CSH.

(1) Medical data will be collected from computers in all sections of the CSH, stored on the LDB, and sent to the ITDB as well as the corps and higher command surgeon databases. As medical data accompanying evacuated casualties is received, it is downloaded to the CSH LDB and transmitted to the ITDB and command surgeon databases.

(2) For backup, the unit automation support section will perform a daily backup of the CSH LDB. The backup will be stored at the supporting medical brigade S6. It will not be stored at the CSH.

(3) For repairs, database administration, software updates, passwords and roles, see paragraph 2-2*e*(1)(*m*).

b. As a patient enters the CSH they will be logged onto the notebook and an encounter started. Previous treatments or observations contained on the evacuation vehicle trauma specialist's handheld will be transferred to the triage team's notebook via information requirements (IR) transfer. As various members of the triage team work on the patient (taking vital signs, performing treatments, and making medical observations) they will start a new encounter for that patient on their handheld.

c. When the physician or PA determines the disposition for the patient (the patient is RTD, evacuated, admitted, or dies) all triage team members who have an encounter for that patient on their handheld will download the encounters to the notebook.

d. Documentation on each handheld will be sent to the CSH LDB and onto the ITDB and command surgeon LDB as a separate encounter.

e. All patient data on the triage team handhelds and notebook computers will be purged on a regular basis once the patient data has been downloaded to the CSH LDB.

4-4. Medical Evacuation and Patient Regulating

The DSS monitors the evacuations within the division using FBCB2 and BCS3. As needed, the division surgeon will direct shifting FSMC/BSMC/DSMC ambulances to support medical evacuation requirements within the division.

4-5. Health Service Logistics

Under MRI, the mission and functions of the MEDLOG battalion have not changed, but the battalion was reorganized so it can more effectively perform its mission. The MEDLOG battalion consists of the headquarters and headquarters detachment (HHD), medical logistics battalion, a medical logistics company, and a logistics support company. The MEDLOG company employs voice and digital communications systems. The MEDLOG battalion communicates with supported and supporting units, the other Services, allied and coalition forces, HN, and other governmental and nongovernmental agencies as required. See Chapter 3 for details on the computer databases and techniques for obtaining Class VIII.

4-6. Veterinary Services

Veterinary service is an internal part of HSS within the contiguous and noncontiguous area of operations. The US Army Veterinary Service is designated as the DOD Executive Agent for veterinary services and provides support as required not only to the Army, but also to the US Navy, US Marine Corps, US Coast Guard and US Air Force. Veterinary service is provided upon request and is subject to availability of resources. For communications at corps and EAC the Veterinary support is very limited. They have one laptop notebook for data entry and very limited detachment radio capability. See FM 8-10-18.

4-7. Dental Services

Within Level IV, both independent dental units and organic dental personnel provide dental care. For additional information on dental support operations, refer to FM 4-02.19.

4-8. Preventive Medicine Services

The most cost-effective means of providing HSS is the employment of a competent PVNTMED program to all operations and missions. To be effective, disease surveillance must begin before troops are deployed. For additional information on PVNTMED services, refer to FM 4-02.17. The PVNTMED section members will record inspection findings on the MC4 notebook as free text documentation. The PVNTMED information will not be part of the LDB but will be stored to a separate PVNTMED folder.

a. The PVNTMED information will be transmitted to the various command surgeon PVNTMED sections as e-mail attachments.

b. Where e-mail capability is not available, the PVNTMED information is transferred via hard media from the DSMC to the BSS. It is then sent on to the higher-level command surgeon PVNTMED sections via e-mail attachment.

c. The unit physicians, PA, and PVNTMED officers will monitor the unit LDB for medical trends.

4-9. The Area Medical Laboratory

The area medical laboratory (AML) functions are focused on rapid health hazard identification, and the assessment and initial identification of suspected biological warfare (BW) agents within an AO. These operational health hazards include NBC threat agents, endemic diseases, and other medical threats associated with occupational and environmental health risks. The AML is capable of tailoring its deployable assets to meet specific operational objectives and split-based mission requirements. The AML is linked to medical and nonmedical units via wire, wireless, digital, still cameras, active video, and satellite communications. It is linked to medical units at all levels including the supporting Level V MTF, US-based laboratories, US Army Medical Research and Materiel Command (MRMC) facilities, and other governmental and nongovernmental facilities as required. Surveillance personnel have access to the AML for directions on collection, preparation, and shipment of DNBI or suspect NBC specimens and samples. There are no laboratory services available at Level I.

a. *Level II*. Laboratory services at this Level are limited. The laboratory specialist uses wire, wireless, digital, and high resolution still imaging video communications to receive support from a Level III laboratory facility in evaluating prepared laboratory presentations. Support consists of evaluation and consultation of laboratory test results, digitized images of microscope automated patient record cells and structures, and high-resolution still images. For stability operations and support operations deployments, the supporting laboratory may be an offshore or US-based laboratory facility.

b. *Levels III and IV (Corps and Echelons Above Corps)*.

(1) Clinical laboratory services are located in Level III hospitals. The clinical laboratory services use wire, wireless, digital, video, high-resolution still images, microscopes equipped with video and still cameras, and satellite communications. These systems are used to receive support from the general HSS laboratory and other supporting laboratories. Laboratory specimen presentations are transmitted via digital, video, and satellite communications. Reports of laboratory services are provided to the requesting clinical service or ward via wire, wireless, and digital communications.

(2) Blood transfusion and blood donor information is transmitted via digital, wire, wireless, and satellite communications. Blood management information is linked to the theater joint blood management INFOSYS. For stability operations and support operations deployment, the supporting laboratory may be an offshore or a US-based laboratory facility.

c. Level V.

(1) *Clinical laboratory services*. The clinical laboratory services at this level are contained in the medical department activity (MEDDAC) and MEDCEN. The medical C4I requirements are the same as those identified at Levels III and IV hospitals.

(2) *General health service support laboratory*. The general HSS laboratory services at Level V are located at MEDCEN. They provide general laboratory support on a regional basis to medical activities within the regional MEDCOM. The medical C4I requirements are the same as those identified for the Theater Army Medical Laboratory (TAML).

(3) *Medical research laboratories*. Medical research laboratories employ wire, wireless, digital, active video, still cameras, and satellite communications systems. These systems are linked to supported and supporting laboratories on a worldwide basis. Any DOD HSS laboratory with communications capabilities can access this laboratory for support. During stability operations and support operations, these laboratories may be the next level-supporting laboratories. All suspect BW employment specimens are forwarded through channels to the designated laboratory for confirmation.

Section II. AN OVERVIEW OF THEATER ARMY MEDICAL INFORMATION MANAGEMENT

4-10. General

This section discusses the process necessary to assist in preparing to open operations within a new theater. It is absolutely necessary that the surgeon (the medical contingent commander) be an important part of any force's planning preparations. A big part of the challenge that the surgeon will face is ensuring that LOC for the medical elements that participate are open and that EAC element knows exactly what the mission is and what the support responsibilities are within the force that they support. Force projection operations in areas where there is no permanent Army presence requires reception, staging, onward movement, and integration enabling teams that are rapidly deployable, modularity configured, and designed to open an Army theater CSS infrastructure. These enabling teams will deploy with the theater force opening package (TFOP) during unopposed entry operations. The TFOP must have the capability to establish the Army theater distribution system and conduct those operational-level support tasks required to meet Army Service Component Command (ASCC) early entry support responsibilities. This section addresses the TFOP and focuses on their automated IT related requirements. More specific details enabling teams and the TFOP are in FM 63-4 and FM 100-10-1. The mission of the TFOP is to deploy early to a theater and establish the resources, communications, and automation networks necessary to build and support an Army theater distribution system. The TFOP also conducts the initial reception, staging, and onward movement of Army and other Service resources as designated by the ASCC commander. Based on mission, enemy, terrain and weather, troops and support available, time available, civil considerations (METT-TC) and guidance from the joint force commander (JFC), the ASCC commander determines the specific mission, organization, command, and support relationships of early entry support forces in a particular operation.

a. Contingency Planning. Preparation for theater opening begins before the actual deployment of the TFOP elements into an AO. The TFOP has the capability to conduct home station (power projection platform) contingency planning and interface with the appropriate ASCC commanders and JFC that are preparing for TFOP employment. This includes the capability to—

(1) Interface/coordinate with the ASCC commander, JFC, and supporting and supported Unified Combatant Commander (UCC) planners to identify the appropriate theater force opening module mix required for theater opening.

(2) Develop and provide missions, policies, guidance, priorities, and allocations for all TFOP activities/organizations in accordance with appropriate ASCC commander policies and directives.

b. Command and Control. As directed by the ASCC/Army Forces (ARFOR) commander, the theater support command (TSC) deploys a headquarters early entry module (EEM) to establish TFOP command, control, communications, and automation (C3A). It interfaces with tactical, joint, and strategic/ national CSS systems and synchronizes Army deployment activities theaterwide. The C2 element of the TFOP is the initial EEM that deploys to force projection theaters. It is the personal automated patient record comprised of the TSC headquarters EEM and national strategic-level CSS elements from an Army Mobility Command logistics support element, a Defense Logistics Agency (DLA) contingency support team, and a Military Traffic Management Command (MTMC) port management module as directed by the JFC/ASCC commander. The ASCC/ARFOR commander may also designate functional commands to provide C2 of TFOP elements. The technical chains between forward elements of functional commands and their parent commands remain intact. The same is true of the national strategic-level elements. Relationships between the TSC and functional commands are discussed in FM 63-4. Capabilities of the initial C2 element include—

(1) Providing a TFOP survey, liaison, and reconnaissance party, an Army pre-positioned afloat off-load preparation party, and advance party elements.

(2) Exercising control over the theater-level CSS operations directed by the ASCC commander. This includes support to other Services. The headquarters module with assistance from functional command elements refines the theater force opening module requirements and updates the logistics preparation of the theater and distribution plan. This includes planning and coordinating the necessary automated identification technology/AIS to support in-transit visualization and force tracking.

(3) Coordinating theater and strategic-level support requirements.

(4) Planning, managing, and acquiring HN real estate and managing initial local procurement, contracting, and HN activities. This may include contracting for the power and communications assets needed to support in-transit visualization data capture and transmission.

(5) Managing ASCC force generation operations.

c. Organization. The TFOP requirements during the initial stages of deployment includes transportation, engineer, supply and field service, contracting, ordnance, military police, personnel, finance,

and medical modules, as well as any other modules required to meet the mission assigned by the JFC/ ASCC. The JFC may also elect to include strategic CSS cells from the Army Material Command, the DLA, and the MTMC.

d. Composition of the Theater Force Opening Package. The composition of the TFOP varies throughout the stages of a force projection operation and depends on numerous factors including the—

(1) Type of operation.

(2) Nature of the supported forces.

(3) Available infrastructure in the theater.

(4) Availability of contracted support (usually limited in the area of HSS).

(5) Support provided to and by other Services and allies.

(6) Nature of the threat (to include the medical threat).

4-11. Theater Medical Command Early Entry Module

a. The geographic UCC determines how his theater will be organized to contend with the threat within his AO. United States forces deployed to the theater may range from a small task force to the full array of land, sea, and air forces. The theater is organized into a combat zone (CZ) and EAC. In contingency and/or early entry operations, the operational area may be established without a COMMZ. Health service support for the Army component forces in such a contiguous and noncontiguous area is the responsibility of the ASCC. (See FM 100-6 for a detailed discussion of the ASCC.) On the commander's special staff is an ASCC surgeon.

b. Subordinate to the ASCC are the following—the TSC, personnel command, engineer command, finance command, and the MEDCOM. The TSC additionally provides area support to the operational-level COMMZ and sustainment support to the tactical level and coordinates the planning and synchronization of operational-level HSS with the theater MEDCOM.

NOTE

The discussion of functional commands does not imply that the entire command necessarily is or will be deployed to the AO. The commands, like TSC and MEDCOM, deploy modularly. They build incrementally to meet the functional requirements of the theater throughout the course of an operation.

c. The TSC and the MEDCOM will usually deploy an EEM in the initial elements of the deploying force. Normally, elements from the materiel and movements management activities center and the Medical Logistics Management Center (MLMC) will be deployed along with the respective C2 EEM. The TSC EEM will include elements from the functional modules provided by the supporting USTRANSCOM, engineer command, personnel command, and finance command. The theater MEDCOM C2 EEM, like the other functional commands, may be located with and function under the operational control (OPCON) of the TSC EEM. It is the ASCC commander's decision.

d. The TSC EEM, along with the theater MEDCOM EEM, may be under the C2 of the initially deploying corps or other early deploying headquarters. If the theater continues to develop, having employed the EEM would facilitate the separation of COMMZ functions. Moreover, the EEM provides the UCC with long-range logistics and HSS planning capability in situations when forward stationing of an entire TSC and/or MEDCOM is not required.

4-12. The Theater Surgeon Cell

a. Within the theater MEDCOM EEM, the surgeon and his staff will plan and supervise—

(1) Health education and CLS training for the ASCC.

(2) Patient evacuation, including use of both Army dedicated MEDEVAC platforms (air and ground) and Air Force evacuation aircraft.

(3) Combat stress control program.

(4) Mass casualty plan.

(5) Medical care of enemy prisoners of war and civilians within the AO.

(6) Treatment and hospitalization of sick, injured, or wounded soldiers.

(7) Veterinary food inspection, animal care, and veterinary PVNTMED activities of the command, as required and in coordination with the veterinary officer.

(8) Preventive medicine services (to include medical surveillance activities).

(9) Medical laboratory services.

(10) Combat health logistics, including blood management.

(11) Preparation of health-related reports and battlefield statistics.

(12) Collection and analyses of operational data for on-the-spot adjustments in the HSS structure and for use in postoperations combat and materiel development studies.

(13) The examination of captured medical supplies and recommending their use.

b. Further, the theater surgeon's cell will advise the ASCC and the Assistant Chief of Staff (ACS), Civil Affairs (G5) on health services and health matters that concern the occupied or friendly territory within the AO. The surgeon's cell will formulate the HSS plan and coordinate with the ACS, Chief of Staff (Intelligence) (G2) to obtain national medical intelligence reports and summaries. The surgeon's cell will advise on the effects of the medical threat (including environmental, endemic, and epidemic diseases, NBC weapons, and directed-energy devices) toward personnel, rations, and water.

4-13. Corps Medical Assets in Support of the Division

a. Corps medical units in support of the division are normally assigned to the corps medical brigade/MEDCOM. The medical brigade/MEDCOM provides subordinate units to support the division by establishing a command relationship of OPCON or attachment. Depending on the nature of the operation and US Army units being deployed, the medical brigade/MEDCOM may opt to maintain only a general support (GS)/DS relationship with the division. Regardless of the medical unit makeup at division level, the corps will normally deploy a liaison officer to the division to coordinate and synchronize corps HSS augmentation reinforcement.

b. For an in-depth discussion on the corps medical units that are in support of the division operations, the information exchange that occurs, C2, evacuation and HSL within the division support area (DSA) and below, see FMs 8-10-3, 8-10-5, 8-10-9, 8-10-18, 4-02.17, 4-02.19, 4-02.21, and 4-02.24.

c. Unit MAA and MAU perform initial troubleshooting. (See Chapter 2.)

(1) Battalion and brigade S6 performs the first level of support.

(2) The division combat service support automation management office (CSSAMO) provides contact teams to address issues not resolvable by the MAA and MAU or S6. CSSAMO also maintains replacement floats.

NOTE

A Division CSSAMO does not support the SBCT during initial deployment. Until support arrives in theater the Battalion and Brigade S6 provides all support for the BAS MC4 computers.

(3) When an MC4 device is replaced from replacement floats, the CSSAMO ensures that all required software is loaded on the device prior to its issue.

(4) The BAS develops a continuation of operations plan (COOP), based on the current mission, to redistribute computer hardware in the event of failures where floats are not immediately available.

d. The unit MAA and MAU performs basic database administration for the BAS LDB.

e. The Division CSSAMO manages software updates for the division. They distribute updates to the entire division concurrently. Software is distributed through the brigade and battalion S6.

NOTE

Both TMIP and MC4 program offices maintain help desks to address software issues.

CHAPTER 5

OPERATIONAL CONCEPT FOR DIGITIZED HEALTH SERVICE SUPPORT

5-1. General

This chapter provides an overview of HSS communications and information technologies currently in use, evolving, or planned for implementation in the near future. The needs of the dramatically redesigned medical elements must fit today's Army, in peace, in the transition to war, and in support of stability operations and support operations across the continuum of military taskings. The digitization of HSS and the Army is an evolutionary process. The operational concepts and the system architecture elements may change as technology evolves. Operational capabilities are realized and national defense priorities will respond to emerging threats. There are many forces that drive the digitization of the HSS. The direction/ strategy/priorities of DOD MHS and US Army Training and Doctrine Command (TRADOC) serve as the guidon for the AMEDD. In order to integrate with the development work of both DOD MHS and the Army, the AMEDD combat developers must be aware of the horizontal and vertical aspects of this process. Not only must the AMEDD combat developers be aware of the force structure, they must also be mindful of the business processes, equipment needs, and the linkage between garrison and theater care.

a. The TOE determines what medical assets and unit structures are required for a particular type of unit. It is a key building block for modification to the unit. For the units under the A-edition of the TOE, the MRI requirements are in force; for units with 5-edition TOE, Army XXI (Digitized Division) are in force. Those medical units with L-edition TOE are required to follow the requirements developed to support the AirLand Battle/Medical Force 2000 doctrine. (See FM 4-02.4, FM 63-2, and FM 63-21 for complete lay downs of the elements discussed below.)

b. This chapter discusses the basic organizations and systems individual digitized communications assets and the type of information those elements require within the TO.

5-2. Department of Defense Military Health System for Health Service Support Digitization

The DOD MHS developed the information management (IM)/IT strategic plan as a component of the Medical Readiness Strategic Plan. This IM/IT strategic plan states the goals that are driving digitization within the MHS and directly impact the Army HSS digitization efforts. The main impact of this plan is the stated goal that there are four main systems for sustaining base health care: Composite Health Care System II (CHCS II), Defense Medical Logistics Standard System (DMLSS), Health Standard Resourced System, and Corporate Executive Information System, and one integrated system for theater health care—TMIP. The vision is that the TMIP is an integrated software product that contains functionality from the four sustaining base systems. This link between the sustaining base systems and the theater HSS program allows seamless communications between Echelon V and the theater. The TMIP fielded to each Service is tailored to that Service's needs and to the levels of care at which they are used. Additionally, the requirements for these systems are managed by DOD MHS functional requirements office.

a. *Functional Requirements and Business Processes*. These DOD MHS activities impact the AMEDD HSS digitization on both the functional and materiel side. On the functional side, requirements

and business processes have to relate to the corresponding sustaining base requirements and processes. As the HSS system receives, cares for, and evacuates casualties, the combat developers consider the output of the business processes as the input for the sustaining base processes. The reverse applies when the theater HSS system receives Class VIII supplies, medical equipment, or patient information from the sustaining base. Health service support requirements and business processes also have to address the need to operate in a joint environment. Coordination and collaboration with DOD MHS and the other Services ensures that the Army's digitization requirements facilitate rather than hinder joint interoperability.

b. Materiel Hardware, Software, and Communications Devices. On the materiel development side, the hardware, software, and communications devices are designed and procured to accomplish the business process with the joint software that is being developed. The AMEDD links their materiel development efforts with those of the DOD MHS to ensure vertical interoperability of the medical force. This means that the MC4 hardware and the TMIP software are inextricably linked in our HSS digitization effort. Additionally, the four sustaining base systems and the TMIP are linked as well.

c. Army Impacts on the Army Medical Department Health Service Support Digitization. The HSS systems are designed, fielded, and synchronized with the other components of the Army. The Force XXI and Objective Force development efforts are the two driving forces behind the Army and, thus, the reason for the AMEDD HSS transformation. Originally, the change to the Force XXI structure and the requisite equipment/enablers required by that force was known as digitization. However, the term also applies to the O*bjective Force* specified by the corps support area (CSA). The O*bjective Force* and Force XXI utilize the same digital enablers to accomplish their missions. When we speak of digitization as part of the Army's transformation it is truly part of a comprehensive redesign that includes changes to AMEDD force structure, doctrine, training, leader development, organizations, materiel and soldiers (DTLOMS), and all new equipment development.

d. Changes in Force Structure. Examination of the HSS system illustrates that the automation and communications devices that are being developed and fielded are accompanied by changes in force structure. The force structure within HSS has been altered so as to adjust the needed requirements for information technicians that can ensure that the digital systems operate correctly. The Assistant Chief of Staff (Information Management) (G6/S6) sections have been placed in each battalion, brigade, and slots for medical personnel are being planned now for the MEDCOM. Small extension nodes are organic to each CSH and medical personnel have been added to the CSSAMO sections. These organizations are discussed in detail in paragraph 5-3.

e. Redesigned Business Processes. Redesigned business processes provide digital enablers that have streamlined procedures. Direct coordination between medical units and from medical units to outside agencies has also been reduced. The Class VIII requisitioning and management has greatly improved and is much less time consuming. These are only a few benefits of the business process re-engineering that digitization made possible.

f. Training. The training of all of the soldiers who make up the HSS system is changed to incorporate the new digital enablers.

5-3. Description of Organizations and Elements

The following will provide a brief description and discuss the role of the key organizations/elements in HSS digitization. A basic understanding of these organizations and elements assists the reader to understand the preceding chapters and appendixes that follow that discuss HSS digitization at each level of care on the battlefield.

a. Key Systems for Mission Planning. The BCS3, FBCB2, and MC4-TMIP are the key systems that allow the surgeon's sections to participate in mission planning, to coordinate orders and subordinate tasks, for execution, and to monitor/ensure execution throughout the mission. When fully fielded, these enablers will allow the sections to communicate and share information with the entire HSS system as well as the command that they are supporting. For definitive information on this section, see FMs 4-02.21, 8-10-5, and 8-10-3.

b. Assistant Chief of Staff (Information Management) Brigade/Battalion Information Officer. The digitized force contains a signal/automation staff section at each medical battalion and above command. The G6/S6 combines the signal support systems specialist military occupational specialty (MOS) 31U from the AOE communications sections with an INFOSYS operator-analyst (MOS 74B) network/system administrator. In units with a retransmission section/squad, the G6/S6 is in addition to those personnel required to perform retransmission requirements. The function of this section is to provide the manpower and expertise required to configure the unit LAN and to ensure connectivity to the communications infrastructure. This is one of the key force components of the digitized force. To learn more about the role of the G6/S6 section, see FM 101-5.

c. Combat Service Support Automation Management Office. The CSSAMO provides automated systems support for all the CSS Standard Army Management Information System (STAMIS)/logistics systems and is located at all operational echelons. With new automated systems being fielded and changing at such a rapid pace, the CSSAMO structure and mission requirements continue to evolve.

5-4. Digitization of Health Service Support Organizations and Elements

Beginning in the AO and progressing back to CONUS through all five levels of care, the increasing treatment capabilities are streamlined through digitization. It is hoped that the footprint of HSS decreases on the battlefield while increasing HSS capability. The evolving nonlinear battlefield requires proximate medical care to include surgical capability to ensure stabilization of the casualty prior to evacuation to a corps-level hospital. Telemedicine provides integrated automation to the theater medical environment (see Appendix F).

5-5. Systems and Devices within the Digitized Medical Elements

The following systems and devices are currently being developed. They are still evolving and will be throughout the foreseeable future. These systems and devices represent a leap forward into the realm of the 21st Century technologies. They are not the final solution.

a. Division Medical Logistics Support System-Automated Management. The DMLSS-AM is an integrated system developed to accommodate the needs of the Army, Navy, and Air Force at the wholesale and retail levels for medical logistic support at fixed MTF and for deployed theater forces. The DMLSS-AM provides the capability to its users consisting of materiel management, facility management, and equipment and technology management. Materiel management encompasses receipt, storage, and distribution of MEDLOG items in the MTF and in support of wartime and contingency operations. Facility management capabilities range from scheduled maintenance and project tracking to regulatory compliance and space management. Equipment and technology management includes all activities associated with the procurement, accountability, maintenance, replacement budgeting, and disposition of medical equipment.

(1) The DMLSS AM relies on electronic commerce and web-based technology to speed delivery of Class VIII items to customers, negating the need to stock large inventory at depots and the MTF. It provides automated product and price comparison tools that ease the ordering process and encourage customers to purchase the most cost-effective products. The DMLSS AIS provides an assembly management capability that ensures deployed forces are provided the right mix of equipment and materiel consistent with the current practice of medicine in fixed MTF and the commercial health care sector. In support of readiness, the DMLSS program relies on commercial and military asset visibility. Using knowledge of the pharmaceutical and medical/surgical asset posture in the commercial sector, the DMLSS supports deployed forces using the right mix of modem materials and equipment known to be available in the commercial sector in sufficient quantities to meet requirements.

(2) The program executive officer (PEO), MHS IT, oversees the IT execution to include design, development/acquisition, testing, deployment, operations, and maintenance. The PEO ensures that the MHS IM/IT programs are in compliance with DOD Directives and Instructions (5000 series) and oversees the acquisition performance measurement efforts in the program offices. The PEO also provides centralized program execution activities to support efficient use of program execution resources across functional areas.

b. Medical Communications for Combat Casualty Care. The MC4-TMIP is a theater automated HSS system, which links commanders, horizontally and vertically, with health care providers and medical support providers, at all levels of care, with integrated medical information. The system provides digital enablers to connect, both vertically and horizontally, all ten HSS functional areas. The MC4-TMIP receives, stores, processes, transmits, and reports medical C2, medical surveillance, casualty movement/ tracking, medical treatment, medical situational awareness, and MEDLOG data across all levels of care. The MC4-TMIP begins with the individual soldier and continues throughout the health system. The best way to visualize the MC4-TMIP capability is a piece of the Army digital computer network where all ten HSS functional areas have been digitized and HSS information is freely shared with everyone in the Army with a need to know. Not only will MC4-TMIP provide Army commanders with HSS information, but it will also provide them with a seamless transition to the joint health service support environment. The MC4-TMIP will consist of three basic components: software, hardware, and telecommunications systems. (See Appendix C for more information on TMIP.) The MC4-TMIP system will support Army-unique requirements and any software needed to interface with Army INFOSYS such as BCS3, GCSS-A, FBCB2, Warrior Programs, and the Movement Tracking System. The joint TMIP will provide government off-the-shelves (GOTS)/commercial off-the-shelves (COTS) medical software and interoperability standards to support joint theater medical operations.

(1) The Theater Army Medical Management Information System (TAMMIS) interfaces with the MEDLOG battalion using the Army Tactical Command and Control System (ATCCS) computers. The TAMMIS was designed to focus primarily on wartime operations, but it is used also for training, contingency operations, and supporting some peacetime functions. It supports readiness missions in garrison and during training exercises; therefore, ensuring transitions from peacetime to wartime. Eventually the TMIP will replace the TAMMIS functionality.

(*a*) The TAMMIS consists of the following subsystems supporting logistics and patient administration functions. The subsystems supporting logistics functions are—

- Medical supply.
- Medical assemblage management.
- Medical maintenance.

(*b*) These subsystems currently run on several hardware platforms. The Everex-486 is used primarily at Level III TOE field medical units, to include the MEDLOG battalions. The subsystems supporting patient administration functions are—

- Medical regulating.
- Medical patient accounting and reporting.
- Medical patient accounting and reporting—C2.

(2) These subsystems currently operate on Everex-486 hardware platforms at Echelon III TOE units. The TAMMIS is capable of interfacing with other DOD management INFOSYS and programs such as the Defense Medical Regulating Information System.

c. Battle Command Sustainment Support System. The BCS3 is the CSS component of ATCCS. It is a decision-support system designed to assist commanders and their staffs in planning and executing logistics operations. (See Appendix B.)

d. Force XXI Battle Command Brigade and Below. The FBCB2 is a digital battle command INFOSYS with a hardware/software suite that digitizes C2 at brigade level and below. (See Appendix B.)

e. Global Combat Support System. The primary objective for the GCSS concept as overseen by the joint staff is to provide a fused and integrated CS picture of the battle space to the warfighter. (See Appendix B.)

f. Global Combat Support System-Army. In the future, GCSS-A will be the Army's AIS to modernize and integrate the capabilities of existing logistics STAMIS. (See Appendix B.)

g. *Enhanced Position Location Reporting System*. This system provides SU for commanders and their staff down to brigade level and eventually down to the battalion level. (See Appendix B.)

h. *Warfighter Information Network*. The Warfigher Information Network (WIN) is an evolving network that is comprised of commercially based, emerging technology information and communications systems. (See Appendix B.)

i. *Army Tactical Command and Control System*. A component of the Army Battle Command System (ABCS), the ATCCS interfaces directly to the Army's GCCS. (See Appendix B.)

j. *Single-Channel Ground and Airborne Radio System*. The AN/VRC-90 series has two receivers/transmitters (and one power amplifier). Two receivers/transmitters allow the BSS to participate in two FM nets. These nets include the brigade administrative/logistics net and one each of the three medical platoon operations nets.

k. *Improved High Frequency Radio*. The AN/GRC-213 is a low-power, manpack or vehicular-mounted configuration of the improved high frequency radio (IHFR) system. It provides a reliable high frequency coverage capability of 2 to 30 megahertz for medical troops/companies. It has the capability to pass secure medical C2 and HSS information over medium- to long-range distances. It also can be used over varying terrain features that would normally preclude the use of very high frequency (FM) combat net radio (CNR).

5-6. System Architectures Throughout the Theater of Operations Health Service Support Organizations

The graphics on the following pages will lay down the communications equipment, computers, and C2 systems that are available to ensure effective communications within the TO. Communications systems are essential for gathering and disseminating data; personnel need them to plan and execute operations. Commanders use them to perform C2 functions and to supervise performance. Effective management of HSS functions depends on adequate communications to keep abreast of changing situations and requirements. The medical company relies on both its organic communications assets and the support assets of its parent unit and signal elements of the division and/or corps.

a. Figure 5-1, depicting the expanded HSS architecture, shows the relationship between sustaining base programs and TMIP, and the communications infrastructure that supports both environments.

b. The diagram (Figure 5-1) does not show the distribution of systems, but only conceptualizes the relationship between Echelon V and the theater. The following diagrams will expand on this conceptualization by showing more of the components that are involved in this connection and the information flow between their databases.

c. The objective architecture (Figure 5-2) shows the layout of systems from the brigade and below the sustaining base. At the same time, it pictures both C2 systems and business systems working in concert to achieve information dominance. Within the diagram, the C2 systems are shown in clusters—the

ATCCS, the GCSS-A, and the Global Command and Control System (GCCS). At the tactical level, the components of the ATCCS are the systems that commanders and their primary battle staffs use to plan and execute missions. The BCS3 is the CSS component to the ATCCS. The BCS3 will obtain its data from the CSS business systems that are pictured in the bottom-half of the architecture depiction.

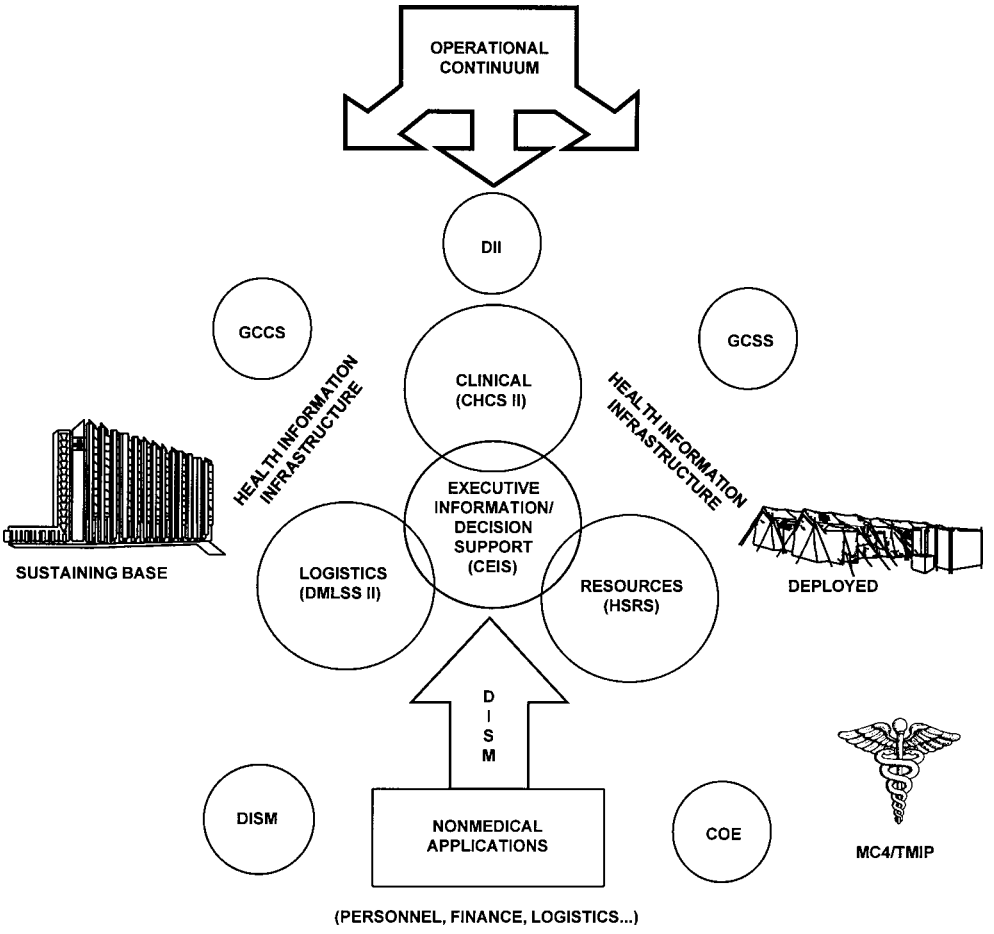


Figure 5-1. The expanded view of health service support architecture.

d. The business systems in the bottom-half of the architecture depiction are not all inclusive. There are several other business systems that could be substituted for the medical, transportation, and personnel systems that are pictured here. The key to the depiction is that GCSS and its Service component, GCSS-A, is the link for passing CSS data between business systems and the BCS3. However, all of the business systems pass data vertically, as well as horizontally; the main links to the sustaining base systems are shown at the top left of the diagram. As you move further and further to the rear, the line between individual business systems blurs and, at the joint level, they are all components of the GCSS.

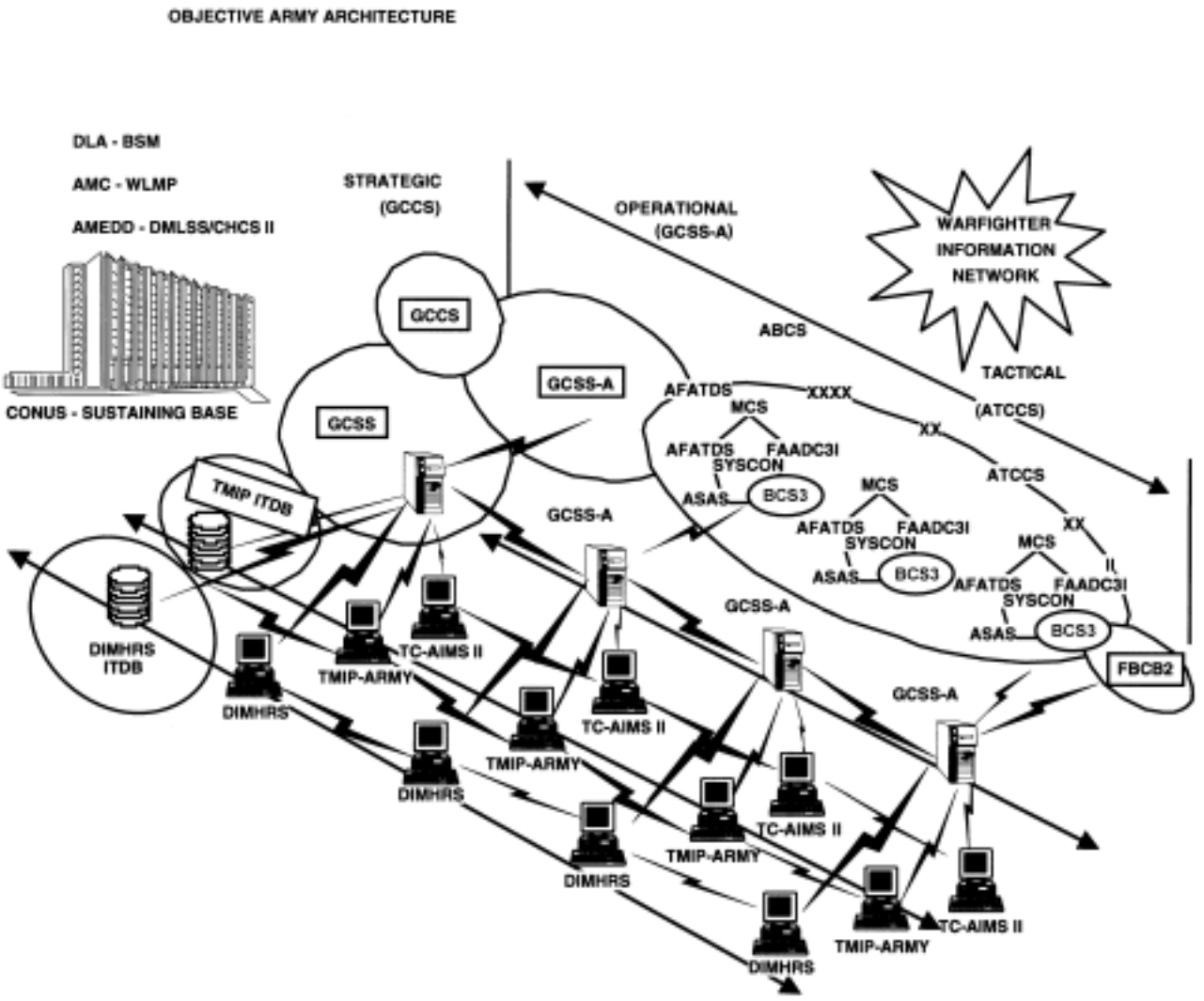
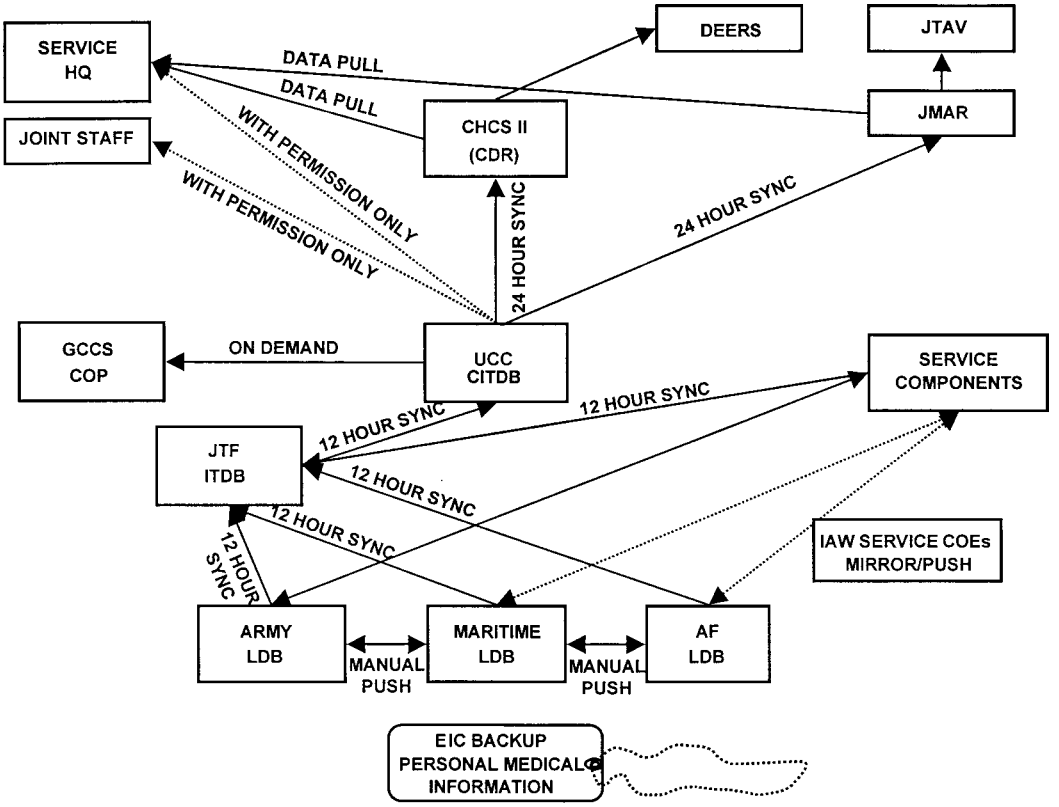


Figure 5-2. The objective Army architecture.

e. The business systems in the bottom-half of the diagram make up the unclassified portion of the tactical communications network. The C2 systems make up the classified portion of the network. The lightning bolts represent the communications assets that connect all of these systems. At the tactical network, communication is provided by the deployable signal network (objective system in WIN that supports the Army. As you move back to the operational and strategic levels the communications infrastructure may be composed of commercial assets, government satellite networks, or fixed facility Defense Information System Network (DISN) assets.

f. The information flow out of the deployed theater to the clinical data repository (Figure 5-3) in CONUS can be visualized in the above graphic. This data flow diagram also shows the connections inside the theater to GCCS and between the services.

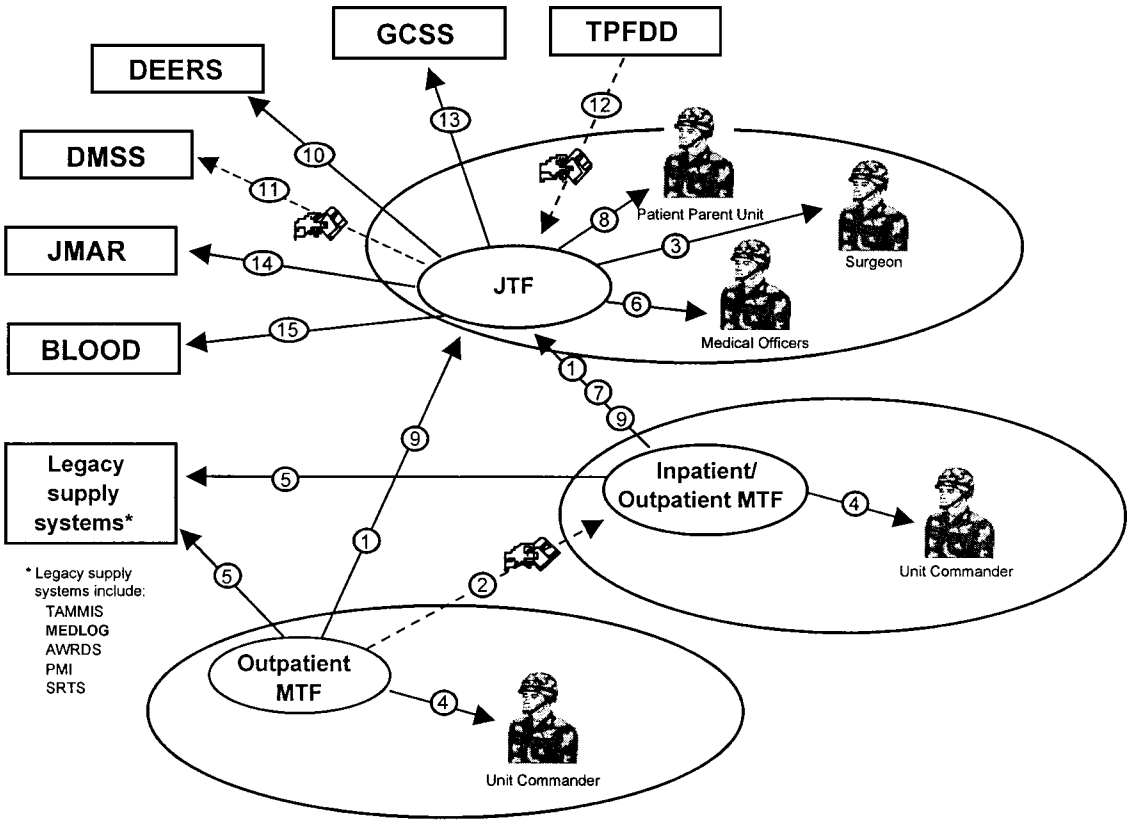


*NOTE: ASSUMPTION IS THAT THE JITDB/CITDB RESIDE ON THE GCSS SERVER

LEGEND:

AF	AIR FORCE
CDR	COMMANDER
CHCS II	COMPOSITE HEALTH CARE SYSTEM II
CITDB	CORPS, INTERIM THEATER DATABASE
COE	COMMON OPERATING ENVIRONMENT
COP	COMMON OPERATING PICTURE
DEERS	DEFENSE ENROLLMENT ELIGIBILITY REPORTING SYSTEM
EIC	ELECTRONIC INFORMATION CARRIER
HQ	HEADQUARTERS
IAW	IN ACCORDANCE WITH
JMAR	JOINT MEDICAL ASSET REPOSITORY
JTAV	JOINT TOTAL ACCESS VISIBILITY
JTF	JOINT TASK FORCE
JTF ITDB	JOINT TASK FORCE INTERIM THEATER DATABASE
LDB	LOCAL DATABASE
UCC	UNIFIED COMBATANT COMMANDER

Figure 5-3. Data flow from theater to the clinical data repository in continental United States.



LEGEND:

INFORMATION EXCHANGE (BY THE NUMBERS)-MODE OF COMMUNICATIONS:

1	REMOVABLE MEDIA, WAN
2	EIC
3	LAN
4	LAN
5	REMOVABLE MEDIA, WAN
6	LAN
7	REMOVABLE MEDIA, WAN
8	LAN
9	REMOVABLE MEDIA, WAN
10	REMOVABLE MEDIA, WAN
11	REMOVABLE MEDIA, WAN
12	REMOVABLE MEDIA, WAN
13	WAN, (NIPERNET)
14	WAN, (NIPERNET)
15	WAN, (NIPERNET)

Figure 5-4. Example of the horizontal and vertical flow of transactional information.

APPENDIX A

ARMY MEDICAL INFORMATION MANAGEMENT— ANALOG FORCE

A-1. Analog Medical Elements

This appendix discuses the AMIM requirements and/or capabilities for the nondigitized medical elements.

Section I. MEDICAL PLATOON

A-2. Medical Platoon of the Maneuver Battalion Within the Analog Force

The medical platoon is organic to the headquarters and headquarters company of each maneuver battalion. In addition, medical sections may be assigned to other combat and combat support units. The organizational structures for the medical platoons and sections may vary from one type of parent battalion to another (such as between an infantry battalion, armor battalion, and an engineering battalion and artillery battalions).

a. The combat medic section assigns trauma specialists to support the maneuver companies and their subordinate platoons.

b. The trauma specialist does not have a dedicated radio for his use in nondigitized force at Level I. The trauma specialist must rely on the maneuver platoon radio operator to communicate with the company trauma specialist through the unit's 1SG. The information requirements for the trauma specialist supporting the maneuver platoon include—

- Requesting MEDEVAC support.
- Requesting Class VIII resupply.
- Requesting augmentation or reinforcement.
- Reporting patient treatment information.

A-3. Medical Platoon Treatment Squad

The medical platoon's treatment squad establishes the BAS and can perform split-team operations for a limited period of time. The platoon uses the battalion ACUS communications network for communications with all major elements of the battalion and with supporting units in the battalion area.

a. Wireless communications for the platoon consists of a tactical FM radio mounted in the platoon vehicles. The headquarters section (field medical assistant Medical Service Corps [MS] officer and platoon sergeant) serves as the NCS for the platoon.

(1) The field medical assistant coordinates HSS operations with the battalion S3 and the S4 using the battalion wire net. Patient evacuation is also coordinated with the supporting medical company

using a FM tactical radio. The FM tactical radio is normally deployed as the medical platoon's operations net.

(2) If a dedicated medical net is not available, the BAS elements (treatment teams and evacuation teams) use the administrative/logistics net.

b. The BAS under the operational control of the medical platoon leader may operate in a split-team mode for limited periods of time. The BAS stabilizes patients requiring further evacuation and RTD all other patients as soon as possible. The AMIM functions include—

(1) Receiving and reporting patient administration data for all patients treated at the MTF.

(2) Reporting and receiving patient administration data. This may be accomplished by messenger, by using the battalion wire communications, or by using the administrative/logistics net.

(3) Using the battalion wire net, notifying the S1 of all patients processed through the BAS, giving identification and disposition of patients.

(4) Preparing the FMC as required.

(5) Verifying information contained on the FMC for all patients evacuated to the BAS.

(6) Requesting MEDEVAC from the FSMC of patients using the tactical FM radio net and/or using ambulance drivers as messengers, if necessary.

A-4. Ambulance Section

The ambulance section provides ground evacuation within the battalion. Ambulance teams provide MEDEVAC and en route medical care from the soldier's point of injury or company patient collecting point (PCP) to the BAS.

A-5. Headquarters Section

The headquarters section, under the direction of the battalion surgeon, provides the C3 (through the use of a tactical FM radio) for the medical platoon. The battalion surgeon must keep the medical platoon personnel informed of the tactical situation during all operations. The battalion surgeon is responsible for the location of the forward treatment site (BAS), the ground and air MEDEVAC routes, AXP, and forward PCP. The 1SG is responsible for identification of the patient at the time of evacuation.

A-6. Resupply

Within the nondigitized medical units/elements in Level I, the medical platoon submits requests for HSS to the supporting FSMC in the brigade area, transmitting the requests by tactical FM radio or by using

messengers. Requests for items not available at the FSMC are forwarded to the division medical supply office (DMSO) located back in the division area by the FSMC.

a. Supplies and/or resupply to the BAS are transported directly from the FSMC by ground ambulances and from the DMSO to the FSMC by corps ground or air ambulances.

b. Medical resupply may also be by preconfigured Class VIII packages throughput from the MEDLOG battalion in the corps.

Section II. BRIGADE SURGEON MEDICAL INFORMATION MANAGEMENT

A-7. Brigade Surgeon Medical Assets Within the Brigade Support Area

a. Health service support (organic, assigned, attached, in DS or GS of, or under OPCON) within the BSA under the nondigitized organizational design includes—

(1) Forward support medical company (brigade).

(2) Forward surgical team (corps).

(3) Aeromedical and ground evacuation resources (corps MEDEVAC battalion).

(4) Combat operations stress control/mental health team (main support medical company [MSMC]).

(5) Preventive medicine team, (MSMC).

(6) Level II MTF (brigade [FSMC] and division [MSMC]).

(7) Combat health logistics (corps MEDLOG battalion).

b. Within each brigade area, the FSMC commander is dual-hatted as the brigade surgeon. Normally, the surgeon coordinates all medical staff actions through the brigade's S1, a coordinating staff officer. Further, the brigade surgeon must maintain communications linkages with all other staff sections. This is accomplished by using the brigade wire communications capability. Information pertaining to how the brigade surgeon interacts with the staff may be found in FM 8-10-5.

NOTE

In peacetime, under the nondigitized organizational design, the FSMC is usually commanded by an MS officer. When an MS officer commands the unit, HSS activities involving physician-related areas, such as patient treatment policies, protocols, procedures, are referred to a physician.

A-8. Brigade Surgeon

Under the nondigitized organizational design, the brigade surgeon does not have a staff section to assist him with his planning duties at brigade headquarters and he relies on the brigade commander's staff to assist in the coordination of required HSS within the BSA.

a. It is necessary that the brigade surgeon's communications assets have long-range and redundant capability.

b. The brigade surgeon's responsibilities are focused on the support provided in the BSA and to the supported battalion surgeons at Level I. He also provides support to divisional and corps HSS assets in DS of the brigade. The MSE is the current ACUS within the corps and division. It is the backbone of the corps communications system and is deployed from the corps rear boundary forward to the maneuver battalion's main command post (CP).

(1) The ACUS provides a secure, mobile, survivable communications system capable of passing voice, data, and FAX throughout the corps.

(2) It further provides a direct interface with the division surgeon, other Services, allied and coalition partners, combat network, and other commercial communications systems, as required.

(3) The MSE is currently being upgraded for speed of service and data throughput capacity to accommodate users prior to the WIN-T being fielded. The upgraded version is called the Tactical High-Speed Data Network.

A-9. The Forward Support Medical Company

a. The FSMC provides—

- Treatment for patients with minor diseases, triage, initial resuscitation/stabilization, ATM, further evacuation (if required), and preparation for RTD.
- Ground evacuation for patients from the BAS to the Level II MTF in the BSA and backhauling medical supplies to the BAS.
- Emergency dental care.
- Emergency medical resupply to units operating in the BSA.
- Medical laboratory and radiology commensurate with division-level treatment.
- Outpatient consultation services for patients referred from unit-level MTFs.
- Patient holding for up to 40 patients expected to RTD within 72 hours.

b. Medical support requests including aeromedical evacuation, ground ambulance, emergency medical resupply, and replacement, augmentation, and reinforcement support are normally transmitted through the brigade to the FSMC using the MSE network. In some instances, all of these requests may be transmitted directly to the FSMC using the tactical FM radio network or by messenger, if necessary.

(1) Requests for patient evacuation from the FSMC to the MSMC or corps MTF are transmitted directly to the supporting MSMC or corps air or ground unit using MSE network.

(2) The FSMC provides a liaison representative (normally a field medical assistant) to the maneuver brigade's S2/S3 office to coordinate HSS requirements for the brigade and to stay abreast of the combat situation.

(3) The FSMC headquarters is organized into a command element, supply element, and an operations and communications element. It provides C2 for the company and all attached HSS units/ elements. The company headquarters employs three tactical radios and a manual switchboard. Each FSMC employs AM and FM radios. The company maintains tactical communications with forward HSS elements of the maneuver brigade it supports. The company maintains an information link for C2, provides information on patient evacuation, and operates and maintains the command network.

(*a*) The FM short-range networks are used for C2 within the company and for communication with supported units.

(*b*) The AM long-range is required for coordinating aeromedical evacuation. The AM radio system has voice as well as a data-link capability.

(*c*) The wire network is tied to the medical elements within the BSA—the treatment platoon headquarters, the treatment squads, the supply section, the area support treatment squad, the patient holding squad, the ambulance platoon headquarters, the area support section, the company commander, and the 1SG.

(d) The Single-Channel Tactical Satellite (SCTACSAT) radio, is authorized by operational facility (OPFAC) in every Medical Company Command Post. This is intended to provide medical, tactical, operational, and strategic reachback. However, these assets are potentially unreliable for two reasons. First, radios are often acquired by higher headquarters for nonmedical purposes. Second, during a major theater war (MTW) or large contingency, access to satellite itself may be in contention and on a warfighter priority basis.

c. The medical treatment, evacuation, and HSS elements of the FSMC are routinely required to establish and maintain communications with the supported and supporting units within both the BSA as well as the battalion AO. These communications requirements are accomplished through the MSE network from the brigade commander's tactical operations center (TOC) to the FSMC and brigade S1 and S4. The brigade surgeon and the FSMC communicate with the BAS using the tactical FM radio network and/or communicate using hard copy reports pertaining to patient data (FMC), HSS requests, MEDEVAC requests, and medical situation reports. Requests for medical resupply are transmitted back to the DMSO; this is accomplished on the tactical FM radio network and/or by messenger through backhaul.

A-10. Forward Surgical Team

Under the nondigitized/Force XXI organizational design, the FSTs are clinically standardized modules except in airborne and air assault divisions. They are 20-person units organized into four functional areas: triage-trauma management, surgery, recovery, and administration/operations. The mission of the FST is to provide a rapidly deployable immediate surgery capability, enabling patients to withstand further evacuation. It is assigned to the CSH. It has two operating room (OR) tables with surgical capacity of 24 table hours per day. Other capabilities include—

- Nursing care.
- Rapid strategic deployability.
- Tactical mobility.

For detailed discussions on the capability of each of the above, see FM 4-02.25.

a. See FM 4-02.25 for the C2 and organizational linkage of the FST. It is normally attached to a corps-level medical unit (corps hospital, medical group/brigade, or an ASMB); when employed forward, it is in DS of the FSMC or MSMC. Forward deployment is requested through the commander of the medical group/brigade and ensures coordination for the unit's employment/further attachment to a supported medical company.

b. There are several means of organic communications available to the FST commander. As appropriate, he should employ each of these to communicate.

(1) *Radio*. The most common means of communications is the radio. The FST employs a SINCGARS FM CNR with the ability to operate in the MEDCOM network, the division medical operations center (DMOC), or the supported medical company/troop operations network. It also employs a lightweight digital FAX machine. While this equipment is adequate for most FST operations, when the corps team deploys, it relies on the supporting/supported unit to assure its communications capability.

(2) *Mobile subscriber equipment*. The MSE telephone, FAX and data terminals (as part of the ACUS) are user owned and operated. See Appendix B, FM 4-02.6, and FM 63-20 for communications linkages.

(3) *Global position (POS) navigation (NAV) equipment*. See FM 4-02.6 for a discussion on the precision lightweight global positioning system (GPS) receiver (PLGR). See also Appendix B of this manual.

A-11. Air and Ground Ambulance Resources

a. The corps medical evacuation battalion provides both air and ground ambulance assets in support of a division. These assets may be employed either as DS or GS.

(1) The AA company is normally employed in DS of a division and in GS of a corps. (See FM 8-10-26 for the basis of allocation, assignment, mission, and capabilities of this company.) Command and control is assigned to a medical group/brigade and may be further assigned to a MEDEVAC battalion. When an AA company is in DS, it will deploy a forward support MEDEVAC team (FSMT) to support each FSMC. It normally collocates with the FSMC or FSB headquarters and establishes liaison and provides aeromedical advice to the supported unit. During initial build up in a deployment, or in contingency operations, the senior medical C2 headquarters may be a medical group/brigade, MEDEVAC battalion, or medical TF headquarters. Management and control of the aeromedical evacuation operations is dependent on the company headquarters' ability to communicate with its elements, the MEDEVAC battalion, the medical group/brigade, elements of the supported maneuver brigade, and other CSS units. The AA platoon communications assets include AM and FM radios and MSE. The MSE network is applicable to corps level and below.

(2) The corps ground ambulances are field-sited at the FSMC to provide DS for evacuation from the FSMC to the MSMC and/or supporting corps hospital depending upon METT-TC. Corps ground ambulances are often used in an ambulance shuttle system. The corps ambulances do not communicate using AN/VRC 90, AN/VRC 89 (control vehicle), and AN/GRC 213.

b. The FSMC ground ambulance platoon is comprised of a headquarters, four ambulance squads (or eight ambulance teams), one control vehicle, and eight ambulances. (The mix of ambulances [tracked and wheeled] is dependent upon the type of parent unit.) The platoon is mobile in its operations and all ambulance teams may be dispatched at any given time. For communications, the platoon employs nine tactical radios (FM voice), operates its own NCS and is deployed from the FSMC wire communications network. The platoon establishes radio contact with the supported maneuver medical platoons and places one or two ambulances with each of the supported medical platoons.

A-12. Combat Operational Stress Control/Mental Health Team

The MSMC combat stress/mental health team is deployed forward to the BSA upon request from the brigade surgeon under the analog organizational design. This team is not equipped with a radio. It must rely on the supported unit's communications capabilities. Its activities are discussed in Chapter 4.

A-13. Preventive Medicine Team

The MSMC PVNTMED team is a division asset that is deployed forward to the BSA upon request from the brigade surgeon under the analog organizational design. Its activities are discussed in Chapter 4.

A-14. Health Service Logistics

Three to five days of Class VIII supplies are stocked by all FSMC treatment elements. During the initial deployment phase of the FSMC it receives a medical supply PUSH package every 48 hours. Under the current analog organizational design, Class VIII supplies will be requested and filled by standard line item

requisition, once the corps MEDLOG battalion is established. Requests for Class VIII will be submitted in hard copy, by FM radio, and established wire communications networks. The systems available for transmitting the request will be MC4-TMIP to GCSS-A, and then interfacing with BCS3.

A-15. Communications Planning

Depending on the type of deployment, extensive communications planning is required for joint, multinational, and civil-military operations. Commercial, other nation's military, and sister Services communications systems may not be compatible with US Army communications systems. Existing local HN telephone and telegraph systems should be checked for compatibility with military networks. The company's operations platoon headquarters and operations section must plan for communications requirements and usage for each phase of the military operation—predeployment, deployment, sustainment operations, and redeployment. See Appendix E.

APPENDIX B

COMMUNICATIONS, AUTOMATION, AND POSITION NAVIGATION SYSTEMS

Section I. COMMUNICATIONS SYSTEMS AND COMPUTERS

B-1. General

Commanders use communications systems to gather and disseminate data, to perform C2 functions and to supervise their command's performance. Effective management of HSS functions depends on adequate communications to keep abreast of changing situations and requirements. The medical company relies on both its organic communications assets and the support assets of its parent unit and signal elements of the division and/or corps.

B-2. Mobile Subscriber Equipment Area Common User System

Mobile subscriber equipment is the ACUS within the corps and divisions. It is the backbone of the corps communications system and is deployed from the corps rear boundary forward to the maneuver battalion's main CP. It provides a secure, mobile, survivable communications system capable of passing voice, data, and facsimile (FAX) throughout the corps. Further, it provides a direct interface with EAC, other services, NATO, CNR, and commercial communications systems. This system is composed of multiple communications nodes with network features which will automatically bypass and reroute communications around damaged or jammed nodes. This system integrates the functions of transmission, switching, control, and terminal equipment (voice and data) into one system and provides the user with a switched telecommunications system extended by mobile radiotelephones. Nodes are deployed in the AO based on geographical and subscriber density factors. Node centers are the building blocks of the system and extension switches allow wire line terminal subscribers (telephone, FAX, and data) to enter into the ACUS. Radio access units (RAU) let mobile radiotelephone users communicate with other mobile and wire telephone users throughout the AO. The system control centers (SYSCON) provide the processing capability to assist in overall network management. The MSE system lets subscribers communicate with each other using fixed directory numbers regardless of a subscriber's battlefield position. (Refer to FM 11-55 for detailed information on MSE operation.)

a. *Area Coverage*. The MSE system provides common-user support to a geographic area as opposed to dedicated support to a specific unit or customer. The hubs of the system are called node centers and are under the control of the corps signal officer.

b. *Subscriber Terminal* (*Fixed*). The MSE telephone, mobile radiotelephone, FAX, and data terminals (as part of the ACUS) are user-owned and operated. The using unit is responsible for running wire to the designated distribution boxes. Those boxes tie the medical company's MSE telephones into the extension switches which access the system. The subscriber terminals used by the unit are digital, four-wire voice, as well as data ports (of TA-1042 DNVT) for interfacing the AN/UXC-7 FAX and medical transportable computer unit (MEDTCU).

c. Wire Subscriber Access.

(1) Wire subscriber access points provide the entry points (interface) between fixed subscriber terminal equipment and the MSE area system operated by the supporting signal unit. The two types of interface equipment are—

- The signal distribution panel J-1077 (each panel provides up to 13 subscriber access points).
- Remote multiplexer combiners that provide access for 8 subscriber access points.

(2) The medical company/troop is responsible for installing and operating fixed subscriber terminal instruments (DNVT TA-1042). It must also install and maintain the WF-16 field wire from the instruments to the interface point (J-1077 distribution panel).

d. Mobile Subscriber Terminal Access. The MSE mobile subscriber terminal is the AN/VRC-97 mobile subscriber radiotelephone terminal (MSRT). This MSRT, which consists of a very high-frequency radio and a digital secure voice terminal, is a vehicle-mounted assembly. It interfaces with the MSE system through a RAU. The primary use of the MSRT is to provide mobile subscribers access to the MSE area network. Radio access units are deployed to maximize area coverage and MSRT concentrations. Mobile subscriber radiotelephone terminals can also operate in CP to allow access to staff and functional personnel. Local SOP will determine the use of MSRT in CP areas based on the possibility of interface with SINCGARS radios operating in the immediate area. See FM 11-55 for definitive information pertaining to the MSE area communications system.

B-3. Warfighter Information Network–Tactical

The WIN-T is Army XXI communications network that will replace TRB-TAC and MSE (from theater to battalion CP/TOC and provide C2 on-the-move (C2OTM) capability to the Warfighter. The system uses commercial products and technology; provides wired and wireless communications to support for voice, data, and video information exchange requirements; provides seamless connectivity among ABCS and weapons platforms within the battlespace; supports multiple security levels (Unclassified [U], Secret [S], and Top Secret[TS]/sensitive compartmented information [SCI]); and integrates tactical, airborne, and satellite-based transport systems.

B-4. Combat Net Radio Systems

The SINCGARS radio, the IHFR, Harris Corporation radios, and the PSC-5 SCTACSAT radios, comprise the CNR Systems in the AMEDD inventory. These systems serve as the primary means for voice transmission of C2 information and as a secondary means to MSE for data transmission.

a. The AM (HF) radios provide mid- to far range communications capabilities. They interface with other AM HF radios that provide secure voice and data capability, and have push-button frequency selection. The AN/GRC-246 digital HF Radio System from Harris Corporation provides reliable tactical

communications through enhanced digital voice, data performance, and networking protocol capabilities. This radio is user-friendly, menu-driven, owner-operated and with a computer interface that makes operation relatively easy. It uses new technology features unavailable in previous HF radio equipment. The digital radio has Automatic Link Establishment (ALE) and a serial tone modem that employs data transport protocols with error detection and correction. The radio uses microprocessor technology features to overcome nearly all of the limitations (propagation and frequency management) commonly associated with HF beyond line of sight (BLOS) communications. It replaces the need for the operator to search for the best operating frequency, attempt to establish or maintain communications, and overcome the problems caused by ever-changing propagation conditions and noise interference.

NOTE

While the radio is easier to use than previous systems, the operator must still acquire USEABLE frequencies from a frequency management office. Not all frequencies between 1.5 and 30 MHz will work depending on the locations of sender and receiver, time of day, and time of year. Commercial software programs are available to check the propagation of HFs and are a wise investment for units planning to use such radios. If HF radios are critical to your mission, recommend acquiring as many frequencies as possible (ten should be enough) and confirming the propagation characteristics of each prior to deployment. Frequency management offices have been known to provide HFs that will not propagate for the specific mission requested.

b. The SINCGARS-series use a 16-element keypad for push-button tuning which allows for simple and quick operation. They are capable of short-range operation for voice or digital data communications. They are also capable of single-channel operation for interface with the legacy AN/VRC-12-series or other FM radios. The SINCGARS-series of radios can operate in a jam-resistant, frequency-hopping mode, which can be changed as needed. (Refer to FM 6-02.72, FM 11-32, and FM 11-50 for communications operations in the corps, division, and below.) The SINCGARS can monitor or scan up to five frequencies simultaneously and transmit on the one selected.

c. The SCTACSAT provides a strategic "reachback" and "range extension" capability. It is primarily used to transmit voice, but has a limited data capability (limited due to narrow bandwidth). The "reachback" capability is critical for deployed forces prior to the ACUS network becoming operational. However, due to satellite availability, the network is often oversubscribed and presented on a priority basis. The "range extension" technique provides a retransmission capability for FM radios greatly extending broadcast ranges.

B-5. Satellite Communications

The radio sets for satellite communications, AN/PSC-5, are located only in the MEDCOM/medical brigade headquarters. The radio set is a line of sight and satellite command terminal. The system enables the

battalion to communicate with its home station when deployed to an overseas location, or to communicate with a subordinate unit if it is deployed to another theater.

B-6. Radio Nets

The medical company/troop establishes radio nets to maintain an information link for command and technical control of its elements. It is also essential that this Level II unit establishes radio communications links with supporting corps medical elements and supported medical platoons to ensure that timely HSS is provided throughout its support area. The medical company/troop, under its parent support battalion/ squadron, employs its SINCGARS radios in three separate FM nets: command net, treatment platoon medical operations net, and an ambulance platoon medical evacuation net. It also employs an AM (HF) net.

a. Command Frequency-Modulated Net. The commander establishes a command net (see Figure B-1) for C2. The NCS, operated by the unit CP, is normally comprised of the commander's station, treatment platoon leader's station, ambulance platoon leader's station, and a wrecker operator/maintenance station. The commander's station is also deployed in the battalion/squadron command net. The CP/NCS may be employed in the brigade or regimental administrative/logistics net. The CP is authorized the NCD KYX-15/TSEC for its NCS operation. The treatment platoon's NCS may also serve as the alternate NCS for the command net.

b. High Frequency Radio Net (*Amplitude-Modulated*). If the unit is a divisional medical company, it is required to net with the DMOC medical operations net to ensure the external flow of health service logistics and air/ground evacuation support. If the unit belongs to a nondivisional brigade or regiment, it will have access to the supporting medical group medical operations net. Nondivisional medical companies/ troops may also access HF nets of the MEDLOG and medical evacuation battalions. The signal officer of the parent support battalion/squadron assists the medical company/troop in obtaining adequate SOI to allow it to access these dedicated medical networks. The unit's CP operates its HF station (Figure B-2).

c. Treatment Platoon Medical Operations Frequency-Modulated Net. For operational control of its treatment elements, the treatment platoon establishes medical operations net (see Figure B-3). The platoon headquarters operates the NCS. The platoon headquarters may also serve as an alternate NCS for the command net, and the Level II MTF may serve as the alternate NCS for the treatment platoon. This net is also used by air ambulances approaching for patient pickup. When treatment squads/teams of the medical company/troop are deployed in DS, or are attached to supported maneuver battalions/squadrons, they will normally operate in the medical operations net of the supported battalion/squadron aid station. They must be provided appropriate SOI for support operations.

d. Ambulance Platoon (*Dedicated*) *Medical Evacuation Frequency-Modulated Net*. The ambulance platoon, under the control of its parent unit, establishes an FM net (see Figure B-4, page B-7) primarily dedicated to air and ground MEDEVAC radio traffic for the supported area. This net, operated by the platoon headquarters, provides for the control of organic ambulances and for coordination of air and ground patient evacuation in the supported area. The supported battalion/squadron aid stations and supporting corps air and ground ambulances all operate on this net for the evacuation of patients out of the supported area. Supported aid stations also use this net for the coordination of combat health logistics support.

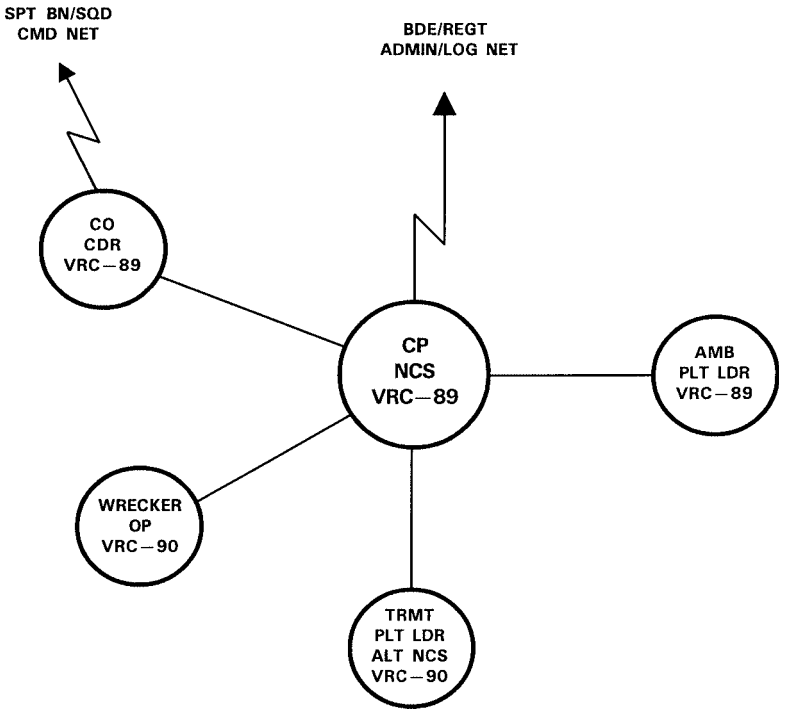


Figure B-1. Medical company/troop command frequency-modulated net.

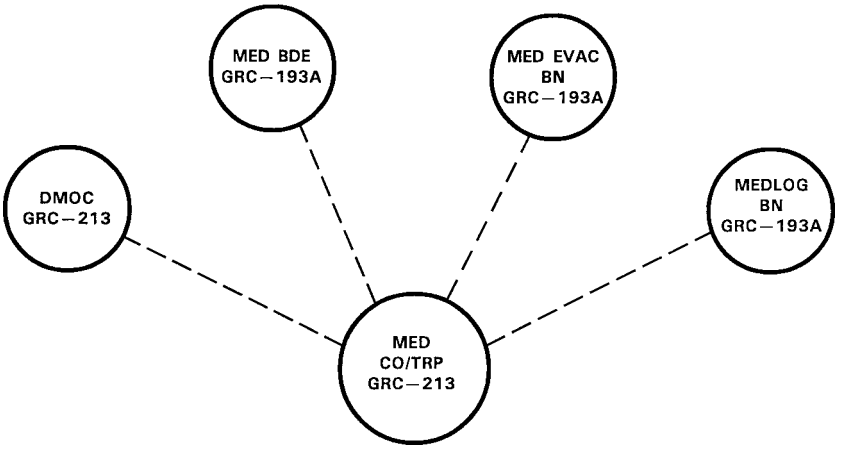


Figure B-2. Medical company/troop medical operations high frequency net access.

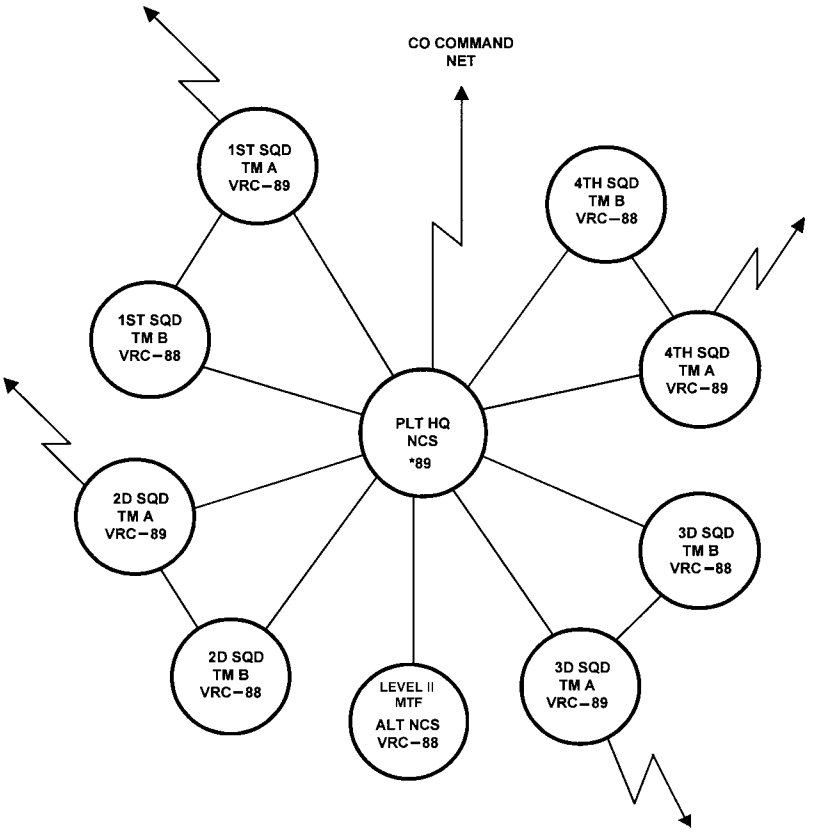


Figure B-3. Treatment platoon medical operations frequency-modulated net.

e. Supported Medical Platoon. This supported Level I element employs a medical operations FM net (see Figure B-5) under the headquarters and headquarters company/troop of the parent maneuver battalion/squadron. The platoon headquarters serves as the NCS. Its station is also deployed in the administrative/logistics net. Other stations of the medical operations net include Treatment Team A (battalion/squadron surgeon's station), Treatment Team B (PA station), ambulance team stations, and the attached treatment squad/team from the supporting medical company/troop. The medical platoon is provided appropriate SOI sufficient to net with both supported and supporting units.

NOTE

Each ambulance team is a separate station and will require separate call signs.

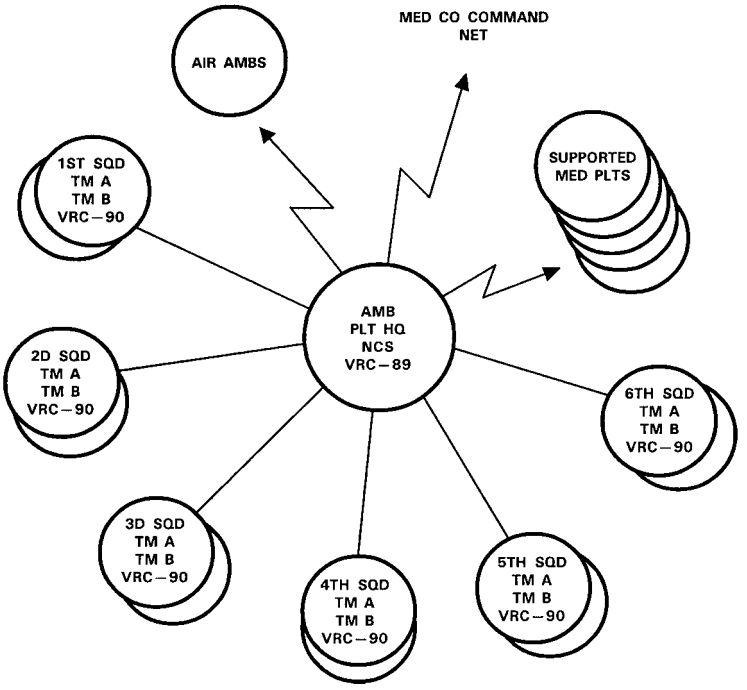


Figure B-4. Dedicated medical evacuation frequency-modulated net.

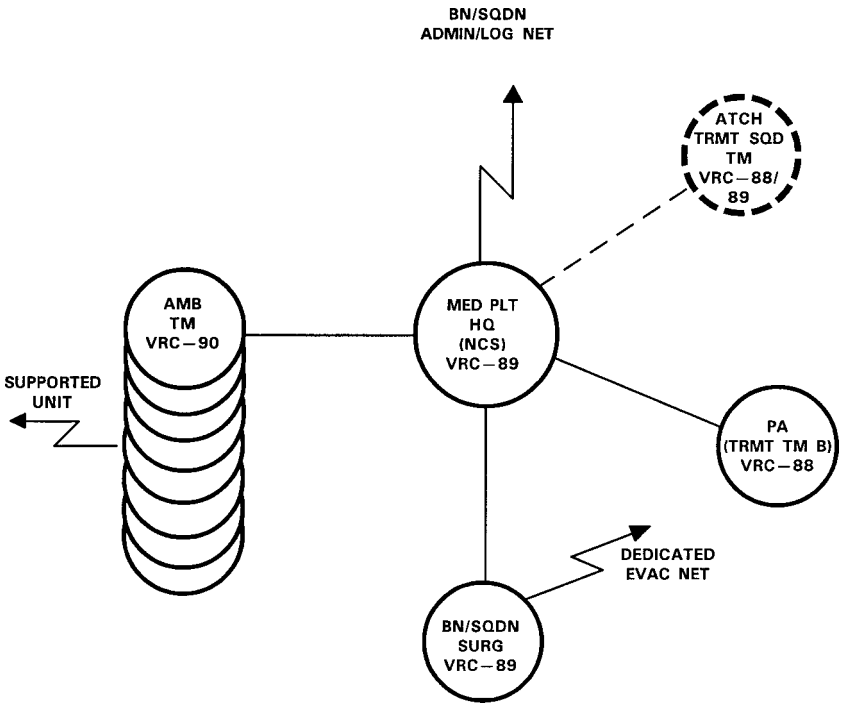


Figure B-5. Sample battalion/squadron aid station medical operations frequency-modulated net.

B-7. Internal Wire Communications Net

The medical company/troop employs DNVT MSE for internal communications. Regular garrison desk phones will replace these phones when MSE is replaced by the WIN-T system. The SEN assigned to the unit will not change much in appearance, but the communications capability upgrade will be substantial. Figure B-6 depicts a typical wire net for an MSMC and a medical company of a heavy separate brigade.

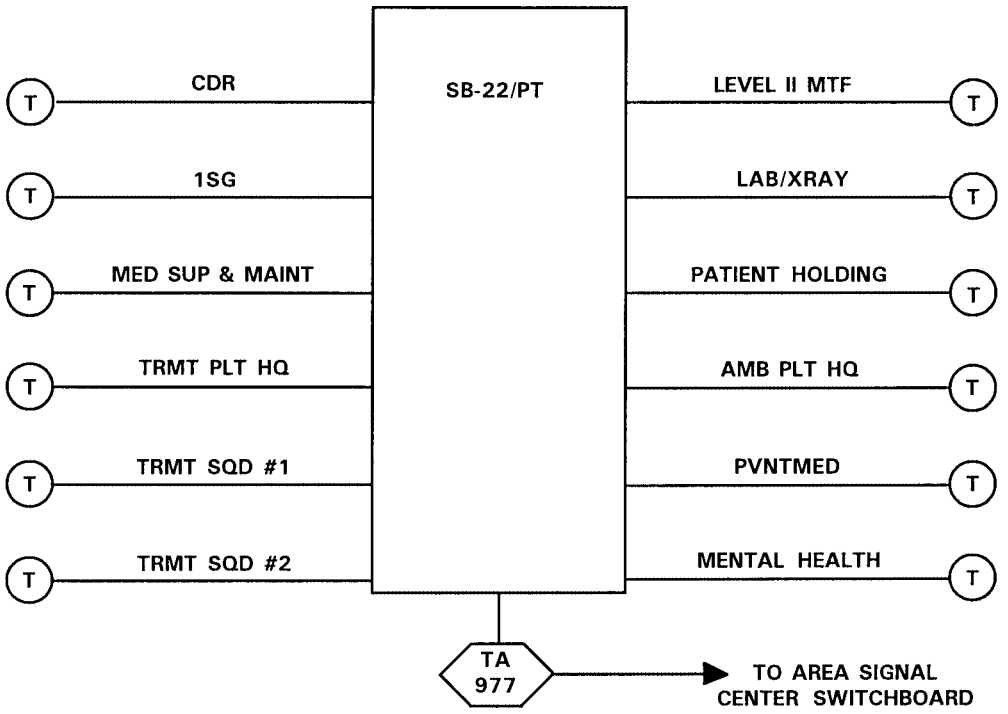


Figure B-6. Sample medical company/troop internal wire net.

Section II. AUTOMATION AND DIGITIZATION AND APPLICATION OF EQUIPMENT

B-8. Medical Company Automation Digitization Enablers

The automation and digitization enablers to be made available for the Medical Company consists of the MC4; the FBCB2; the GCSS-A; the Transportation Coordinators' Automated Information for Movement System II (TC-AIMS II); the MTS; and various COTS office computers purchased by individual units.

a. Medical Communications for Combat Casualty Care. The best way to visualize the MC4 system capability is as a piece of the Army digital computer network where all ten HSS functional areas (or business systems) have been digitized and this HSS information is freely shared with everyone on the Army network with a need to know. The MC4 system is a theater, automated HSS system, which links commanders, health care providers, and medical support providers, at all levels, with integrated medical information. The MC4 system provides digital enablers to connect both vertically and horizontally, all ten HSS functional business systems. Two of the most significant capabilities that the MC4 system will bring the Warfighter are enhanced ability to clear the battlefield and in-transit visibility of soldiers.

(1) The MC4 system receives, stores, processes, transmits, and reports medical C2, medical surveillance, casualty movement/tracking, medical treatment, medical situational awareness, and MEDLOG data across all levels of care. This is achieved through the integration of a suite of medical information systems linked through the Army data telecommunications architecture.

(2) The MC4 system begins with the individual soldier and continues throughout the health care continuum. The best way to visualize the MC4 system capability is as a piece of the Army digital computer network where all ten HSS functional areas have been digitized and this HSS information is freely shared with everyone in the Army with a need to know. Not only will the MC4 system provide Army commanders with HSS information, but it will also provide them with a seamless transition to the joint HSS environment. The MC4 system will consist of three basic components: software, hardware, and telecommunications systems.

(*a*) *Software*. The joint TMIP will provide GOTS/COTS software and interoperability standards to support joint theater operations. The software provides an integrated medical information capability that will support all levels of care in a TO with links to the sustaining base. Medical capabilities provided by the software to support commanders in the theater will address medical C2 (including medical capability assessment, sustainability analysis, and medical intelligence); MEDLOG (including blood product management and medical maintenance management); casualty evacuation; and health care delivery. The MC4 system supports Army-unique requirements and any software needed to interface with Army information systems such as BCS3, GCSS-A, FBCB2, warrior programs, and the MTS.

(*b*) *Hardware systems*. The hardware will consist of COTS automation equipment supporting the above software capabilities. Examples include, but are not limited to, computers, printers, networking devices, and the EIC.

(*c*) *Telecommunications systems*. The MC4 system will rely on current and proposed Army solutions for tactical, operational, and strategic telecommunications systems to transmit and receive digitized medical information throughout the theater and back to the sustaining base. There will be no separate AMEDD communications system. Telecommunications at brigade and below will be accomplished through the tactical Internet; above brigade level, telecommunications will be accomplished through the WIN architecture. The MC4 system includes hardware or software required to interface with current and emerging technologies, supporting manual, wired, and wireless data transmission. At end-state, the MC4 system users will exchange data electronically via the WIN architecture. In the interim, commercial satellites will be fielded to selected medical units (for example, medical detachment, telemedicine [MDT]) receiving the MC4 system to support high bandwidth requirements until the WIN architecture is

fully fielded. Personnel operating satellite assets are resourced in the MDT TOE and will be located with the MDT. The MC4 system employs a three-block incremental development approach that incorporates the spiral systems engineering life-cycle methodology designed to reduce development risk, improve manageability, increase maintainability, and accelerate benefits to the Warfighter. The MC4 system will be the Army's medical information system to modernize, digitize, and integrate medical information and make it available for the warfighting commander's use.

b. Army Battle Command System. The ABCS integrates Army battlefield functional systems to link strategic, operational, and tactical headquarters. It provides commanders and staffs at theater and below a relevant common picture through improved SU and battlefield digitization. The ABCS includes three components: the FBCB2, the GCCS-A and the ATCCS.

(1) *Force XXI Battle Command for Brigade and Below.* The FBCB2 is a digitized Battle Command Information System that provides on-the-move, real time and near-real-time battle command information to tactical combat, combat support, and combat service support leaders and soldiers. The FBCB2, as a key component of the ABCS, seamlessly integrates with the other components of ABCS at the brigade and battalion level. The FBCB2 supports SU down to the soldier/platform level across all BSA and levels. The FBCB2 also provides the means for brigade and battalion level commanders to command when away from their TOC, interoperating with subordinate commanders and leaders also equipped with FBCB2.

(2) *Global Combat Support System-Army.* The GCSS-A ties in all CSS data to C2 and provides CSS SA. The Army's new automated system, which will, over time, replace or interface to all of the existing CSS automated systems. The title specifies CSS rather than logistics system, because the new system will encompass personnel, financial, medical, and other nonlogistic CSS functions. The GCCS-A will be made up of a series of functional modules such as supply, property, maintenance and management. Each module will run at any level or organization where the Army performs that function.

(3) *Global Command and Control System.* The GCCS is the key joint C2 system. The GCCS is a system of interconnected computers that provides an integrated C2 capability to the entire joint community. It provides up to secret-level information from a variety of applications that have migrated, or are in the process of migrating, from other systems including the Joint Operations Planning and Execution System (JOPES). The GCCS provides a fused picture of the battlespace within the overall C2 system. The ABCS is the Army's component of GCCS.

c. Transportation Coordinator's-Automated Information Management System II. The TC-AIMS II is a system that provides an integrated information transportation system capability for routine deployment, sustainment, and redeployment/retrograde operations.

d. Movement Tracking System. The MTS is a satellite-based tracking/communications computer found on ambulances and in the company CP. The system's primary purpose is to maintain visibility of vehicles, like ambulances, that move individually and continuously across the battlefield. The system has the ability to send and receive free text messages for coordination and C2.

NOTE

The AOE division ambulances have the MTS. Force XXI division ambulances will have FBCB2.

(1) The MTS supports distribution management through the full spectrum of military operations. The system's integration with TC-AIMS II and GCSS-A provides commanders and distribution managers with improved movements tracking, control, and management capability. It provides near-real-time information on the location and status of distribution platforms using cabin console-mounted hardware and satellite technology. MTS incorporates various technologies including GPS, AIT, vehicle diagnostics, and nonline-of-sight communications and mapping.

(2) The MTS capabilities improve the effectiveness and efficiency of limited distribution assets. It provides flexibility and control over distribution operations to include the ability to reroute supplies to higher priority needs, avoid identified hazards, and inform operators of unit location changes. Future plans call for MTS to interface with embedded equipment diagnostic and prognostic systems to provide accurate data that will aid fleet maintenance and improve availability and overall service life.

(3) The MTS primarily enhances distribution operations from the port of debarkation (POD) to the brigade rear boundary. The MTS control stations will be established in DMC, the MCA, movement control battalions (MCB), movement control elements, distribution terminals, and mode operators. Additionally, MTS improves the operational effectiveness and efficiency of a number of other support activities, including traffic regulation control; maintenance and recovery; medical evacuation via ground ambulance; field services; financial management; religious support; and water transport. The plan is that all common-user logistic transport (CULT) vehicles and related CS and CSS tactical wheeled vehicles and watercraft will be fitted with MTS mobile units.

(4) The MTS provides the distribution system the capability to—

- Track the location of vehicles and communicate with vehicle operators (US and HN).
- Provide real time in-transit visibility (ITV) of movements within a theater.
- Redirect movements based on changes to battlefield requirements.

(5) Transportation elements use MTS to monitor and control in-transit status of their equipment tasked to move unit or nonunit equipment, supplies, and personnel throughout the theater distribution system. The MTS also provides the capability to synchronize resupply actions with fluid movements of maneuver forces ensuring that the right resources are at the right place at the right time. The MTS maximizes transportation asset utilization and efficiency, thus reducing overall operational times and associated costs. The AIT documents arrival and departure events at nodes within the Defense Transportation System for ITV. The MTS provides real-time tracking and messaging between transportation managers and the vehicles actually moving resources. This permits rerouting, redirection, and synchronization of supplies with maneuver forces.

e. Department of Defense Health Affairs Systems. Comprised of four sustaining base systems that make up the DOD Health Affairs (HA) system.

(1) Composite Health Care System–II.

(2) Defense Blood Standard System.

(3) Shipboard Automation Management System.

(4) Theater Army Medical Material Information System.

f. Battle Command Sustainment Support System. The BCS3 was developed to satisfy the Army's need for an automated system that provides the CSS commanders and their staffs with logistical transportation, medical, finance, and personnel information processing, reporting, and planning tools. This automated capability improves and accelerates the tactical decision-making process, and reduces the manual processing of data.

(1) The BCS3 provides automated support for the dual role of the CSS commander. It supports the C2 of subordinate organizations as they support operations. It also provides critical CSS resource information to the tactical-level commander for the decision making and battle planning processes.

(2) The BCS3 provides important C2 information to CSS major Army commands (MACOMs) and other commanders and their staffs based on data received from the CSS STAMIS, FBCB2, and subordinate staff elements. In addition, BCS3 exchanges CSS and tactical information between STAMIS and battlefield functional area. The information is posted to the BCS3 database that supports the generation of reports, projections, administrative/logistics orders, and aids in decision making and planning. The BCS3 interfaces with GCSS-A and with FBCB2.

g. The Standard Army Management Information System. The STAMIS provides detailed, day-to-day processing of the management of information. These systems are the key source of CSS data for the C2 systems. This paragraph discusses legacy STAMIS critical to CSS logistics and HSS operations.

(1) *Standard Army Retail Supply System*. The Standard Army Retail Supply System (SARSS) consists of four interrelated subsystems: SARSS-1, SARSS-2AD, SARSS-2AC/B, and the SARSS Gateway. The SARSS-1 is the automated system that operates at all levels to receive, store, and issue supplies. The SARSS-1 also maintains the accountable records. The SARSS-1 has interfaces to receive and process requests for issue from the Unit Level Logistics System (ULLS), Standard Property Book System-Redesign (SPBS-R), and the Standard Army Maintenance System-1 (SAMS-1). The SARSS-2AD is the automated supply management system used by managers at separate brigade, armored cavalry regiment, or divisional materiel management levels. It provides the tools for managers to establish stockage levels and support relationships (which units are supported by which SSA for which class of supply), and establishes operating parameters. The SARSS-2AD also maintains a custodial Availability Balance File (ABF) that provides visibility of SARSS-1 assets to control the lateral issue process (for example, referrals) of assets between supply support activity (SSA). The SARSS-2AC operates at the COSCOM, TSC, and the United States Property and Fiscal Office (USPFO). The SARSS-2AC provides the same management capabilities for the

COSCOM, MEDCOM, and TSC managers responsible for corps/theater SSA that the SARSS-2AD provides for divisional managers. The SARSS-2B operates at the COSCOM, TSC, and USPFO to perform nontime sensitive supply management functions for document history, catalog update, and demand analysis. The SARSS-2B also provides financial systems interface. The SARSS-Gateway provides a communications network and the capability to send transactions to the Defense Automatic Addressing System (DAAS). The SARSS-Gateway also provides customer access to assets that are available within a specified geographic area. Requests are electronically transmitted from customers to the SARSS-Gateway where lateral search/ issue decisions are made based on the residing ABF. If assets are not available, the SARSS-Gateway forwards the request to the wholesale source of supply and provides status to customers on action taken.

(2) *Standard Property Book System-Redesigned*. Standard Property Book System-Redesigned is an automated property accountability system that provides on-line management information and automated reporting procedures for property book officers (PBO). The SBPS-R interfaces with SARSS at the SSA to requisition property book, and other accountable items required by units. It interfaces with ULLS-S4 at the unit level to provide the information needed so that ULLS-S4 can generate the hand receipt/subhand receipt and component listings. The SPBS-R performs automated reporting of assets to support Army Total Asset Visibility (ATAV).

(3) *Standard Army Maintenance System*. There are two versions of the SAMS: SAMS-1 and SAMS-2.

(*a*) The SAMS-1 is an automated maintenance management system used at the DS maintenance company found in the separate brigade, division, corps, and EAC and the GS maintenance company at EAC. The system automates work order registration and document registers. It automates inventory control and reorder of shop and bench stock as well as automating work order parts and requisitioning. It produces preformatted and ad hoc reports and allows extensive on-line inquiry.

(*b*) The SAMS provides the capability for automated processing of DS/GS maintenance shop production functions, maintenance control work orders and key supply functions previously performed manually. Requisitions are prepared automatically and automatic status is received from SARSS-1. It also provides completed work order data to the logistics support activity (LOGSA) for equipment performance and other analyses.

1. The SAMS-1 automates maintenance documentation and information gathering and transmittal. It provides management of work orders and work order tasks; allows transfer of repair parts and/or due-ins between work orders and shop stock; accounts for direct, indirect, and nonproductive man-hours; and simplifies and standardizes collecting and using maintenance data. SAMS-1 improves readiness management and visibility by providing equipment status and asset data; raises the quality and accuracy of performance, cost, backlog, man-hour, and parts data through improved maintenance management. The SAMS-1 uses COTS hardware.

2. The SAMS-2 is an automated maintenance management system used at the main support battalion (MSB)/division support battalion (DSB) and the FSB in the division. Materiel offices of specialized maintenance battalions and support groups in the corps and EAC also use SAMS-2, along with the materiel management center (MMC) and in the DISCOM, corps support command (COSCOM), and the TSC.

3. The field commands, inclusive of the MEDCOM and medical brigade, use SAMS-2 to collect and store equipment performance and maintenance operations data. They use this data to determine guidance to give to their subordinate maintenance units.

4. The SAMS-2 provides the capability of monitoring equipment nonmission-capable status and controlling and coordinating maintenance actions and repair parts utilization to maximize equipment availability.

5. The SAMS-2 receives and processes maintenance data to meet information requirements of the manager and to fulfill reporting requirements to customers, higher SAMS-2 sites, and the wholesale maintenance level. Management can access data instantly to control, coordinate, report, analyze, and review information.

6. The SAMS-2 maintains equipment status by line number and unit within the command; maintains a record of critical repair parts and maintenance problem areas; provides visibility of backlog and planned repair requirements; and provides maintenance performance and cost evaluation tools.

7. The SAMS-2 also provides maintenance and management information to each level of command from the user to the DA level. The SAMS-2 collects, stores, and retrieves maintenance information from SAMS-1 sites and allows managers to coordinate maintenance workloads. The SAMS-2 passes key maintenance and supply information to higher commands for maintenance engineering and readiness reporting. The SAMS-2 operates on COTS hardware.

(4) *Department of the Army Movement Management System-Redesign*. The Department of the Army Movements Management System-Redesign (DAMMS-R) consists of two blocks. Block II provides highway scheduling, convoy planning, and communications. The requesting unit plans convoys and transmits requirements to the highway scheduler at theater, corps, or division-level as appropriate. The highway scheduler coordinates requests on the main supply route (MSR). The DAMMS-R has been fielded to CONUS power projection platforms and to theater, corps, and division units in United States Army-Europe (USAREUR) and US Forces-Korea (USFK).

(*a*) Block III provides movements control, container management, mode management, theater address, and communications to transportation managers in the AO. Block III is fielded at theater, corps, and division-levels in USAREUR, and USFK. The DAMMS-R interfaces with the Worldwide Port System (WPS) to receive cargo manifests and to facilitate container management within the theater. The DAMMS-R also interfaces with the AMC System Consolidated Aerial Port System II (CAPS II) to assist in expediting priority cargo. The mode capabilities support theater, corps, and division-level mode operators by providing asset visibility and asset tasking capability.

(*b*) The theater address subsystem is an integrated part of DAMMS-R. This subsystem provides support for both the movement control and mode management requirements.

(*c*) The communications subsystem provides users of DAMMS-R with a reliable communications capability. As outputs from the system are generated, the system addresses the file to the appropriate addressee or addressees without user intervention through a LAN or a stand-alone system with

dial-up connectivity. The communications subsystem can operate in an austere environment using MSE. The DAMMS-R will be replaced and its functions incorporated into TC AIMS II as a preplanned product improvement in the 2004/5 time frame.

(5) *Replacement Operations Automation Management System.* The Personnel Support Command (PERSCOM) assists in projecting individual manpower requirements during OPLAN execution. Currently, the following three automated systems support this mission:

- *Automation of the Theater Shelf Requisitioning Process* (*AUTOREP*) generates fillers and casualty replacement requirements by personnel category, MOS, grade, and rank to predict the number of replacements required over time. Its product is known as the shelf requisition.

- *Nonunit Replacement Personnel* (*NRP*) *Flow Computer Assisted Program* (*FLOWCAP*) is used by PERSCOM and CONUS replacement centers (CRC) to schedule, control, and track the flow of replacements from the CRC. Applications also provide manifest data for Air Mobility Command, advance arrival information for the Commander Army Forces (COMARFOR), and internal reports for the CRC to manage and process replacements.

- *Automation of the Casualty Analysis Process* (*AUTOCAP*) compares actual casualty data and OPLAN modifications against projected and actual flow of casualty replacements and fillers. It also allows the force commander to adjust projected requirements.

(6) *Standard Installation/Division Personnel System.* The Standard Installation/Division Personnel System (SIDPERS) provides automated personnel support for active and reserve Army soldiers. It supports strength accounting, personnel management, personnel actions, and exchange of information with other automated systems. The SIDPERS provides commanders the ability to optimize personnel assets to meet peacetime, mobilization, and wartime personnel service requirements. It is a standardized personnel system responsible for strength reporting and personnel administration. The system provides for data entry, ad hoc queries, word processing, spreadsheet, battle rosters, personnel requirements reports, personnel summary reports, task force summaries, and miscellaneous functions. The replacement for SIDPERS is in the early stages of development. It will consist of a single corporate database with web-enabled base personnel processes to support commanders and soldiers.

(7) *The Army Medical Management Information System.* The TAMMIS tracks patients within theater and manages medical supply information. Medical C2 information is provided through data roll-ups on the status of medical units, evacuation workloads, and critical workloads. The replacement for the logistics portion of TAMMIS is in the early stages of development. It is a joint system known as DMLSS.

(8) *Army War Reserve Deployment System.* The Army War Reserve Deployment System (AWRDS) is designed to support rapid force projection. The AWRDS enables the Army to quickly dispatch brigade-sized sets with all the equipment and spare parts they need to sustain themselves. The AWRDS application is a distributed database application that allows military personnel in the US and numerous sites around the world on land and sea to maintain and access current equipment availability and readiness information. Field Manuals 63-11 and 100-17-2 provide more information on using AWRDS.

Section III. MEDICAL DIGITIZATION OF THE COMBAT BRIGADES

B-9. General

Soldiers have always needed the ability to carry medical information with them for purposes of individual readiness, continuity of care, medical surveillance, and postdeployment health care follow-up.

a. Under MC4, medical information about every SBCT soldier will be entered into a local database and maintained at the supporting BAS or troop medical clinic. This information will include the soldier's immunization status, medical deployability status, and dental deployability status. A commander faced with a deployment will be able to simply query the database to gain the deployability status of the entire command.

b. Commanders will have, for the first time, readiness tracking and reporting during all phases of deployment. The DOD standard automated systems will enhance commanders' ability to track/report qualification for worldwide deployment by tracking such items as blood type; dental readiness; immunizations; allergies; flight status; physical profile; eyeglass prescriptions; current medical condition; and medications, thereby ensuring that the commander deploys a fit and healthy force. These digital tools significantly enhance theater clearance and manifesting which ultimately streamlines the soldier readiness process.

c. Fielding of modular/tailorable HSS units, combined with the digital enablers, allows optimization of the HSS footprint within a theater of operations minimizing strategic lift and ensuring early deployment of critical HSS assets. Digital enablers and reach capabilities will also optimize theater assets. Teleconsultation provides specialty medical information to maximize the effectiveness of deployed personnel.

B-10. The Application of Medical Communications for Combat Casualty Care in Health Service Support in All Levels of Care

The following discussion explains how MC4 applies at each level of HSS in an operation involving the combat brigade.

a. Level I. Level I HSS represents routine and emergency medical care provided by a variety of personnel. When a soldier is wounded, the initial treatment may be provided by the soldier himself (self-aid) if able, or buddy aid by a fellow soldier if the injured soldier is unable to do so. Unit soldiers, trained as combat lifesavers, may provide advanced first aid skills followed by emergency medical treatment by a 91W/trauma specialist (formerly combat medic). The 91W/trauma specialist provides emergency medical treatment and conveys or directs the patient to the BAS. The BAS provides essential advanced trauma management and stabilizes the patient in preparation for evacuation to the rear as required.

(1) The 91W/trauma specialist will be the first point where a casualty interfaces with MC4. Each 91W/trauma specialist will be equipped (when made available) with an MC4 Type I handheld PDA computing device capable of reading from and writing to the casualty's EIC. Any medical care that is provided to the patient by the 91W/trauma specialist will be recorded on the EIC. Where communications assets allow, this information will also be transmitted to the supporting BAS.

(2) If a patient's injuries or illness require treatment beyond the 91W/trauma specialist's abilities, the 91W/trauma specialist will notify the platoon sergeant who will relay a request for support/ evacuation request using FBCB2 to the company's first sergeant of the need to evacuate a patient. The first sergeant normally has control over the ambulances operating in direct support of the maneuver company and will dispatch an ambulance to the location. The patient will then be evacuated to a higher level of medical care, most likely the BAS. Evacuation will be accomplished by dedicated medical evacuation vehicles, wheeled, tracked, or helicopters. During this evacuation, onboard 91W/health care specialist will monitor the patient and provide en route care as required. Digital onboard medical equipment in the ambulances eliminates the difficulties with manual vital signs monitoring which are often times impossible. Under MC4, each ambulance will be equipped with an onboard MC4 computing device, which will interface with the patient's EIC. En route care provided by the 91W/trauma specialist will be recorded on the patient's EIC and will also be transmitted to the destination medical treatment facility. Digital linkages to medical C2 units/medical regulators allow for redirecting the casualty en route should the need arise. The request for evacuation from the 91W/trauma specialist's site will be made over FBCB2 utilizing a built-in MEDEVAC request.

(3) At the BAS, the casualty will receive the appropriate routine or emergency resuscitative care/ATM. The medical staff will use MC4 Type II computing devices to read from the patient's EIC, ascertaining information on the care that the patient has received demographic information, and any relevant medical history. Using the MC4 computing device, the BAS medical personnel will provide care and record this care onto the patient's EIC. This information, along with any information generated by the treatment that the casualty receives at the BAS will be recorded onto the local database. The information will also be transmitted to the next higher level of medical care (medical company) and ultimately to the ITDB.

(4) The present MEDLOG system at Level I is a totally manual system. Under MC4 the 91W/trauma specialist will utilize FBCB2 to request medical supplies from the BAS. This request will be a built-in report in FBCB2. At the BAS, requests for Class VIII/medical resupply will be made utilizing the MC4 system. This automation will not only speed the resupply process, but will also allow the combat commander to maintain visibility of his unit's MEDLOG status through FBCB2 (or through MC4's link to BCS3 through GCSS-A when those systems become operational).

(5) The 91W/trauma specialist provides continuing stabilizing and EMT care. The trauma specialist carries a MC4 PDA computing device that has the ability to read from and record to each soldier's EIC.

b. Level II. This level of HSS provides routine or resuscitative care as provided by a company-sized medical unit such as forward deployed medical company. With corps augmentation of an FST to the medical company to provide resuscitative surgery, these medical units stabilize and prepare those patients requiring further care for evacuation to the next level facility.

(1) At the Level II medical treatment facilities (for example, the medical company/FST), MC4 will provide the same augmentations to treatment documentation, evacuation, and medical logistics that will be seen at Level I. Through the use of the MDT, the medical company will have the ability to digitize medical data (x-rays and pictures) and transmit it to medical experts at echelons above brigade (EAB)/echelons above division (EAD). This teleconsultation ability will result in some casualties being treated farther forward in the theater and will increase the return to duty rate and reduce overevacuation.

(2) MC4 will automate linkage of Class VIII to the transportation system. The management of the complex medical sets along with the quality control of Class VIII materiel is also automated improving efficiency over the current manual system.

c. *Level III*. The MC4 will allow reach capability to Level III HSS and beyond. Level III contains hospitals and all of the specialized medical units required to support the theater. The MC4 will link all of these medical functions. The MC4 will equip corps treatment and evacuation teams with personally carried and mobile computers for the collection and forwarding of medical information to the forward, division, or area support medical company. Likewise, combat stress control teams, veterinary teams, dental teams, and preventive medicine teams operating in the brigade rear area will be equipped with personally carried or mobile computers. These MC4-provided devices will be loaded with the appropriate software functionality. Corps/theater medical regulators/medical C2 will be able to rapidly and accurately match treatment capability with the soldier's need for care. The MC4 corps medical regulating system (TRAC2ES) provides this functionality via WIN. A seamless Class VIII (including blood) automated system links the theater to prime vendor systems in CONUS.

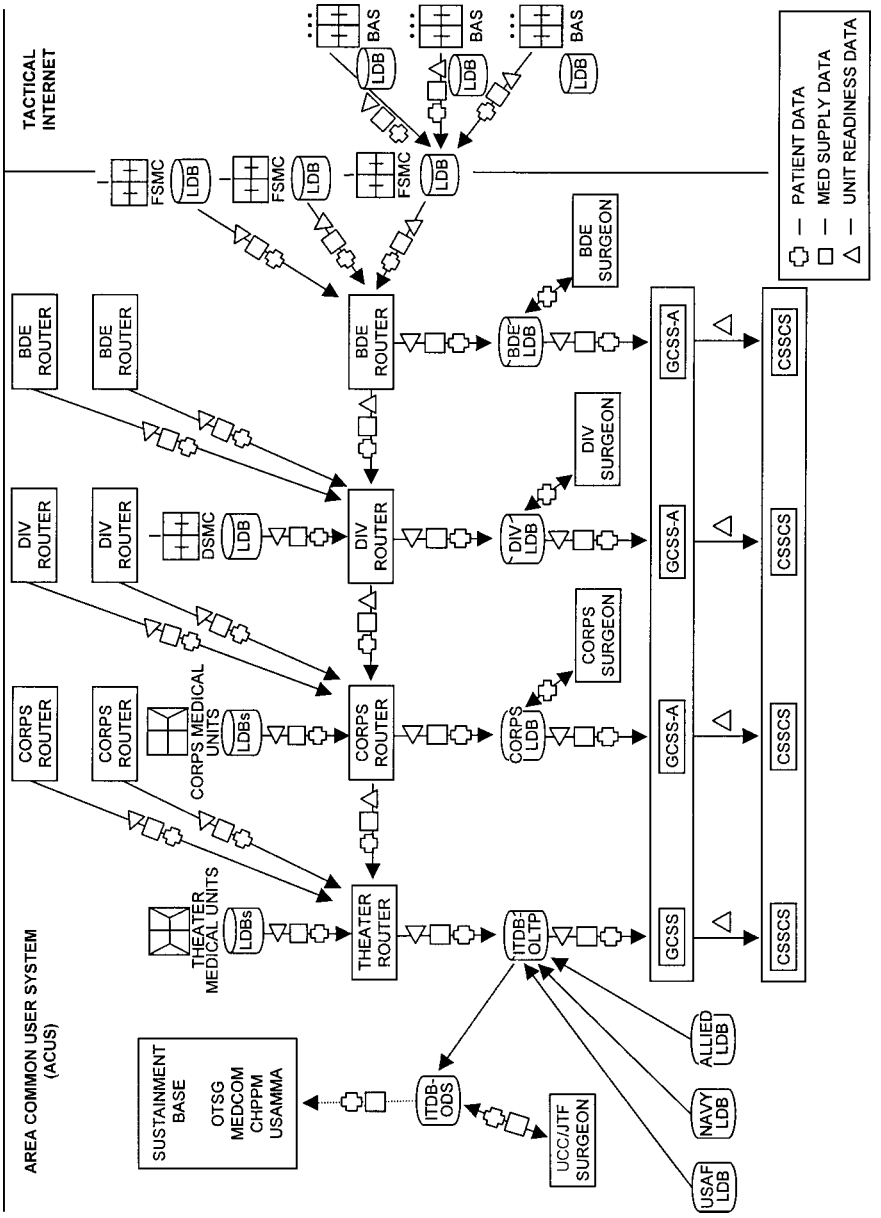
B-11. Medical Command and Control Application

a. Under MC4, medical information on soldiers will be stored at different levels. This will allow commanders and command surgeons at the various levels to access medical information on their soldiers to find out specific information and to conduct analysis of disease/injury trends. These lower level databases also provide a means for information redundancy should destruction of an information node or communications outage occur. Each database will feed the databases above it. Personnel (medical commanders, staff surgeons) at each level with MC4 management functionality will be able to query the database. The HSS information required by BCS3 will pass from MC4 through GCSS-A to BCS3.

b. The brigade surgeon will maintain a database containing medical information relevant to the soldiers in the brigade. This will be the ITDB that provides information to update sustaining base medical information systems such as the computer-based patient record and health surveillance system.

c. At all levels, MC4 will automatically provide information such as evacuation status, current fitness for combat, and hazard exposure information to the commander's SU system. The MC4 will provide the commander with the ability to track and record the date and location of exposure to health hazards, which include environmental, occupational, industrial, and NBC hazards. This information is critical to the force protection health hazard analysis necessary to identify emerging DNBI problems and trends. Commanders will have real time information on food sources safety/quality; operationally significant zoonotic disease; health surveillance/trends; and near real time health hazard assessment data for NBC/ endemic disease threats and occupational or environmental health threats. This information will be provided to the commander from MC4 functional digital systems through GCSS-A to BCS3. Commanders, for the first time, will have a complete picture of the battlespace which will allow them to accurately influence current operations while synchronizing HSS with other activities.

d. The communications capabilities of the medical assets available to the combat brigade will be optimized with technological enablers for equipment and supplies, and with digital enablers to include FBCB2, BCS3, MC4, TMIP, BCS3, WIN, and the EIC. Figure B-7 provides an example of the MC4/ TMIP database structure.



LEGEND:

CHPPM	CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE
BCS3	BATTLE COMMAND SUSTAINMENT SUPPORT SYSTEM
GCSS	GLOBAL COMBAT SUPPORT SYSTEM
GCSS-A	GLOBAL COMBAT SUPPORT SYSTEM–ARMY
ITDB-ODS	INTERIM THEATER DATABASE–OPERATIONAL DATA STORE
ITDB-OLTP	INTERIM THEATER DATABASE–ON-LINE TRANSACTION PROCESSING
ITDB	INTERIM THEATER DATABASE
OTSG	OFFICE OF THE SURGEON GENERAL
USAMMA	UNITED STATES ARMY MEDICAL MATERIEL AGENCY
WIN	WARFIGHTER INFORMATION NETWORK

Figure B-7. Medical communications for combat casualty care/theater medical information program database structure.

Section IV. COMMUNICATIONS EQUIPMENT

B-12. General

Communications systems are essential for gathering and disseminating data. Commanders use them to perform C2 functions and to supervise performance. Effective management of HSS functions depends on adequate communications to keep abreast of changing situations and requirements. The medical company relies on both its organic communications assets and the support assets of its parent unit and signal elements of the division and/or corps.

B-13. Frequency-Modulated Radios

Frequency-modulated, AM, and SCTACSAT radios comprise the family of radios discussed in this appendix as CNR. When discussing the operational facility rules for the medical company, the SINCGARS radios constitute the FM slice; the IHFR and the Harris Corporation commercial radios constitute the AM component; the AN/PSC-5 fills the SCTACSAT requirement; and the near-term digital radio is a TOC to TOC data hauler.

a. Single-Channel Ground and Airborne Radio System. The SINCGARS radios (AN/PRC-119 and AN/VRC-87F, -88F, -89F, and -90F) operate in the 30- to 88-megahertz (MHz) frequency range (the very high frequency [VHF] band) in 25-kilohertz (kHz) segments for a total of 2,320 channels. They can operate in either a single-channel or frequency-hopping mode and have embedded COMSEC for secure operations.

b. AN/PRC-119. The AN/PRC-119 is a short-range, manpacked radio designed for dismounted operations. It consists of a receiver-transmitter (RT), an antenna, a handset, and a battery box. The system uses rechargeable or nonrechargeable batteries with each lasting approximately 8 hours, depending on usage.

c. AN/VRC-88/87. The AN/VRC-88 is a short-range, vehicular-mounted radio, which has an antenna and a battery case as additional components. The radio can be removed from the vehicle and can be reconfigured as the AN/PRC-119 manpack radio by installing the antenna and the battery case. It consists of one RT, a radio mount, a mounting adapter, a vehicular antenna, and associated handset and cabling. The AN/VRC-87 radio is identical, except without the dismounted capability/components. The radio has an 8-km range. Treatment Team B normally uses this radio.

d. AN/VRC-89F. The AN/VRC-89 radio is a vehicular-mounted, dual configuration radio consisting of one short-range and one long-range RT mounted in a single vehicular mount. It is basically two vehicular-mounted, short-range radio sets with an added power amplifier that provides one of the radio sets with a long-range communications capability up to 35 km. This radio is normally used by the medical company/troop CP, company/troop commander, and treatment squads.

e. AN/VRC-90F. The AN/VRC-90 radio is a vehicular-mounted, single configuration radio, consisting of a long-range RT (RT plus power amperes) capable of operation up to 35 km. This radio is

especially suitable for ambulance teams, PVNTMED sections, and company/troop commanders who require unimpeded, long-range communications.

B-14. Amplitude-Modulated Radios

The AM radios operate in the high frequency band of 1.5 to 30 MHz. They can be operated in manpacked, vehicular, base station modes and have ranges from 0 to 2,000 miles. The systems in the AMEDD inventory include the AN/GRC-106 (legacy system, not described), the AN/GRC-213, and the AN/GRC-246.

a. AN/GRC-213 (*Improved-High Frequency Radio*). The AN/GRC-213 is a low-power manpack or vehicular-mounted configuration of the IHFR system. It provides a reliable high frequency coverage with *voice only* capability of 2 to 30 MHz for medical troops/companies. It has the capability to pass secure medical C2 and CHS information over medium- to long-range distances. It also can be used over varying terrain features that would normally preclude the use of FM CNR (SINCGARS).

b. AN/GRC-246. The AN/GRC-246 is a state-of-the-art digital signal processing RT providing upper sideband, lower sideband, continuous wave for Morse Code, and AM equivalent operation over the 1.6- to 30- MHz frequency range. The configurations available are a 20-watt, manpacked version, a 125-watt vehicular version, and a 400-watt base station. The transceiver provides an impressive list of standard features, including active squelch, retransmission capability, and NVG compatibility. Built-in options include a high-speed 2400-baud data modem, a frequency shift keying data modem, automatic link establishment controller, digitized voice, and full remote control.

c. AN/PSC-5. The AN/PSC-5 SPITFIRE is a multiservice, nondevelopmental item/COTS, small, lightweight, manpackable, single-channel, ultra-high frequency satellite communications (SATCOM) radio that includes embedded COMSEC, a 5/25 kHz demand assigned multiple access capability, line of sight communications, and SATCOM (voice and data). It has an extended frequency range of 30 to 400 MHz.

B-15. Ancillary Radio Equipment

The medical company/troop requires two main categories of ancillary equipment associated with its SINCGARS equipment. These are remote control devices and data fill/variable transfer and storage devices.

a. Control Receiver-Transmitter (*C11561*). The control receiver/transmitter (CRT) C11561 provides SINCGARS vehicular radios with a remote capability of up to 4 km. It is able to remotely control all front panel controls on the radio. This CRT C11561 may also be adapted with detachable control panels for frequency hopping and COMSEC. The COMSEC and data adapter devices may be attached directly to the CRT for secure communications over the transmission line and optimal interface with digital data terminals. The CRT C11561 is an incremental change package for the medical company/troop. It will replace the AN/GRA-39, discussed below.

b. *Radio Set Control Group* (*AN/GRA-39*). The AN/GRA-39, a legacy system is used to remote single-channel radios. It is compatible with integrated and nonintegrated communications radios (integrated communications with embedded COMSEC and nonintegrated communications with external COMSEC). The AN/GRA-39 controls only remote keying of radios from a terminal set. The operator must set the other functions at the location of the radio.

c. *Data Fill Devices*. Data fill devices provide the capability to transfer the required frequency hopping and COMSEC variables from unit to unit. The medical company/troop is authorized the following two devices for this requirement:

(1) *Automated net control device* (*AN/CYZ-10*). The automated net control device (ANCD) is a handheld device capable of receiving, storing and transferring data between compatible equipment. The primary application will be the transfer of variable length electronic keying material such as frequency hopping data, partial or complete SOI information, and other COMSEC variables. The ANCD is sufficiently programmable to replace and prevent the development of equipment tailored to a unique system. Interaction between the ANCD and the operator is via the 35-key keyboard and the 2- by 24-character window in the liquid crystal display. The emergence of ANCD replaces the need for the following fill devices:

- *Electronic counter-countermeasure fill device* (*MX-10579 or MX-18290*). The MX-10579 is used with the nonintegrated communications radio only and the MX-18290 is used with both the integrated communications radios or the nonintegrated communications radios. The MX-10579 and the MX-18290 do not provide the capability to store or transfer COMSEC variables and SOI information.

- *Electronic notebook* (*AN/CYZ-7A*). The electronic notebook (EN) is a small handheld data memory device similar to a small calculator. It can be loaded with partial or complete SOI information and frequency-hopping variable. The EN replaces the need for paper SOI, but does not provide the capability to store and transfer COMSEC variables.

- *Cryptographic fill devices* (*KYX-13 and KYX-15/TSEC*). The KYX-13 is a battery-operated fill device that provides storage and transfer of up to 6 COMSEC variables. The KYX-15 is a battery-operated fill device that provides storage and transfer of up to 16 COMSEC variables, and provides the capability to create cryptographic variables. The KYX-13 and KYX-15 do not provide the capability to store or transfer frequency-hopping data and SOI information.

(2) *Secure voice and FM communications devices*. The following are descriptions and applications of this equipment used by the company in its CNR operations:

(*a*) *Speech security equipment* (*KY-57*). The KY-57 is a half-duplex, tactical wide band COMSEC device for FM radio equipment. This device permits secure radio transmissions and is required with legacy VRC-12 systems and nonintegrated communications SINCGARS radios (no internal COMSEC). Most SINCGARS used today have built-in COMSEC (except avionics models) and do not require this device.

(*b*) *Net control device* (*KYX-15/TSEC*). The net control device (NCD) KYX-15 is a battery-operated control device that provides for storage and transfer of 1 to 16 COMSEC variables.

When it is connected to COMSEC equipment, the KYX-15 performs the automatic remote keying function and other cryptovariable operations. The NCD KYX-15 is required by the NCS operated by the medical company's CP, treatment platoon, and ambulance platoon for secure CNR operation.

B-16. Mobile Subscriber Equipment

Mobile subscriber equipment is the ACUS for corps and below units. All medical companies are allocated several MSE telephones such as the DNVT (TA-1042/U); some are authorized the AN/UXC-7, tactical lightweight digital FAX. The DNVT is a prime subscriber terminal that provides full-duplex digital voice communications and a voltage reference signal for limited data use.

a. *Area Coverage*. The MSE system provides ACUS support to a geographic area, as opposed to dedicated support to a specific unit or customer. The hubs of the system are called nodes and are under the control of the corps signal officer.

b. *Subscriber Terminal* (*Fixed*). The MSE telephone, mobile radiotelephone, FAX, and data terminals (as part of the ACUS) are user-owned and operated. The using unit is responsible for running wire to the designated distribution boxes. Those boxes tie the medical company's MSE telephones into the extension switches, which access the system. The subscriber terminals used by the unit are digital, four-wire voice as well as data ports (DNVT [TA-1042]) for interfacing with the AN/UXC-7 FAX and the medical transportable computer unit (MEDTCU).

c. *Wire Subscriber Access*.

(1) Wire subscriber access points provide the entry points (interface) between fixed subscriber terminal equipment and the MSE area system operated by the supporting signal unit. The two types of interface equipment are—

- The signal distribution panel J-1077 (each panel provides up to 13 subscriber access points).
- Remote multiplexer combiners (RMC) that provide access for 8 subscriber access points.

(2) The medical company/troop is responsible for installing and operating fixed subscriber terminal instruments (DNVT TA-1042). It must also install and maintain the WF-16 field wire from the instruments to the interface point (J-1077 distribution panel).

B-17. Position/Navigation Equipment

a. The medical company, along with other CS, CSS, and combat units has been allocated sufficient quantities of GPS devices commensurate with their missions. Normally, they are provided for each vehicle, particularly those deployed in the forward areas.

b. This is a handheld (may be vehicular mounted), battery-powered position and navigation set that receives its signal from GPS satellites, performs calculations, and displays position, velocity, time, and navigational data. These devices provide a very accurate position location capability for determining and/or reporting self-location; however, it is not a communications device.

c. The company/troop ambulance teams, treatment teams, and wrecker operators will employ the GPS device.

APPENDIX C

THEATER MEDICAL INFORMATION PROGRAM

Section I. INTEGRATED MEDICAL INFORMATION FUNCTIONALITY

C-1. The Theater Medical Information Program Mission

a. Automated Medical Information. The TMIP is a "system of systems" that will integrate Office of the Secretary of Defense (Health Affairs) (OSD) (HA) and Services current stovepipe systems. It will ultimately provide integrated medical information functionality that will reach from the combat trauma specialist with the EIC/reader (to include the DOD Common Access Card [CAC]) throughout the theater back to sustaining base. Future TMIP integration of current existing medical information and communications systems will provide automated medical information support to deployable units in the functional areas of C2, MEDLOG, and health care delivery (HCD). Current TMIP Block 1 (see Figure C-3) integrated capabilities are—

(1) Medical planning.

(2) Collaborative planning.

(3) Medical reporting for inpatients and outpatients, to include medical record generation (SF 600); battle injuries, DNBI; sick call and physical exams; status reporting; automated medical reference/ library; lab results; and postdeployment surveys and consult generation.

(4) Medical logistics support.

(5) Blood management support.

(6) Electronic Information Carrier and readers.

(7) Immunization tracking.

(8) Clinical encounter data collection at point of care (inpatient and outpatient facilities, Levels II—IV). In the future, TMIP will integrate TRAC2ES functionality providing—

- Interface with an EIC.
- Environmental health data collection.
- Occupational health data collection.
- Preventive health data collection.
- Patient movement support.

b. Integration of Medical Information. The TMIP is an MHS program with support from the Office of the Assistant Secretary of Defense (Health Affairs) (OASD) (HA). Infrastructure for TMIP is

provided by the Service programs—TMIP-Maritime for the Navy/Marines, TMIP-AF for the Air Force, and MC4 for the Army. The TMIP will continue to evolve in its ability to integrate medical information functionality. That evolutionary process will increase its current integrated capabilities (TMIP Block 1, listed above) to provide automated medical information support to deployable units in the functional areas of C2, MEDLOG, and HCD.

c. The Theater Medical Information Program Mission. The mission of TMIP, when fielded, is to provide integrated automation of the theater medical environment. The TMIP will provide for information linking all levels of medical care to the theater commanders in support of time-sensitive decisions critical to the success of theater operations. In addition, the TMIP will provide support integrating medical capabilities under a joint concept of operations to assist the medical commander/theater surgeon and to support the delivery of seamless combat medical care. This program will support field medical operations and decision making concerning the theater medical capability by providing integrated health decision support systems to assure readiness for mission execution. The TMIP will support all levels of care through an aggregate of medical data and situation reports (SITREPs) that serve the TO as well as the CONUS sustaining base medical missions. The TMIP goal is to provide a global capability linking information databases and integration centers that are accessible to the warfighter, anywhere, anytime, and in any mission. The TMIP establishes the means and a standard for tying existing, developing, and future medical INFOSYS (software and equipment) into an interoperable system that supports theater health services. The TMIP will provide seamless, integrated, automated medical information addressing all functional areas including C2 (including planning functions), medical logistics, blood management, patient regulation and evacuation, medical threat/intelligence, HCD, manpower/training, and medical capabilities assessment and sustainability analysis.

d. Responsibilities. The TMIP will enhance the effectiveness and efficiency of operations by providing timely and accurate essential elements of information to all decision makers. It will provide the ability to quickly and accurately evaluate the status of medical support and the supportability of operational plans. Medical capability assessment and sustainability analysis answers the following questions: What is the requirement? What is the capability? What is the readiness of the capability? What is the trend? What is the current medical support status/posture? The TMIP will—

- Serve medical decision makers at all levels including the operational medical units, warfighting UCC/JTF commanders, the military Services, the Joint staff, and Office of the Secretary of Defense (OSD) through an integrated set of INFOSYS.

- Support field medical operations and decision making by providing integrated health decision support systems to assure readiness for mission execution.

e. Logistics. This capability will be met either with associated items of support equipment to medical materiel sets and/or medical equipment sets, or stand-alone items. Capabilities must conform to standard DOD supply and maintenance policies and procedures. Contractor maintenance may be used where required.

f. Transportation. All items must be transportable by organic or support transportation assets.

g. *Manpower and Personnel*. No new MOSs are required; however, additional skill identifiers may be required.

h. *Training*. Introduction of the capability will require institutional and individual training. Training will be integrated into existing courses. The requirement for new equipment training at fielding will be evaluated on a case-by-case basis. If needs for training devices are shown through analyses they must be documented in the operational requirements document and developed, tested, and fielded concurrently with the equipment or systems.

i. *Command, Control, Communications, and Intelligence Interface*. The fielding of this capability will have an impact upon these areas. The impact will be evaluated on a case-by-case basis as each technology is developed.

j. *Standardization and Interoperability*. The TMIP will comply with applicable information technology standards contained in the Joint Technical Architecture (JTA). The TMIP will comply with the Defense Information Infrastructure common operating environment and will be interoperable within the environment of the GCSS-A. The TMIP will be administered in accordance with Defense Messaging System standards.

k. *Operational Environment*. This capability must operate in the same climatic conditions as the supported combined armed forces. The NBC survivability will be evaluated for each technology fielded.

l. *Security*. Common security practices must be utilized in the development and the operation of the TMIP. The security for the TMIP will be administered in accordance with the following regulations and instructions:

- DOD 5136.1-P, Medical Readiness Strategic Plan (1998-2004).
- DOD 5200.1-R, Information Security Program.
- DOD Directive (DODD) 5200.2, DOD Personnel Security Program.
- DODD 5200.28, Security Requirements for Automated Information Systems.
- DODD C-5200.5, Communications Security (U).
- DOD Instruction (DODI) 5200.40, Department of Defense Information Technology Security Certification and Accreditation Process (DITSCAP).

C-2. The Theater Medical Information Program Definition

The TMIP—

- Ensures medical systems achieve connectivity through GCSS-A common operating environment, of which the TMIP is a component.

- Integrates automation of theater medical INFOSYS horizontally.
- Links all levels of care vertically to meet theater C2 requirements.
- Supports the theater surgeon with seamless medical information.

C-3. The Theater Medical Information Program Capability

a. The TMIP provides an integrated, automated INFOSYS that addresses the functional areas of—

- Command and control (including medical capabilities/assessment/sustainability analysis and medical surveillance).
- Medical logistics (including assemblage management and blood product management).
- Health care delivery (including medical threat, surveillance and health care delivery).

b. Additionally, there are three distinct TMIP user communities within the TO that will use the system—

- The medical staff (MS, surgeon generals, and medical planners).
- The health care providers (surgeons, PA, trauma specialists, and nurses).
- The military commanders (including C2, intelligence, force protection, and unit administration personnel).

C-4. The Theater Medical Information Program Within Levels I, II, and III, Medical Treatment Facilities

a. *Level I* (*Emergency Medical Care*). Level I represents emergency medical care provided by a variety of personnel. The initial treatment may be provided by self-aid or buddy aid and followed by a trained trauma specialist. This specialist provides first aid and conveys or directs the casualty to the aid station. The aid station provides essential emergency care and prepares the casualty for evacuation to the rear. This care may include the beginning of intravenous fluid administration, the control of hemorrhage, and the establishment of an airway.

b. *Level II* (*Initial Resuscitative Care*). Level II provides resuscitative care as provided by company-sized medical units such as MTF, medical units, or medical companies. Depending on the capability of the medical unit, initial surgery to save life or limb may be available. The medical units prepare those patients requiring further care for evacuation to the next level facility.

c. *Level III (Resuscitative Care)*. Level III provides medical care in a facility staffed and equipped for surgery and postoperative care. These facilities may provide additional surgical specialty support and laboratory and radiology support.

C-5. Generation of Medical Data

The medical data generated at Levels I, II, and III is transmitted to a central repository, which the UCC/JTF commander can view for C2 of the theater medical battlefield.

C-6. Medical Communications for Combat Casualty Care Interface With Theater Medical Information Program

The software that integrates with the Services-provided infrastructure (facilities, hardware, and communications) is the responsibility of the MC4/TMIP management office. The existing communications capabilities will be utilized by the MC4/TMIP for Levels I through V. The concept for employment of the MC4/TMIP is to integrate existing component systems to provide a clinical data collection and data transport capability within the three levels (see Figure C-1).

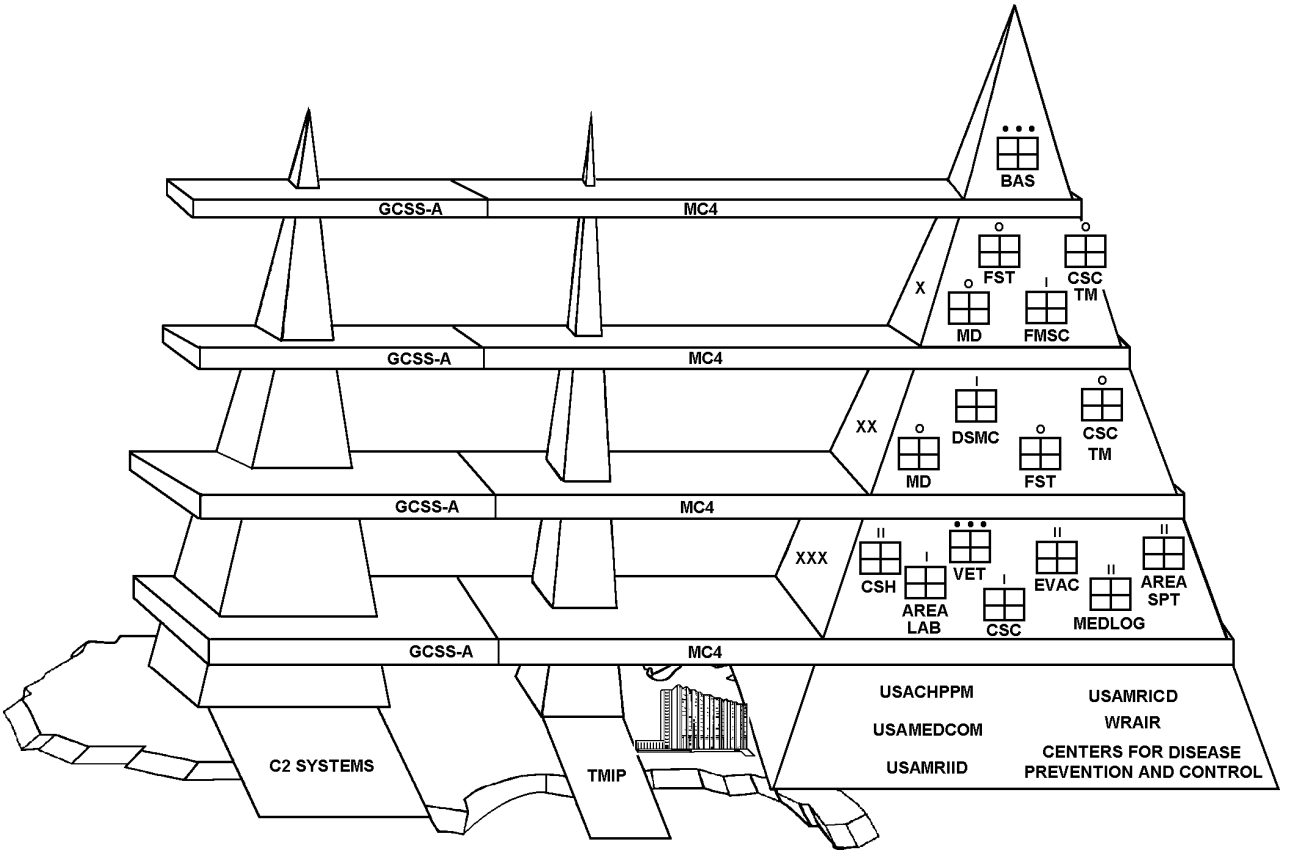


Figure C-1. Medical communications for combat casualty care interface with the theater medical information program.

Section II. MISSION DESCRIPTION AND SYSTEM IDENTIFICATION

C-7. Purpose

The purpose of this section of the System Security Authorization Agreement (SSAA) is to describe the mission of the TMIP and establish the system's identification.

a. The information provided below constitutes Section 1 of the SSAA. The SSAA is required by DODI 5200.40. This section of the TMIP SSAA is in the required format for Section 1 and is the basic information for certification and accreditation of the program.

b. The intended audiences for this section of the SSAA and of the final TMIP SSAA are as follows:

(1) Joint-level program stakeholders.

(2) Overarching Integrated Product Team (OIPT), formerly called the Major Automated Information System Review Council (MAISRC) and its supporting working groups.

(3) Service-level security stakeholders and program managers (PMs).

(4) Military Health Services IA Office.

(5) Other offices as designated by the TMIP PM.

c. The specific organizations and/or individuals assigned to these roles and their responsibilities will be discussed in subsequent sections of the SSAA.

d. The goal of TMIP is to provide the warfighter a global capability of linking accessible informational databases and integration centers so that the warfighter has the information he needs anywhere, anytime, and in support of any mission. The TMIP is the medical component of the GCCS and the GCSS. The TMIP is a joint software application that will be integrated with the GCCS/GCSS. The TMIP will facilitate integration of medical capabilities under a joint concept of operations to provide commanders with integrated, timely, and accurate information to make critical C2 decisions. Using TMIP integrated and improved medical operational planning will ensure that the right medical capabilities will be deployed to support theater medical requirements. The deployment of TMIP will ensure that integrated medical SU data is provided to the warfighter in a timely manner, to allow for effective decision making.

e. The TMIP interoperable software will be used on the GCCS/GCSS infrastructure and computer hardware provided by the Services to allow the warfighter the opportunity to monitor and maintain the medical logistical SU and personnel management capability within the theater. Future releases of TMIP will provide a patient movement monitoring capability that will allow the warfighter to maintain visibility on casualties from the time of wounding to eventual disposition in CONUS hospitals. The TMIP integrated

information will assist the warfighter in optimizing aeromedical evacuation (AE) assets required for supporting patient movement. This could result in a reduction of the size and amount of the airlift needed to move the medical elements and support assets and their logistical tail.

C-8. Overall Mission Area

The TMIP is a MHS program with participation from the OASD (HA), the United States Army (USA), the United States Navy (USN), the United States Marine Corps (USMC), the United States Air Force (USAF), the US TRANSCOM, and the Joint Staff/J4, Medical Readiness Division (MRD). TMIP Block 1 will provide an integrated medical information functionality that will integrate with and rely on the Services' communications infrastructure and computer hardware and comply with the JTA and DII Common Operating Environment (COE)—DII COE Level VI requirements. The Services will fund their own networks requirements, long-haul communications needs, and computer hardware to host the TMIP system in theater.

a. Any additional GCCS/GCSS infrastructure growth resulting from TMIP will be provided by the applicable Service charged with supporting a given UCC. An Acquisition Program Baseline (APB) will detail the baseline level of service support over the life cycle of the program. The OASD (HA) will fund the TMIP software and standards development effort and program maintenance. The TMIP software will be a federation of information systems; that is, a set of medical information systems integrated to provide enhanced automated information management support that is user-friendly and efficient. In Block 1, TMIP will select and integrate existing component information management systems that satisfy functional requirements defined in this document.

b. The primary mission area supporting TMIP is the Information Systems/Defense Communications Systems. Collateral mission areas supporting TMIP are base operations; contingency base operations; mobility, support, and base communications; strategic and tactical information systems; and service support activities.

C-9. Mission Need

a. A requirements determination analysis was completed and nonmaterial alternatives (doctrine, operational concepts, tactics, organization, and training) were judged to be inadequate. This analysis was the basis for the revalidated mission needs statement (MNS) dated 29 January 1996.

b. The need for an automated medical program was identified by and to the theater UCC/JTF commanders, and their medical support activities to assist in making informed and timely decisions regarding theater health needs and services. This mission need addressed by TMIP further supports the goal of DOD 5136.1-P, Action Plan 8, to "Provide a seamless, interoperable medical information system within GCSS that supports contingency operations across all levels of care and complies with data sharing and data quality." Specific deficiencies identified were: inadequate automated C2 systems, insufficient interoperability, limited electronic data collection, and inadequate communications support.

C-10. Type of System Proposed for Block 1

The TMIP Block 1 will integrate existing medical information and communications systems to provide automated medical information support to deployable units in the functional areas of C2, MEDLOG, and HCD. TMIP Block 1 will integrate software applications that provide the following capabilities:

a. Medical planning (Medical Analysis Tool [MAT]).

b. Collaborative planning.

c. Medical reporting for inpatients and outpatients (CHCS II Theater and SAMS).

d. Medical logistics support (DMLSS AM).

e. Blood management support (Defense Blood Standard System [DBSS]).

f. Interface with an electronic device that stores information about the person who carries it (EIC).

g. Immunization tracking (CHCS II Theater and SAMS).

h. Clinical data collection at theater inpatient and outpatient facilities (CHCS II Theater and SAMS).

C-11. Development Strategy for Block 1

The TMIP program management office (PMO) uses an incremental development approach that incorporates the spiral engineering life cycle methodology. TMIP Block 1 depends on GCCS/GCSS infrastructure provided by the Services and Level VI compliance with DII COE standards. A set of detailed technical solutions called system interface descriptions will define the requirements to integrate TMIP Block 1 components. The initial baseline for TMIP will be created during the initial design of TMIP Block 1. The development strategy for TMIP Block 1 will allow for modification of the requirements during the integration process based on changes in the theater operational requirements; DOD business function and information technology policy changes or activities mandated by newly passed laws, congressional direction, Presidential directive and executive orders; DOD taskings and needs; and established Service and/or medical community needs.

C-12. System Description

TMIP Block 1 provides an integrated, automated theater medical information system addressing the functional areas of:

a. Command and control to including medical capabilities assessment/sustainability analysis, and medical surveillance.

b. Medical logistics including assemblage management and blood product management.

c. Health care delivery including medical threat and surveillance.

d. There are three distinct TMIP user communities:

(1) The medical staff, including MS, Surgeon Generals, and medical planners.

(2) Health care providers including surgeons, nurses, and trauma specialists.

(3) Military commanders including C2, intelligence, force protection, and unit administration personnel.

e. The organizations wherein the TMIP users reside are Service-specific with the details being supplied by the individual Service's COE.

f. The TMIP Block 1 will be used in Levels of Care I, II, and III (threshold), and IV (objective) MTF. Health care has recently been redefined in terms of levels of care, which are roughly equivalent to the level terminology. The level terminology has been retained here for consistency with TMIP requirements documents.

g. Level of Care I (Emergency Medical Care)—This level represents emergency medical care provided by a variety of personnel. The initial treatment may be provided by either self-aid or buddy aid followed by a trained medical trauma specialist. This trauma specialist provides first aid and conveys or directs the patient to the aid station. The aid station provides essential emergency care and prepares the patient for evacuation to the rear. This care may include the beginning of intravenous fluid administration, the control of hemorrhage, and the establishment of an airway.

h. Level of Care II (Initial Resuscitative Care)—This level provides resuscitative care as provided by company-sized medical units such as Level II MTF or medical companies. Depending on the capability of the medical unit, initial surgery to save life or limb may be available. The medical units prepare those patients requiring further care for evacuation to the next level health care facility.

i. Level of Care III (Resuscitative Care)—This level provides medical care in a facility staffed and equipped for surgery and postoperative care. These facilities may provide additional surgical specialty support and additional laboratory and radiology support.

j. Level of Care IV (Definitive Care)—This level provides medical care in a facility staffed and equipped for follow-up surgery and other rehabilitative therapy for patients in the recovery phase that may be expected to return to duty.

k. Depending on the requirements of a particular Level II facility, it may function like a Level I facility (no ability to handle inpatients) or as a Level III facility (capable of handling inpatients). Consequently, TMIP Block 1 is targeted to act as a Level I or II and/or a Level II or III type of medical facility.

l. The medical data generated at Levels I, II, III, and IV is transmitted to a central repository. The UCC/JTF commanders, and their medical support activities can then view the information for medical SU and for C2 of the theater medical battlefield. Figure C-2 below describes the communications architecture supporting the movement of medical data for TMIP Block 1.

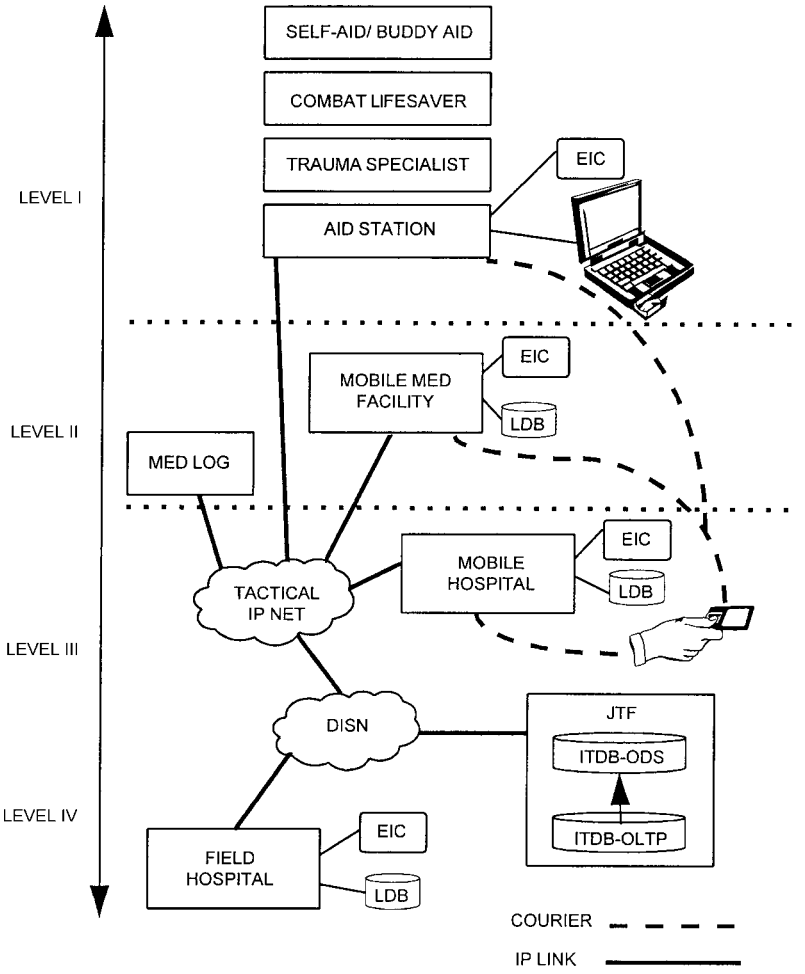


Figure C-2. Communications architecture for the movement of medical data for theater medical information program.

m. The TMIP Block 1 is comprised of software that integrates with the Service-provided infrastructure (facilities, computer hardware, and communications equipment). The TMIP PMO is responsible for the definition and integration of the component systems comprising the software segment. The software will be developed in accordance with the JTA and be DII COE compliant at a minimum level of Level VI as mandated by the Joint Requirements Oversight Council (JROC). The Services each have the

responsibility for providing the facilities, computer hardware, and communications equipment necessary to support the TMIP software in accordance with Service employment concepts developed by the TMIP Service Program Offices. Section 3, paragraph 3.1 of this SSAA provides a recommended set of hardware requirements necessary to host the TMIP Block 1 software components. Existing Service communications capabilities will be utilized by TMIP for Levels of Care I—IV.

C-13. Functional Description

The TMIP Block 1 will be developed to operate on a minimum set of hardware and existing Service communication infrastructure. The Application Program Offices (APO) are responsible for the application software. The TMIP PMO is responsible for the integration of the applications and is the owner of the integration software elements and will provide compliant and coordinated upgrades of applications to the Services. Figure C-3 below provides an overview of TMIP components and a notional data flow of information for the final version of Block 1 of TMIP.

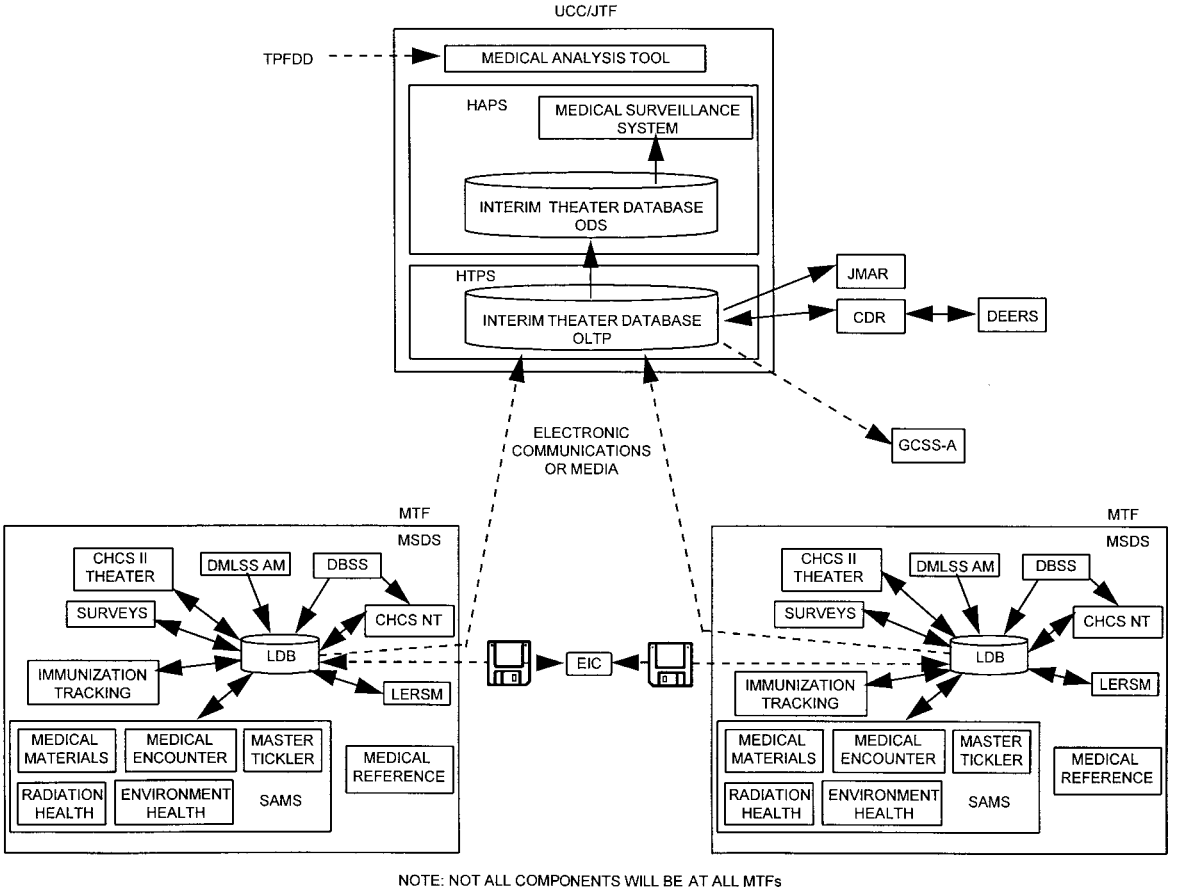


Figure C-3. Theater medical information program Block 1, notional data flow.

a. The TMIP Block 1 provides the UCC/JTF headquarters with medical SU. For outpatient and inpatient facilities data collection applications along with C2 applications will be provided. The following is a brief description of each of the TMIP Block 1 components.

(1) *Medical Services Delivery System*. The Medical Services Delivery System (MSDS) subsystem is that portion of TMIP that resides at the MTF. The MSDS is composed of the following components:

- *Composite Health Care System, New Technology (CHCS NT)*. The CHCS NT is a GOTS application supporting HCD, medical readiness of military forces, and quality managed care. The CHCS NT will be used for functions such as appointments, patient lists, patient demographics, and patient profile.

- *CHCS II Theater (CHCS II T)*. CHCS II T is a modified GOTS application tailored for TMIP. The CHCS II T provides for the management of patient and clinical data and allows doctors to diagnose and track illnesses at deployed locations by collecting data. The CHCS II T will also provide user and patient management functions for TMIP.

- *Immunization Tracking*. The immunization tracking component handles the recording and reporting of individual and mass immunizations for the theater environment. Immunization tracking is provided as a part of CHCS II T.

- *Surveys*. The surveys component supports documenting the postdeployment health assessment surveys for service members deployed to a theater environment.

- *Defense Medical Logistics Standard Support Assemblage Management*. The DMLSS AM is a modified GOTS application that provides automated support for the management of facilities, equipment, supplies and services (informal stock record accounting) within MHS during both peacetime and wartime. This includes war reserve material (WRM) controlled drugs and hazardous materials.

- *Defense Blood Standard System*. The DBSS is a modified GOTS application that supports the requisition, movement, tracking, storage, and inventory control of Class VIIIB (blood and blood products) materiel.

- *Medical Resource Component*. The Medical Resource Component (MRC) is a COTS medical information database accessible on a compact disk-read-only memory (CD-ROM). It provides information on drugs, poisons, and illnesses.

- *Lower Level Reporting and Surveillance Module (LERSM)*. The LERSM provides a query capability into the LDB. It provides local SU information and medical treatment facility patient visibility along with support for predefined status reporting and epidemiology monitoring.

- *Electronic Information Carrier Interface*. The fundamental purpose of the EIC is to provide a physical mechanism to the service member for storing and transporting personal medical information. The EIC reader/writer will provide a means for accessing and updating information on the EIC.

- *The TMIP LDB*. The TMIP LDB is a collection of Electronic Theater Medical Records (ETMR). The TMIP LDB pushes and pulls medical data from the applications via TMIP MSDS Middleware. The LDB serves as a central collection and dissemination point at each MTF.

(2) *Shipboard Nontactical Automation Processing Program System (SNAPS) Automated Medical System*. The SNAPS automated medical system is a USN GOTS system being updated to interface with TMIP. The SNAPS automated medical system has provided medical management capabilities to the USN and USMC for a number of years. The SNAPS Automated Medical System consists of five modules: medical encounter, medical service, radiation health, environmental health, and supply management. The medical encounter module is used to document and report all health care encounters. The medical service module is used to document, update, and transfer medical information on crewmembers. The radiation health module is used to document and report all radiation exposure data. The environmental health module is used to document environmental conditions that may affect the health of sailors and marines. The supply management module supports inventory management of medical material and pharmaceuticals.

(*a*) *Headquarters Transactional Processing System (HTPS)*. The HTPS subsystem is that portion of TMIP that resides at the UCC/JTF and collects data from the MTF. The HTPS is composed of the ITDB-OLTP which is the central repository for all medical data collected in-theater. The ITDB-OLTP structure is similar to that of the TMIP LDB to facilitate efficient update capability. The ITDB-OLTP data will reside on a server on an unclassified network.

(*b*) *Headquarters Analytical Processing System (HAPS)*. The HAPS subsystem is that portion of TMIP that resides at the UCC/JTF and is used by medical planners to perform medical surveillance. The HAPS is composed of the following components:

- *Medical Surveillance System (MSS)*. The MSS will provide UCC/JTF personnel with SU information and medical treatment facility patient visibility. The MSS also supports predefined status reporting and epidemiology monitoring. There are two predefined status reports: The bed status report and the patient report that includes three output screens (active patient report, disposition report, and all patient report). MSS will access the Operational Data Store (ODS) version of the ITDB for optimized query response.

- *Medical Analysis Tool*. The MAT is a stand-alone component that provides an analytical capability for medical planners. This capability enables worldwide medical planners to generate theater medical support requirements in terms of beds needed, numbers of admissions and evacuations, and gross medical supplies needed for the theater. They can develop and evaluate COA for war game scenarios analysis to determine the most effective use of medical forces currently available.

- *Interim Theater Database-Operation Data Store (ITDB-ODS)*. The ITDB-ODS is a copy of the ITDB-OLTP de-normalized for the purpose of optimizing the response time of queries such as those made by medical planners utilizing the MSS application.

b. The TMIP Block 1 will be deployed at MTFs that will vary greatly in size and the amount and type of care provided. A Level I facility varies greatly from a Level III facility and USN facilities vary greatly from USA facilities. As a result, not all TMIP components will be present at every MTF.

Furthermore, the actual software components to implement the functionality may also vary by Service (for example, the USN may use a different physical software component to perform immunization tracking than the USA). Table C-1 shows the MSDS functional components that may be used by Service and level of care.

Table C-1. Medical Services Delivery System Functional Components by Service and Level

FUNCTIONAL COMPONENT	ARMY			NAVY			AIR FORCE			MARINE	
	1	2	3	1	2	3	1	2	3	1	2
CHCS II THEATER	YES	YES	YES	NO	YES	YES	YES	YES	YES	NO	YES
CHCS NT	NO	NO	YES	NO	YES	YES	NO	YES	YES	NO	YES
IMMUNIZATION TRACKING	YES	YES	YES	NO*	NO*	YES	YES	YES	YES	NO*	NO*
SURVEYS	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
DMLSS AM	YES	YES	YES	NO*	NO*	YES	NO	YES	YES	NO	YES
DBSS	NO	YES	YES	NO	YES	YES	NO	YES	YES	NO	NO
MEDICAL REFERENCE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
LERSM	YES	YES	YES	NO*	NO*	YES	YES	YES	YES	NO*	NO*
EIC INTERFACE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
LOCAL DATABASE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
SAMS	NO	NO	NO	YES	YES	YES	NO	NO	NO	YES	YES

*THESE FUNCTIONS WILL BE PERFORMED BY SAMS FOR THE NAVY AND MARINES.

C-14. Interfaces at Unified Combatant Commander/Joint Task Force

a. The TMIP Block 1 C2 applications (MAT, MSS) will be installed at the UCC/JTF headquarters. The ITDB-OLTP may be accessed via a Windows NT® server via an unclassified network. The ITCB-ODS, which may be a reformatted copy of the ITDB-OLTP, may be accessed via a Windows NT® server either via a classified or an unclassified network. The ITDB-OLTP data will be moved to the ITDB-ODS either electronically or via a sneaker-net so MSS can access the data. If the ITDB-ODS is in on a classified network, then the data will be moved in a manner approved by appropriate DOD and UCC/JTF elements. The MAT is a stand-alone application that may reside on a separate computer and may or may not be a part of GCCS.

b. External TMIP interfaces at the UCC/JTF are to the DEERS, time-phased force and deployment data (TPFDD) files, the JMAR, Clinical Data Repository (CDR), and GCSS. The data passed to DEERS is patient immunization information (anthrax immunizations) for immunization tracking. This data will be passed through the CDR. The TPFDD files are used only as inputs to MAT and may be moved manually. The data going to JMAR includes unit medical stock information to provide asset visibility and Military Standard Requisition and Issue Procedures (MILSTRIP) orders and receipts for medical supplies and equipment. The JMAR data comes from DMLSS AM and DBSS through the ITDB-OLTP. The interface control document (ICD) between TMIP and clinical information technology program office (CITPO), Defense Information Systems Agency (DISA), and the Services for interfacing to the commander and GCSS have yet to be defined.

C-15. Interfaces at a Medical Treatment Facility

a. At small outpatient facilities, the TMIP goal is to install the TMIP Block 1 software on a single laptop running Windows NT®. Each laptop will be capable of hosting all software applications and associated databases. The actual hardware installation is the Services' responsibility. The Services' concept operations (CONOPS) will define in more detail the physical configuration of the computer hardware and software within the facility. Medical data collected in the theater will be transmitted via Simple Mail Transfer Protocol (SMTP) System when communication lines are available. In the absence of reliable electronic communications, removable media such as a tape backup device could be the primary form of transporting medical data to the ITDB. The power source is expected to be a ground power generator in the case of the USA and USMC, who normally operate in austere environments. The USAF may use power generators for their power source. The USN will use onboard ship generators for power.

b. At larger inpatient facilities, TMIP Block 1 applications will be installed in a Windows NT® environment on computers according to the Services' CONOPS. The expectation is that this facility will require multiple clients and servers. The primary means for transporting medical data collected in theater will be the existing communications capabilities. There is expected to be a twisted-pair Ethernet capability for LAN connectivity. It is anticipated that an inpatient MTF will host a LAN over which TMIP can be installed. The actual configuration of this network is dependent on each Service's COE subject to constraints from the design. If communication lines are not available, data will be downloaded periodically to a removable media such as a tape backup device or an Iomega Zip® drive and physically transported to the ITDB location for manual input into the ITDB. The power source for inpatient facilities is a ground power generator for the USA and USMC facilities, power generators for the USAF, and a ship-powered generator for shipboard medical facilities.

C-16. System Criticality

The designation of TMIP system criticality was designated as being sensitive unclassified by MHS using two DOD documents and applicable formulas therein. The documents and formulas used are described in the following paragraphs.

C-17. Department of Defense Directive 5200.28

The procedure for determining minimum AIS computer-based security requirements is as follows:

a. The following risk assessment procedure is extracted from CSC STD-003-85, *Computer Security Requirements—Guidance for Applying the Department of Defense Trusted Computer System Evaluation Criteria in Specific Environments*. The procedure is used to determine the minimum evaluation class required for AIS, based on the sensitivity of the information present in the AIS and on the clearances of its users.

NOTE

In the case of a network, the procedure is applied individually to each of the AIS in the network. The resulting evaluation class should be taken as a minimum partial requirement since connection of AIS to another AIS or to a network may result in additional risks. The DAA for a network also may decide to apply the procedure once for the network, and determine the evaluation class by applying the requirements in DOD 5200.28-STD to the network as a whole.

(1) Determine the system security mode of operation. The system security mode of operation for AIS is determined as follows:

(*a*) An AIS is defined as operating in the dedicated security mode if all users have the clearance or authorization, documented for access approval, if required, and the need-to-know for all information handled by the AIS. The AIS may handle a single classification level and/or category of information or a range of classification levels and/or categories. The AIS shall be isolated electrically, logically, and physically from all personnel and AIS not possessing the requisite clearance or authorization, formal access approval, if required, and need-to-know for all of the information handled by the AIS.

(*b*) An AIS is defined as operating in the system high security mode if all users have the clearance or authorization and documented formal access approval, if required, but not necessarily the need-to-know for all information handled by the AIS.

(*c*) An AIS is defined as operating in the multilevel security mode if not all users have the clearance, authorization, or formal access approval, if required, for all information handled by the AIS.

(*d*) An AIS is defined as operating in the partitioned security mode if all users possess the clearance, but not necessarily a formal access approval, for all information handled by the AIS.

RESULT: In coordination with MHS Information System Security Office, the TMIP was designated with a System Security Mode of **system high** for operational purposes.

(2) Determine minimum user clearance (Rmin) or authorization rating. The Rmin or authorization is defined as the maximum clearance or authorization of the least cleared or authorized user. The Rmin is determined from Table C-2. The clearances used in Table C-2 are defined in DODD 5200.2.

Table C-2. Minimum User Clearance or Authorization Scale

CATEGORY	RATING (Rmin)
UNCLEARED OR NOT AUTHORIZED (U)	0
NOT CLEARED BUT AUTHORIZED ACCESS TO SENSITIVE UNCLASSIFIED INFORMATION (N)	1
CONFIDENTIAL (C)	2
SECRET (S)	3
TOP SECRET (TS)/CURRENT BACKGROUND INVESTIGATION (BI)	4
TOP SECRET (TS)/CURRENT SPECIAL BACKGROUND INVESTIGATION (SBI)	5
ONE CATEGORY (1C)	6
MULTIPLE CATEGORIES (MC)	7

RESULT: In coordination with MHS Information System Security Office, TMIP was designated with a 3 as the Rmin and authorization scale.

(3) *Determine the maximum data sensitivity (Rmax) rating*. The Rmax is determined using Table C-3.

Table C-3. Maximum Data Sensitivity Scale

MAXIMUM DATA SENSITIVITY RATINGS WITHOUT CATEGORIES[1]	RATING (Rmax)	MAXIMUM DATA SENSITIVITY WITH CATEGORIES[2]	RATING (Rmax)
UNCLASSIFIED (U)	0	NOT APPLICABLE[3]	0
NOT CLASSIFIED BUT SENSITIVE[4]	1	N WITH ONE OR MORE CATEGORIES	2
CONFIDENTIAL (C)	2	C WITH ONE OR MORE CATEGORIES	3
SECRET (S)	3	S WITH ONE OR MORE CATEGORIES WITH NO MORE THAN ONE CATEGORY CONTAINING SECRET DATA	4
		S WITH TWO OR MORE CATEGORIES CONTAINING SECRET DATA	5
TOP SECRET (TS)	5[5]	TS WITH ONE OR MORE CATEGORIES WITH NO MORE THAN ONE CATEGORY CONTAINING SECRET OR TOP SECRET DATA	6
		TS WITH TWO OR MORE CATEGORIES CONTAINING SECRET OR TOP SECRET DATA	7

[1] Where the number of categories is large or where a highly sensitive category is involved, a higher rating might be warranted.

[2] The only categories of concern are those for which some users are not authorized access. When counting the number of categories, count all categories regardless of the sensitivity level associated with the data. If a category is associated with more than one sensitivity level, it is only counted at the highest level. Systems in which all data is in the same category are treated as without categories.

Table C-3. Maximum Data Sensitivity Scale (Continued)

[3] Since categories are sensitive and unclassified data is not, unclassified data by definition cannot contain categories.

[4] Examples of N data include financial, proprietary, privacy, and mission-sensitive data. In some situations (for example, those involving extremely large financial sums or critical mission-sensitive data), a higher rating may be warranted. This table prescribes minimum ratings.

[5] The rating increment between the Secret and Top Secret data sensitivity levels is greater than the increment between other adjacent levels. This difference derives from the fact that the loss of Top Secret data causes EXCEPTIONALLY GRAVE damage to US national security, whereas the loss of Secret data causes only SERIOUS damage.

RESULT: The maximum sensitivity ratings without categories were designated as Secret and the maximum data sensitivity with categories was designated as Secret with no more than 1 category.

(4) *Determine risk index.* The risk index depends on the rating associated with the AIS Rmin and the rating associated with the maximum classification of the information handled by the AIS (Rmax). The risk index is computed as follows:

(*a*) *Case A.* If Rmin is less than Rmax, then the risk index is determined by subtracting Rmin from Rmax.

Risk Index = Rmax – Rmin

NOTE

There is one anomalous value that results because there are two "types" of Top Secret Clearance and only one "type" of Top Secret data. When the Rmin is TS/BI and the Rmax is Top Secret without categories then the risk index is 0 (rather than the value 1, which should result from a straight application of the formula).

(*b*) *Case B.* If Rmin is greater than or equal to Rmax, then:

Risk Index = 1, if there are categories to which some users are not authorized access, or:

Risk Index = 0, in all other cases.

RESULT: The Risk Index for TMIP was designated as being a 0 since Rmax, has a maximum sensitivity rating of Secret and no categories and Rmin was designated a 3 for minimum user clearance or authorization scale (Secret information).

(5) Determine Minimum Security Evaluation Class for Computer-Based Controls. Table C-4 shall be used to determine the minimum security class required for AIS based on the computed risk index in paragraph (4) above. The levels in the table are those described in DOD 5200.28-STD.

Table C-4. Computer Security Requirements Scale

RISK INDEX	SECURITY MODE	MINIMUM SECURITY CLASS[1]
0	DEDICATED[2]	NO MINIMUM CLASS[3]
0	SYSTEM HIGH	C2[4]
1	MULTILEVEL, PARTITIONED	B1[5]
2	MULTILEVEL, PARTITIONED	B2
3	MULTILEVEL	B3
4	MULTILEVEL	A1
5	MULTILEVEL	*
6	MULTILEVEL	*
7	MULTILEVEL	*

[1] The asterisk (*) indicates that computer protection for environments with that risk index is considered to be beyond the state of current computer security technology. Such environments must augment technical protection with physical, personnel, and/or administrative security solutions.

[2] Most embedded systems and desktop computers operate in the dedicated mode.

[3] Although there is no prescribed minimum class, the integrity and denial of service requirements of many systems warrant at least Class C1 protection.

[4] Automated markings on output must not be relied on to be accurate unless at least Class B1 is used.

[5] Where an AIS handles Classified or compartmented data and some users do not have at least a Confidential clearance, or when there are more than two types of compartmented information being handled, at lease a Class B2 is required.

RESULT: The Minimum Security Evaluation Class for TMIP as identified in Table C-4 is for a C2 system.

(6) Adjustments to computed security evaluation class required. Additional requirements or recommendations relevant to determining the minimum evaluation class include the following:

(*a*) Where the AIS is connected to a network or to another AIS, care should be taken to ensure that the requirements for accreditation of the AIS are not violated due to the presence of the network technology.

(*b*) In the dedicated mode where the AIS is connected to a network or to another AIS, it is recommended (although not required) that at least level C2 be used. This recommendation is made because level C2 might provide a measure of security sufficient to prevent users from accidentally altering or deleting each other's data.

(*c*) An AIS using periods processing (for example operating in one or more security modes and/or at one or more security levels for certain periods of time where acceptable sanitation procedures are implemented between processing periods) may have more than one risk index. In such cases, the highest value of risk index shall be used in determining the minimum security feature level.

b. The DOD released a Secretary of Defense Directive in late 1990 that made it mandatory for all DOD computer systems to be C2 compliant by 1992. While the data for implementation was not met, the requirement that all systems be C2 compliant has not changed. Therefore, the TMIP program has a C2 designation.

C-18. Department of Defense Instruction 5200.40

With the release of DOD Instruction 5200.40 on 30 December 1997, a new evaluation criterion was established for all DOD Information Systems. This criterion called Information Technology Security (ITSEC) class description is rather involved and gives a weighted factor to each part of the areas to be evaluated. The areas of the ITSEC class description, discussed in depth in Section 4 of this SSAA, are:

- Interfacing mode.
- Processing mode.
- Attribution mode.
- Mission-reliance factor.
- Accessibility factor.
- Accuracy factor.
- Information categories.
- System class level.
- Certification analysis level.

The completion of this Section of the SSAA is mandatory and must be done with forethought as to what the system-operating environment is for people and the information to be managed, processed, and used. Reviewers, certifying authorities, and accrediting authorities are directed to Section 4 of this SSAA for the most current ITSEC class designation of TMIP.

C-19. Classification and Sensitivity of Data Processed

a. Each of the theater medical information systems processes sensitive but unclassified (SBU) information, which must be protected in accordance with DOD Information Systems Security guidelines and

specifically the Privacy Act of 1974, as amended in 1986. Patient data is considered SBU information, which mandates the employment of technical and physical safeguards to ensure the information is adequately protected and available only to those individuals with a need-to-know. Theater medical information systems must comply with DOD 5200.28-STD (commonly referred to as the Orange Book) for a C2, controlled access protection, system. Theater medical information systems must also be in compliance with DOD CSC publications applicable for the component system environment, the workstation environment, and the data contained in, and transmitted by the system, and the networked interconnections of the system. Selected medical systems, such as C2 systems and medical intelligence systems, should be able to process information up to and including SECRET information in accordance with established DOD guidance. Associated security processes and procedures for C2 systems will be implemented by the Services at the applicable locations or points where this information will be created, analyzed, and used to make management decisions.

b. The DOD defines medical information in and of itself as being unclassified information. However, medical information when automated can become an indicator of an organization's ability to perform; therefore, OPSEC guidelines for an operation may be indicated. For example, casualty and injury data on a unit can be extremely valuable to opposing forces during conflicts. The OPSEC measures to reduce or eliminate these indicators may entail restrictions on medical information dissemination and are detailed in OPLAN or OPORD. The OPSEC measures may require encryption for transmission only (EFTO) of medical information. The use of OPSEC measures for medical information is at the discretion of the theater UCC.

C-20. Classification of Information Processed

Data processed by TMIP may include information derived from the TPFDD file or manually entered TPFDD type information and as such will be classified to the level and sensitivity of the TPFDD or manual data utilized. The UCC/JTF medical planner will utilize the TPFDD data with the MAT for planning purposes within the UCC/JTF operations arena. Maximum level of data utilized is projected to be at the SECRET level.

C-21. Categories of Information Processed

No formal categories of unclassified information exist. However, some types of sensitive information with special handling criteria and access instructions may be processed on systems that TMIP resides on specifically for official use only (FOUO) and Privacy Act information. Each has some of the characteristics of compartmented information that requires some form of extra protection. The addition of formal categories of information requiring an increased need for protection and access restriction will require a new risk analysis, certification, and Designated Approving Authority (DAA) accreditation for those systems.

C-22. Minimum and Maximum User Clearances

The DODD 5200.2 specifies requirements for personnel with access to sensitive unclassified information. All TMIP users will be designated as ADP-I, ADP-II, or ADP-III depending on the level of position

sensitivity. Any person requiring access to classified material will possess the appropriate clearance and access privileges. Only individuals specifically authorized by the DAA or a designated site representative will be allowed to access TMIP and its derived data.

C-23. Life Cycle of the System

The component systems of TMIP shall have their own set of logistics and readiness requirements. The TMIP PMO or the PMs for the integrated component systems in TMIP shall address single-point failure prevention, backup capabilities, maintenance schedules, repair, sustainment training, and contingency plans.

C-24. Operational Concept

The concept of operation for TMIP Block 1 is to integrate existing component systems to provide clinical data collection and data transport capabilities at Levels I, II, III, and IV. Data transport will be accommodated by Services-provided information technology, communications infrastructure, and computer hardware. This includes using the Secret Internet Protocol Router Network (SIPRNET) and Service-supported secure LAN at each UCC. The collected medical Services data from each health service encounter then would be forwarded and stored in a central repository called the ITDB. The ITDB contains the health service encounter records for soldiers, sailors, airmen, and marines, as well as DOD civilians and contractors, while in the operational theater, and would provide a medical reporting capability to the C2 users. The TMIP Block 1 will support medical C2 users at the JTF and theater/component UCC levels. The TMIP Block 1 also will provide C2 users the capability to generate time phased medical requirements and perform course of action analysis for various theater operational scenarios.

a. The TMIP medical logistics support will provide materiel and equipment resupply management and assemblage management in a timely and cost-effective manner. Levels I and II will receive medical logistics information management support consisting of resupply management, medical logistics inventory management, medical logistics assemblage management, hazardous medical waste disposal management, and product identification and cataloging.

b. The baseline clinical data for each service member will be loaded on an electronic device that stores information about the person who carries it before deployment to the theater area of operations. When the service member receives medical treatment at a theater health care facility, the following events will occur to collect and forward the health service encounter data:

(1) Baseline patient data will be read into a TMIP component system from an electronic device that stores information about the person who carries it.

(2) The service member will be registered automatically into the deployed MTF.

(3) Selected data will be stored in a local database and on an electronic device that stores information about the person who carries it.

(4) Information stored in the local database will be forwarded periodically to the ITDB.

c. Blood management includes the collecting, processing, manufacturing, shipping, distributing, and transfusing of blood and blood components and the tracking of blood donors and transfusion recipients to satisfy infectious disease reporting requirements. The TMIP medical surveillance (MEDSURV) capabilities allows identification of populations at risk, recognition and assessment of hazardous exposures, determination of protective measures, and monitoring of health outcomes.

C-25. Support Concept for the Theater Medical Information Program

The support for TMIP will involve a combination of hardware and software support services. Generally, hardware infrastructure support for TMIP will be provided by the TriService Infrastructure Management Program Office (TIMPO) for the overseas fixed facilities and by the Services for deployable units providing care at various levels. Agencies and organizations designated by the specific business area PMs will support TRICARE Management Activity (TMA) business area application software. The TMIP PMO will support TMIP application developed by the TMIP PMO and integrated into all versions of TMIP. TMIP support will be a coordinated effort by TMA, Services' medical and line components, business area program offices, and the TMIP PMO. Specific support responsibilities for TMIP are as follows:

a. The TMIP Functional Management Office (FMO) is responsible for the collection and management of the theater functional user requirements.

b. The Services are responsible for funding and fielding TMIP infrastructure and support hardware, including communications capabilities, as part of the Services' GCCS and GCSS fielding programs.

c. The TMA business area PMs are responsible for support of their systems that have been integrated into TMIP.

d. The TMIP PMO is responsible for the support of the integration of the TMIP components and unique TMIP-developed application software.

APPENDIX D

ROLES AND RESPONSIBILITIES FOR MEDICAL INFORMATION MANAGEMENT

D-1. General

a. This appendix delineates the responsibilities of TSG/Medical Command (US Army) (MEDCOM) Commander and selected subordinate medical unit commanders for IM. See Figure D-1.

b. The medical IM roles and responsibilities are applicable to all levels of the AMEDD, both TOE and table of distribution and allowances (TDA), in CONUS and OCONUS, and across the continuum of operations.

D-2. The Surgeon General/Commander, United States Army Medical Command

a. *Accountability*. The Surgeon General/MEDCOM Commander is accountable to the Chief of Staff, Army, for internal IM responsibilities of the command.

b. *Responsibilities*. The Surgeon General/MEDCOM Commander is responsible for ensuring implementation of DOD and DA policies in the management of the IM and information technology in accordance with AR 25-1. The Surgeon General has approval authority for HSS information doctrine and oversees acquisition of information technology systems.

c. *Duties*. The Surgeon General will—

- Serve as a direct interface between MACOM, the MEDCOM, and the DA staff on resource programming actions for HSS IM.
- Interpret and integrate DOD and DA policy into HSS IM policy.
- Implement DOD and DA policies in the management of the IM and information technology in accordance with AR 25-1.
- Assign the Deputy Surgeon General (DSG) as the Chief Information Officer (CIO) for HSS.
- Assign the ASG for Force Sustainment as the principal staff officer for information for HSS.
- Serve as approval authority for HSS information doctrine and oversee acquisition of information technology systems.
- Ensure the security of information systems operations within the MEDCOM, according to AR 380-19.
- Develop MEDCOM IM policies for the management of information.

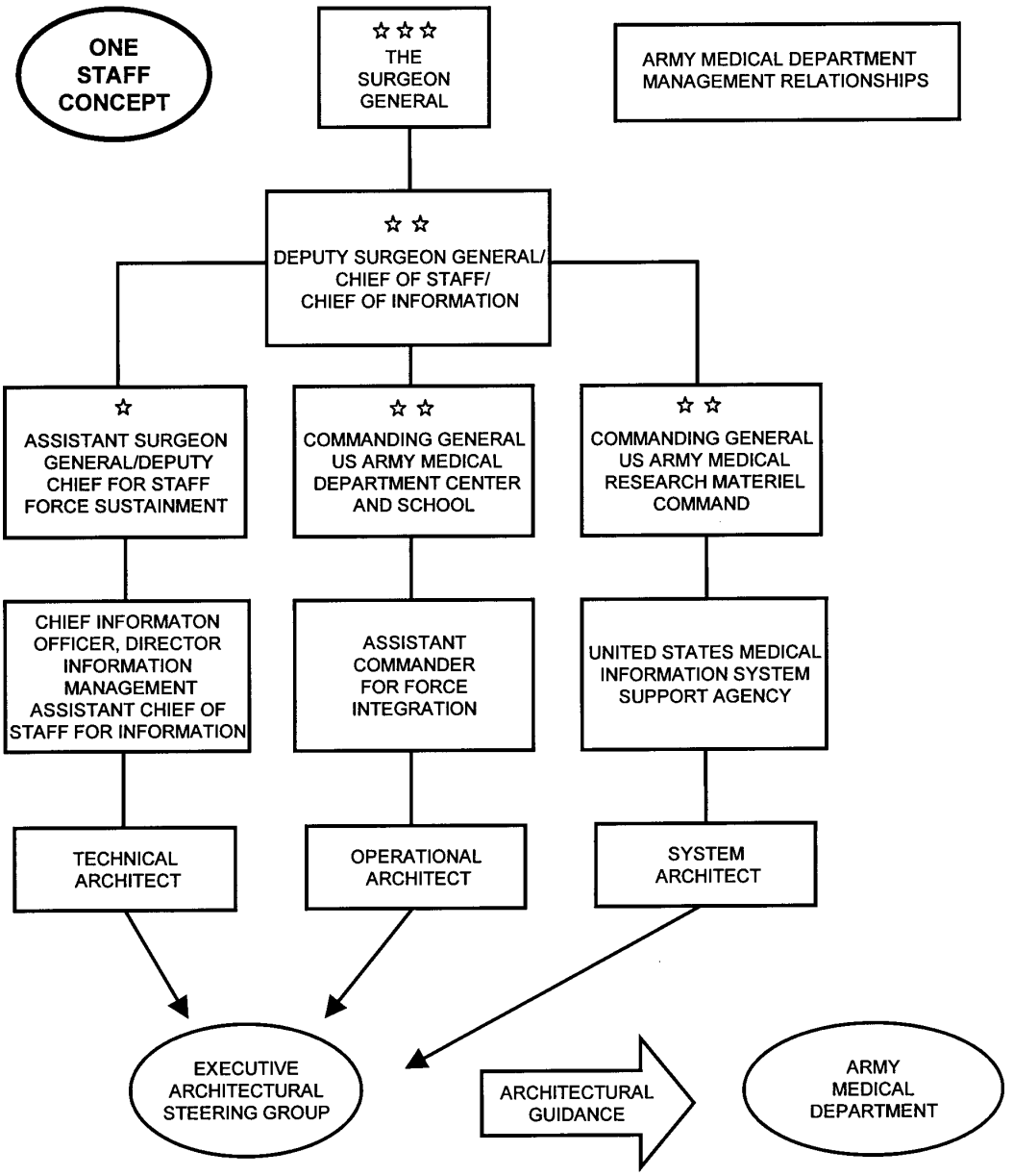


Figure D-1. Roles and responsibilities—one-staff concept.

- Designate an Assistant Chief of Staff for Information Management (ACSIM) in accordance with AR 25-1.

- Coordinate with other MACOM commanders to ensure HSS operational integration into systems.

- Coordinate with counterparts in other Services, DOD and federal agencies, and chief executives of nongovernmental organizations for HSS IM interoperability and integration.

D-3. Chief Information Officer (CIO/G6) Staff Section

a. The MEDCOM Assistant Chief of Staff G6 (Signal) is the principal staff officer for all matters concerning communications operations. The G6—

- Ensures communications operations are inclusive of network operations (NETOPS) and IM.

- Advises the commander, staff, and subordinate commanders on communications operations matters.

- Provides staff assistance to all staff section IM officers on TTP for performing IM functions within the staff section.

b. The MEDCOM G6 coordinates directly with—

- MEDCOM staff officers.

- The ARFOR G6, TSC G6, Corps G6, and the COSCOM G6.

- Communications operations chiefs of subordinate and attached units.

- Supporting area signal officers on local communications matters that pertain to MEDCOM units.

c. The MEDCOM G6 staff section exercises technical supervision over any communications element assigned or attached to the MEDCOM. The MEDCOM G6 staff section—

- Establishes the internal communications system for the MEDCOM headquarters and headquarters company (HHC).

- Establishes the internal communications system for the MEDCOM functional control centers and subordinate units.

- Identifies communications links and requirements between the MEDCOM headquarters, subordinate MEDCOM elements, supported units, and the supporting area signal centers in the area communications system.

- Monitors the communications capability organic to MEDCOM units and links these capabilities into a workable MEDCOM communications system.

- Prepares the communications annex to OPLAN and OPORD.

- Prepares, maintains, and updates communications operations estimates, OPLAN, and OPORD.

- Monitors and makes recommendations on all technical communications operations activities within the command.

- In conjunction with the G2 (assisted by the Land Information Warfare Authority [LIWA] [see FM 100-6]), performs communications systems vulnerability and risk management.

- Coordinates, plans, and directs communications security (COMSEC) measures.

- Produces tactical telephone directories and listings for users.

- Controls radio frequency allocations and spectrum management.

- Maintains configuration control of all software by ensuring that the software is current, compatible, and standardized.

D-4. Communications Support Planning

When preparing for projected operations, the G6 revises communications estimates, OPLAN, and OPORD. During the preparation of the communications annex to the MEDCOM OPLAN/OPORD, the G6—

- Analyzes the communications requirements of the TSC headquarters and TSC units for projected operations.

- Determines the extent of communications support required.

- Recommends to the G3, locations for command posts based on the information environment.

- In conjunction with the G2 and G3 plans sections, performs communications systems vulnerability and risk management.

- Determines the sources and availability of communications assets.

- Coordinates with the G5 on the availability of host nation commercial information systems and services for military use.

- Develops plans to provide the MEDCOM headquarters with continuous communications from the time of alert through establishing operations in the AO.

- Recommends communications essential elements of friendly information (EEFI).

- Ensures that redundant communications means are planned and available to pass time-sensitive critical information.

- Coordinates, plans, and directs all information assurance (IA) activities conducted within the command.

- Requests and receives, as necessary, assistance from the LIWA.

D-5. The Deputy Surgeon General/Chief of Information for Health Service Support

a. Accountability. The chief of information (COI) is accountable to TSG for efficient and effective AMEDD IM, and IT operations.

b. Responsibilities. The COI will—

- Represent the AMEDD at DOD (HA) Information Management Proponent Committee meetings.

- Ensure the AMEDD manages and utilizes information following the AMEDD IM and information technology strategic principles.

- Ensure that the AMEDD force is appropriately staffed and trained to exploit information and information technologies.

- Ensure coordination between, CIO, and AMEDDC&S on IM issues.

- Provide strategic oversight for all issues relating to the development of information requirements and business process reengineering initiatives.

D-6. The Assistant Surgeon General/Deputy Chief of Staff for Force Sustainment

a. Accountability. The ASG/Deputy Chief of Staff for Force Sustainment is accountable to TSG for integration of IM and information technology operations throughout the AMEDD.

b. Responsibilities. The ASG for Force Sustainment will—

- Serve as principal staff officer to TSG for IM.

- Represent the commander on councils, boards, committees, and special action groups as required.

- Supervise the ACSIM.

- Ensure integration of IM and information technology operations among the Force Sustainment business areas.

- Coordinate with other Deputy Chiefs of Staff to ensure integration of IM and information technology operations within their designated business areas.

D-7. Assistant Chief of Staff for Information Management and Director Information Management, Medical Command

a. *Accountability*. The ACSIM, MEDCOM is dual-hatted as the CIO and is accountable to the COI for implementing, resourcing, and managing HSS IM. He is also accountable to the COI for issues relating to the strategic management of information and information technology for HSS.

b. *Responsibilities*. The CIO will—

- Ensure information requirements and support services are adequate to meet MEDCOM mission requirements.

- Advise TSG on applications of information services and technologies within the MEDCOM.

- Manage the strategic plans and serve as a member of the MEDCOM Strategic Planning Council.

- Consolidate IM support operations in accordance with AR 25-1.

- Develop policy for working with VA hospitals, civilian hospitals as part of the DOD network, and contract physicians for managed care support contracts.

- Develop resource requirements for information support and services and contract for services not available within the Army support system.

- Coordinate with the Deputy Chief of Staff for Information Management (DCSIM) of major commands and the Communications-Electronics Directorate (J-6) of unified and specified commands for HSS IM requirements.

- Manage the HSS IM architectural business process and appoint the master architect.

- Ensure that HSS information is strategically managed in support of the AMEDD strategic plans and ensure that information capabilities are considered in the development of the AMEDD Strategic Plan.

- Ensure the MEDCOM IM organization remains current with evolving IO technology and programs for modernization/updates as required to meet mission requirements.

- Coordinate with the COI, ASG for Force Sustainment, the MRMC commander, and AMEDDC&S commander to develop plans, programs, and priorities for Army resources needed to manage HSS information in support of Army operations.

- Provide recommendations to the Office of the Secretary of Defense (OSD) (HA) on the purchase of IM and information technology systems and Army HSS IM requirements.

- Coordinate with the COI and ASG for Force Sustainment to produce and maintain the documents and concept statements that guide the MEDCOM in the use of information resources for supporting the Army HSS strategy. This includes developing the IM and information technology modernization plan and executing the MEDCOM portion of the Army's IM and information technology modernization plan IAW DA and MEDCOM policies.

- Represent IM medical organizations at MACOM-level Planning, Programming, Budgeting, and Execution System (PPBES) meetings.

- Incorporate IM requirements and policy into strategic plans.

- Check the IM architecture for completeness.

- Oversee the day-to-day HSS IM management.

- Serve as a member of the MEDCOM Strategic Technology/Clinical Policies Council.

- Ensure that materiel requirements documents that include requirements for information technology conform to the Army's technical architecture and address integration into the Army's system architecture.

- Ensure that the requirements have gone through a business process reengineering.

- Ensure that materiel requirements documents are in concert with emerging information technologies.

- Maximize the value and assess and manage the risk of the Army's information technology acquisitions.

- Coordinate with the DISA, CIO of other federal agencies, and with Service components for HSS IM requirements.

- Provide directions and guidance to AMEDD, agencies, and units on how to integrate HSS IM, medical IM, and information technology programs, products, capabilities, services, and support.

D-8. Master Architect, Information Management Systems

a. Accountability. The master architect is accountable to TSG, COI, and CIO for the architectural business process.

b. *Responsibilities*. The master architect will—

- Develop IM architecture policy and procedures.
- Facilitate and market the IM architectural process to HSS INFOSYS users.
- Conduct liaison within and outside the AMEDD to define the operational systems, and technical architectures needed to create a seamless health care continuum.
- Work with the operational architect (AMEDDC&S Directorate of Combat and Doctrine Development) and the system architect at the MRMC to develop the HSS information architecture for the CIO.

D-9. United States Army Medical Department Center and School

a. *Accountability*. The AMEDDC&S commander is accountable to TSG for identifying HSS IM requirements and developing Army doctrine to support HSS IM mission requirements. The AMEDDC&S is accountable for the integration of user requirements and core business processes across the full spectrum of HSS for Army operations, for training business processes, and for customer advocacy.

b. *Responsibilities*. The AMEDDC&S commander will—

- Ensure that end-user requirements for the HSS INFOSYS are integrated and prioritized and that capabilities developed or acquired in support of the HSS mission requirements meet the user needs and for the HSS IM operational view of the AMEDD information architecture.
- Serve as the proponent approval authority for medical IM development and information doctrine.
- Ensure that all HSS information requirements are documented and prioritized according to AR 71-9 and in consonance with the operational needs as defined by the users and as delineated in the AMEDD Information Management Strategic Plan.
- Ensure operational architecture of the medical seamless HSS IM continuum from a forward deployed medical unit to the CONUS-based supporting medical facility or organization.
- Produce the operational architecture (functional integrator) and ensure connectivity to business functions and that information flows between those functions.
- Analyze HSS operations and identify reengineering and/or business process improvement opportunities where information technology can enhance enterprise performance.
- Coordinate within HSS IM channels with MRMC commander, CIO, master architect, and medical unit commanders for development of the HSS seamless health care continuum and support its IM infrastructure.

- Coordinate with the master architect (MEDCOM) and with the system architect (MRMC) to create the AMEDD operational architecture.

- Coordinate requirements development for identification and documentation of medical information requirements identified by nonmedical organizations.

- Obtain and evaluate HSS information requirements from throughout the Army and forward those requirements that must be addressed by DA and/or DOD activities in order to enhance HSS IO.

- Coordinate HSS IM requirements development and other life-cycle management (LCM) activities (initial and sustainment training and operational test and development) for medical and nonmedical users.

- Assist medical facilities in business process analysis and reengineering of HSS IO.

- Provide consultant services as required to the medical INFOSYS users.

- Coordinate and/or manage training and operational test and evaluation of HSS IO and information technology.

- Coordinate with training agencies of the Army and other Service components to integrate HSS IM.

- Coordinate the combat camera operation for HSS IM with US Army Training and Doctrine Command and the US Army Signal Center (see FM 24-1).

D-10. United States Army Medical Research and Materiel Command

a. *Accountability*. The MRMC commander is accountable to TSG for materiel development, logistics, systems support, common systems, and infrastructure operations. He is also accountable for the HSS INFOSYS architecture.

b. *Responsibilities*. The MRMC commander is the acquisition executive for medical material. He will—

- Establish and maintain a liaison with the US Army Signal Corps to ensure appropriate interoperability with Army and other DOD systems.

- Manage the essential administrative overhead support functions for AIS and materiel, to include contracting and budgeting.

- Coordinate with acquisition and materiel agencies of the Army and other Service components for LCM of information technology.

- Coordinate in medical IM channels with the surgeons' general COI, AMEDDC&S CIO, and other medical organizations for the development and sustainment of a functional HSS IM system.

- Manage medical research and development, logistics, and materiel development of information technology.

- Coordinate with the master architect (MEDCOM) and the operational architect (AMEDDC&S) to create the Army HSS command, control, communications, and computers (C4) operations integrated systems architecture.

- Appoint the commander for the US Army Medical Information Systems and Services Agency.

D-11. Commander, United States Army Medical Information Systems and Services Agency

a. Accountability. The commander, US Army Medical Information Systems and Services Agency (USAMISSA) is accountable to the MRMC commander for systems management, design and engineering, and the operational support necessary for a viable HSS C4 operations system.

b. Responsibilities. The commander, USAMISSA is responsible for systems management. He will—

- Serve as the medical configuration manager of HSS IM/information technology fielded systems. He is the principal coordinator with the DOD MHS and other proponents to ensure design and integrity, status accounting, audits, control, and synchronization and management of the AMEDD input to Army and DOD configuration control boards for those systems.

- Provide systems management support for standardization and integration of information technology.

- Provide customer technical support services, program/product management, and LCM/ PPBES services.

- Ensure the development of SOP, policies, directive, and information bulletins for sustainment of HSS INFOSYS.

- Manage the day-to-day technical operations activities that are necessary for the deployment and sustainment of HSS INFOSYS, to include systems maintenance support.

- Ensure the technical support and documentation of customer requirements identified by the AMEDDC&S.

- Organize and operate the marketing requirements for INFOSYS equipment.

- Analyze the current capabilities to define the requirements for future IM/information technology functional prototypes and the potential solutions for multiple users.

- Develop and manage the process for recommending to responsible authorities the appointment of IM/information technology product and project life-cycle managers. These LCM managers shall be responsible for total support of HSS INFOSYS and products.

- Conduct IM/information technology total systems acquisition and LCM, to include concept, analysis, design, development, testing, fielding, and sustainment.

- Organize and operate help desks that provide program oversight, technical assistance, and needs validation. This assistance would also include engineering, production, and operations support of IM/information technology product lines to medical and nonmedical users.

D-12. Army Installation Commanders with Medical Facilities

a. *Accountability*. Installation commanders with medical facilities will include HSS IO in their installation's Information Management Plan (IMP). While installation commanders are accountable to their higher headquarters, the medical facility commander is accountable to the MEDCOM for HSS IM/ information technology operations on his post, camp, or station.

b. *Responsibilities*. The Army installation commanders will—

- Appoint Directors of Information Management (DOIM).

- Establish information management offices (IMO) as directed (see AR 25-1 and DA Pamphlet [Pam] 25-1-1).

D-13. Commanders, Army Medical Units

a. *Accountability*. Medical unit commanders at all levels are accountable to their chain of command for the IM of their unit.

b. *Responsibilities*. The medical unit commanders will—

- Plan to meet all IM and information technology requirements of the command through execution of an integrated command IMP in collaboration with all supported facilities or units.

- Ensure integration and interoperability of INFOSYS, both vertically and horizontally.

- Assess the need for HSS INFOSYS training and locally resource the solution.

- Support readiness of active duty and Reserve Component medical personnel, ensuring they are provided HSS INFOSYS training, as required.

- Achieve architectural compliance based on the unit's or higher headquarters' IMP.

D-14. Army Medical Department Major Subordinate Command

a. The major subordinate command (MSC) medical commanders will establish a DCSIM or equivalent with the same staff responsibilities for the MSC as the ACSIM at the MEDCOM level according to AR 25-1.

b. The MSC DCSIM will—

- Identify HSS INFOSYS/C4 operations resource requirements for acquisition and maintenance.
- Establish IM relationships within their command and with IM counterparts in other MSCs.
- Establish relationships with other Service organizations; the NDMS, to include VA hospitals; civilian hospitals as part of the DOD network; contract physicians for managed care support contracts; and the Federal Emergency Management Agency (FEMA).

D-15. Regional Medical Command

a. *Accountability*. The Regional Medical Command (RMC) commander will establish a DCSIM or equivalent with the same staff responsibilities for the RMC as the ACSIM at the MEDCOM level (see AR 25-1).

b. *Responsibilities*. The RMC DCSIM will—

- Identify HSS INFOSYS resource requirements for acquisition and maintenance.
- Establish IM relationships within their command and with IM counterparts in other RMC.
- Establish relationships with other Service organizations; NDMS including RMCs, VA hospitals; civilian hospitals as part of the DOD network; contract physicians for managed care support contracts; and FEMA.

D-16. Medical Centers

a. *Accountability*. Medical center commanders will establish an IMO, or equivalent, with the staff responsibilities to effectively manage the IM program.

b. *Responsibilities*. The MEDCEN IMO will—

- Identify HSS INFOSYS resource requirements for acquisition and maintenance.

- Establish horizontal relationships with the post DOIM and other MEDCEN.

- Establish vertical relationships with IM/C4 operations counterparts at supported facilities or units, RMC, and the lead agent.

- Establish relationships with NDMS (to include RMC), VA hospitals; civilian hospitals as part of the DOD network; support to managed care support contracts; and FEMA.

- Perform day-to-day HSS C4 operations as specified in AR 25-1.

D-17. Medical Department Activities

a. *Accountability*. The MEDDAC commanders will establish an IMO, or equivalent, with staff responsibilities to effectively manage the C4 operations program.

b. *Responsibilities*. The MEDDAC IMO will—

- Identify HSS C4 operations resource requirements for acquisition and maintenance.

- Establish horizontal relationships with post DOIM and other MTF. The commander will establish vertical relationships with IM counterparts at supported facilities or units, regional MEDCEN, RMC, and the lead agent.

- Establish relationships with counterparts at other Service organizations, to include NDMS, VA hospitals; civilian hospitals as part of the DOD network; and for support to managed care support contracts, and FEMA.

- Perform day-to-day HSS IM/C4 operations according to AR 25-1.

D-18. Health Service Support Command, Control, Communications, Computers, and Intelligence for the Combat Zone

a. *Corps Surgeon*. The corps surgeon—

- Develops HSS IM/C4 operations plans to meet all medical IM and information technology requirements of the command through execution of an integrated command HSS IMP. This is currently coordinated with the AOE medical brigade and/or medical group. Under MRI, the corps surgeon will collaborate with the MEDCOM and/or with the medical brigade.

- Identifies and prioritizes medical IM and information technology requirements for inclusion in corps deployment plans.

- Coordinates with the corps G6, the signal brigade S3, and through medical channels, with supporting and supported activities to ensure connectivity and to identify IO requirements.

b. *Medical Brigade/Group (current Medical Brigade/Group or Medical Command/Brigade under MRI)*. The responsibilities are the same as in paragraph D-17*b* above.

c. *Medical Battalions and Hospitals (current Medical Battalions and Hospitals and MRI Medical Battalions and Combat Support Hospitals)*. The responsibilities are the same as in paragraph D-17*b* above.

d. *Nondigitized and Digitized Divisions*.

(1) *Nondigitized division*. In the nondigitized division, the division surgeon is responsible to the division commander for developing plans to meet all medical IM and information technology requirements. He is assisted by the DMOC that is assigned to the DISCOM. The DMOC is responsible for the execution of an integrated command HSS IMP in coordination with all DISCOM medical companies and medical platoons organic to brigade maneuver battalion. The DMOC identifies and prioritizes medical IM and information technology requirements for inclusion in division and DISCOM OPLAN. The DMOC coordinates with the—

- Medical brigade staff officer responsible for S6 (C4 operations) functions.
- Division staff officer responsible for G6 (C4 operations) functions.
- Signal battalion S3.
- Information officers of other Service components.
- Supporting and supported units for connectivity and HSS IO requirements.

(*a*) *Corps medical slice attached to the division*. The IMO/S6 of the units to which these corps medical units are attached is responsible for supporting the necessary IM and information technology requirements.

(*b*) *Main support medical company and forward support medical company*. The commanders of the MSMC/FSMC will—

- Develop plans to meet all IM and information technology requirements of the command through execution of an integrated command IMP in collaboration with all supporting and supported units.
- Identify and prioritize HSS IM and information technology requirements for inclusion in their battalions and supported brigade OPLAN.
- Coordinate with the MSB/FSB signal officer and the DMOC for DISCOM and division IM and information technology support.

(2) *Digitized division*. In the digitized division, the division surgeon is responsible for directing division HSS operations. The IM and information technology functions of the DMOC, along with

its personnel, are moved to the DSS. The DSS will perform the majority of tasks associated with C4 operations. The DSS will be assisted by the medical operations cell and MMMB in the DISCOM, the health service support officers in the division support battalion and FSB, the division and FSMC, and by the BSS located in each of the maneuver brigade headquarters. The BSS is responsible for developing the HSS IM and information technology requirements for the brigade and developing the brigade HSS IMP that is based on the division HSS IMP. The IMP is integrated into the brigades OPLAN/OPORD that is disseminated to the FSMC and the medical platoons of the maneuver battalions.

D-19. Health Service Support Command, Control, Communications, Computers, and Intelligence for the Communications Zone

a. Theater Medical Command. Theater medical commands will be authorized a DCSIM under the MRI TOE; however, these units are not expected to convert to the alpha version of MRI TOE until after 2007. Thus, theater medical commands (L-edition of the TOE) will not have a G6. This function is usually detailed as an additional duty for one of the headquarters staff officers. Their duties include—

- Ensuring that information requirements and support services are integrated and complementary in order to ensure adequate information resources (Assistant Chief of Staff, [Operations and Plans] [G3] prepares the plan).

- Identifying HSS C4 operations resource requirements for acquisition and maintenance (Assistant Chief of Staff, [Logistics] [G4] is responsible for acquiring and maintaining logistical materiel).

- Coordinating with the theater Army command G6 or joint command J6, TSC, IM counterparts of other Services, the DISA, if established, and with supporting and supported units for HSS INFOSYS requirements and connectivity.

b. Medical Brigade. The current AOE medical brigade does not have a C4 S6/IMO. This function is usually detailed as an additional duty for one of the headquarters staff officers. Under MRI, the medical brigades in corps and at EAC will be authorized an S6. The S6 will—

- Ensure that HSS INFOSYS requirements and support services are integrated and compatible in order to operate information resources.

- Coordinate with the theater command G-6, the commander's IMO section, the G6 of the MEDCOM, the corps G6, C4 operations of the divisions, other Service components, and with supporting and supported organizations to establish connectivity and exchange of information.

c. Medical Battalions and Hospitals. The current medical battalions and hospitals include the area support, evacuation, dental, and the medical logistics battalions and the CS, field, and general hospitals. In these AOE units, the S6 functions are normally an additional duty for one of the headquarters staff officers. Under MRI there is no dental battalion, but dental companies and detachments are present and significant changes were made to the area support, the evacuation, and the medical logistics battalions. Also, under MRI, the field and general hospitals are replaced by the CSH. The S6 is an authorized position with the MRI medical battalions and CSH. The battalion/hospital S6—

- Ensures that HSS INFOSYS requirements and support services are integrated and complementary in order to exploit information resources.

- Coordinates with the medical brigade/group S6, supporting signal units, C4 operations counterparts of other Service components, and with supporting and supported activities to ensure connectivity and to identify INFOSYS requirements.

- The S6 coordinates with the supporting signal battalion/brigade for connectivity to the wide area network (WAN), for training of CSH subscriber node operators and for maintenance of the organic system.

D-20. Users of Health Service Support Information Operations Systems

a. *Accountability*. The users of HSS INFOSYS systems (the customers) are accountable for identification of additional needs across the spectrum of military operations.

b. *Responsibilities*. The individual identifies his needs for IM and information technology resources upward through the chain of command. Information mission area resources are inclusive of, but not limited to, computers, communications, copiers, FAX machines, mail/message, and video.

c. *Function*. The individual will—

- Work through the chain of command for medical INFOSYS support to do his job.

- Train in and sustain medical C4 operations core competencies.

- Comply with AR 380-19, contingency/OPLAN, the Privacy Act of 1974, and the Freedom of Information Act.

APPENDIX E

COMMAND, CONTROL, COMMUNICATIONS AND COMPUTER OPERATIONS

The following format is used to develop the C4 Operations Annex to the OPORD:

(Classification)

(Change from oral orders, if any.)

Copy___of___copies
Issuing headquarters
Place of Issue
Date-time group of signature
Message reference number

ANNEX E (C4 OPERATIONS TO OPERATION ORDER NO. _____)

References: Mission, maps, charts, datum, and other relevant documents.

Time Zone Used Throughout the OPORD:

1. SITUATION. (Include information affecting the functional area that paragraph 1 of the OPORD does not cover or needs to be expanded.)

a. **Enemy.** See Annex B (Intelligence) or intelligence estimate and analysis of the AO, if available.

(1) Terrain. List all critical terrain aspects that would impact functional AO. *(Critical terrain aspects that would impact on deployment of communications systems.)*

(2) Weather. List all critical weather aspects that would impact functional AO.

(3) Enemy Functional Area of Capability and/or Activity. *(Significant enemy electronic warfare capabilities that impact communications systems.)*

- List known and templated locations and activities of enemy functional area units. Information is normally gathered one level up and two levels down.

- List significant enemy maneuver and functional area capabilities that impact friendly functional AO.

- State the expected employment of enemy functional areas assets based on the most probable enemy course of action.

(Classification)

(Classification)

b. **Friendly Situation.**

- Outline the plan of the higher headquarters as it pertains to the functional area. *(Primary communications gateways providing connectivity to higher, lower, and adjacent units.)*

- List designation, location, and outline of the plan of higher, adjacent, and other functional area assets that support or would otherwise impact the issuing headquarters or would require coordination, and any other functional area supporting the unit. (*Critical communications security measures required to counter expected enemy electronic warfare capabilities and protect C2 systems.*)

- List nonfunctional area units capable of assisting in functional AO, if applicable.

- List external communications assets that augment capabilities of signal support units.

2. MISSION. (State unit mission.)

3. EXECUTION.

Scheme of C4.

a. Describe the concept of C4 to support the maneuver plan, including primary and back-up systems supporting critical C2 networks.

b. Establish the plan for extending C2 systems through each phase of the operation.

c. Identify critical limitations of organic C4 support assets as detailed between tactical and strategic communications systems.

d. State C4 support tasks that all nonsignal units (combat/CS/CSS) must identify as well as critical limitations of organic signal support assets as detailed by the C4 and define limitations of assets from higher headquarters.

e. State C4 support tasks that all nonsignal units (combat/CS/CSS) must perform to accomplish missions and tasks beyond normal modification TOE requirements.

f. State signal support priorities.

4. SERVICE SUPPORT.

a. **Command-Regulated Classes of Supply.** Highlight subordinate allocations of command-regulated classes of supply that impact functional AO.

(Classification)

(Classification)

***b*. Supply Distribution Plan.**

- State the method of supply (supply point or unit distribution) to be used for appropriate classes of supply for each subordinate or supporting unit.
- Give tentative locations for supply points or locations for linkup of PUSH packages.
- Give allocation of classes of supply by subordinate unit, control measure, or combination.

***c*. Coordinating Instructions.**

- Critical C4 support instructions not already covered in the base OPORD.
- Key times or events critical to information system and network control procedures.

***d*. Combat Health Support.** Address arrangements made for health support of functional area units operating in forward maneuver unit areas.

5. COMMAND AND SIGNAL.

***a*. Command.**

- State the location of key functional area leaders.
- Designate a functional area chain of command, to include succession of command.
- Designate a functional area headquarters to control the functional area effort within functional area work lines on an area basis.
- List CPs and other C2 facilities and their locations.

***b*. Signal.**

- State the SOI in effect. Do not write "current SOI in effect;" state the specific edition number.
- Describe the nets that must monitored for reports.
- Designate critical functional area reporting requirements of subordinate units.

(Classification)

(Classification)

- Address any unique communications or digitization connectivity requirements or coordination necessary to meet functional responsibilities.

- Identify C2 systems control hierarchy for common user network.

- Identify LAN control procedures for network administration and management.

- Use appropriate appendixes to diagram any unique changes to standard communications networks for specified operations.

ACKNOWLEDGE:

NAME (An annex or appendix can be signed by either the commander or primary staff officer.)
RANK

APPENDIXES:
DISTRIBUTION:

(Classification)

APPENDIX F

TELECOMMUNICATIONS

Section I. OVERVIEW OF TELEMEDICINE—ELECTRONIC DATA EXCHANGE

F-1. Telecommunications

The MC4 system relies on current and future Defense Communication Systems for tactical, operational, and strategic telecommunications systems to transmit and receive digitized medical information throughout the theater and back to the sustaining base. There will be no separate AMEDD communications architecture for these systems. The MC4 system hardware and software will be required for interfacing with current and emerging technologies, supporting manual, wire, and wireless data transmission. The goal at end-state is the MC4 system users will exchange data electronically via the WIN-T architecture when implemented. The MC4 system will employ a three-block incremental development approach that incorporates the spiral systems engineering life-cycle methodology designed to reduce development risk, improve manageability, increase maintainability, and accelerate benefits to the warfighter. The MC4 system will be the Army's medical INFOSYS to modernize, digitize, and integrate medical information and make it available for the warfighting commander's use.

F-2. Telemedicine Technology

Telemedicine technology is capable of enhancing the entire continuum of the HSS. It combines the domains of clinical medicine, medical computer science, and telecommunications in order to enhance the delivery of health care to individuals. It enables a health care provider to access the more specialized experts within the health care system. It can potentially be integrated into a routine clinical practice. The ongoing developmental stages of this technology will continue to evolve.

F-3. Telemedicine Objectives

The broad objectives of telemedicine are met by enhancing the availability, quality, and timeliness of the data provided by health care providers, the PVNTMED surveillance system, and evacuation regulators. These objectives are to—

a. Promote health and prevent disease.

b. Expedite the RTD of soldiers.

c. Facilitate the evacuation of casualties.

d. Reduce the mortality and residual disability of casualties from diseases and injuries.

e. Minimize the medical footprint on the battlefield.

F-4. Specific Objectives

The specific objectives of telemedicine are to—

a. Reduce unnecessary patient evacuation.

b. Reduce the urgency for evacuation.

c. Improve the allocation of an appropriate priority for evacuation.

d. Assist in the selection of the appropriate destination MTF.

e. Enhance the en route care for patients during their evacuation.

f. Expedite the transfer of patients at the receiving MTF.

g. Enhance the triage process in mass casualty situations.

h. Enhance the prompt and accurate diagnosis of disease and injury.

i. Enhance the prompt and appropriate treatment of casualties.

Section II. EMERGING TECHNOLOGY—BATTLEFIELD MEDICAL INFORMATION SYSTEMS-TELEMEDICINE

F-5. The Wireless Handheld Compact Computer

The Battlefield Medical Information System-Telemedicine (BMIS-T) is installed into a wireless handheld compact computer. The BMIS-T is designed to record essential elements of essential medical information for the user. It uses a wireless, flexible, and scalable PDA that can be used by military health care providers at all levels of care. It provides useful medical informatics and telemedicine support for medical emergency responders across the spectrum of military health care operations.

F-6. Capabilities and Flexibilities

a. The BMIS-T allows access to medical reference libraries, diagnostics and treatment decision aids, medical sustainment training, and medical mission planning using the wireless, handheld compact computer.

b. To meet the needs of trauma specialists with varying levels of expertise and experience, BMIS-T supports the user by interfacing help windows and decision rationale. The BMIS-T provides the

flexibility to adapt to evolving medical procedures and protocols. It also is capable of adding new medical databases and transmitting essential patient information and mission requirements to other military health care providers.

c. When adequate communications are available, BMIS-T will support real-time "teleconsultation" between the first responder and expert medical staff residing in different locations.

d. The current version prototype of the handheld computer is an electronic medical record diagnostic tool that can interface with the Air Force epidemiological database, the Global Medical Systems, Special Operations Command Defense Health Support System (DHSS). It can record, store, retrieve, and transmit the essential elements of battlefield and clinical encounters in an operational setting at the point of care/injury; using the DD 1380, SF 600, and sick call medical data capture at point of care and the EIC.

e. Under development are the interfaces for the TMIP; CHCS II; decision support diagnostic algorithms; combat medic teaching/training aids on the handheld; integration with currently used medical reference libraries such as Special Operations Forces Medical Handbook, the Physician's Desk Reference; and the Veterinary Corps animal and food service handheld data capture modules.

f. The users of this device are the combat lifesavers, trauma specialists, treatment and evacuations squads, physician's assistants, battalion/brigade/division surgeon staffs, evacuation and treatment elements.

g. The BMIS-T currently supports Level I medical personnel and can be easily scaled to support Level II medical personnel to include integration with DHSS, Military Health Support Systems (MHSS), CHCS II, TMIP clinical data repository, and C2 databases.

APPENDIX G

MEDICAL REPORTING

Currently FBCB2 also permits information to be entered using free text such as comments and other pertinent CSS information. This common battlespace picture will enable HSS providers to maintain the operational tempo set by the maneuver commander. There are three medical screens incorporated into the CSS appliqué function. They are the medical functionality in the logistics situation report (LOGSITREP), the medical situation report (MEDSITREP), and the MEDEVAC request. It is important that units use standard message and report formats to eliminate confusion. As the system is further developed and additional HSS screens are added, there will be less space for using free text. Figure G-1 is the medical screen as seen on the CSS function of FBCB2. Descriptions of each screen are provided below.

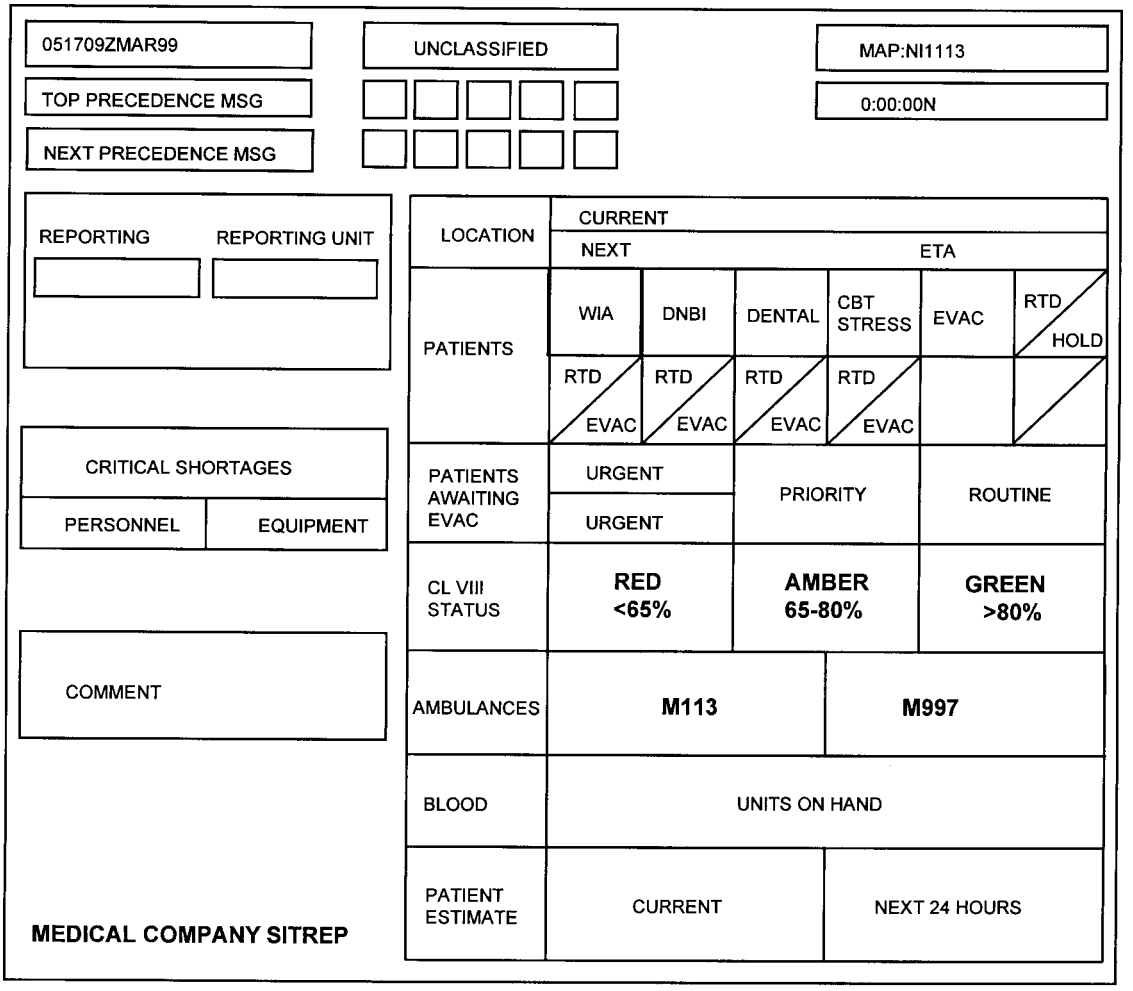


Figure G-1. Sample of medical screen incorporated into the combat service support Force XXI battle command brigade and below function.

a. Medical Functionality in the Logistical Situational Reports. This message provides visibility of selected Class VIII items at the BAS and FSMC levels, date-time group (DTG) of the most recent report, and location of medical units. Recipients of the report are the forward support company (FSC), the FSB support operations (HSSO), the BSS, and the DSS. This report does not replace TAMMIS; however, it is entered into BCS3 by the BSS.

b. Medical Situation Report. The FSMC and BAS prepare and submit this report. The recipients of the report are maneuver commanders and their S1s, the FSCs, the FSB support operations (HSSO), the FSMC, the BSS, and the DSS. The BSS and FSMC receive roll up from the BASs. The DSS receives a roll up of the FSMC reports. Adjacent units can receive information copies of the MEDSITREP. This message reports the following information:

(1) Current location and proposed next location with estimated time of arrival (ETA).

(2) Number of patients seen and classified as wounded in action (WIA), DNBI, dental, and combat stress. The field will also show the number of patients evacuated and the number RTD.

(3) Patient(s) awaiting MEDEVAC.

(4) The Class VIII status of the element/unit, the number of ambulances that are mission-capable, and the number of units of blood and type on hand.

(5) There will be a free text field for critical Class VIII or other supply shortages and commander's comments.

c. Medical Evacuation Request. This request is currently embedded into FBCB2 and is a digitized standard 9-line MEDEVAC request. The current messaging is from the requestor to the medical platoon leader (with an information copy to the maneuver battalion commander). The medical platoon leader either responds or forwards the request to the FSMC commander who dispatches the appropriate medical evacuation asset. Information copies of all medical evacuation requests are sent to the BSS so they can maintain real time situation awareness on the volume of requests. The FSMC commander sends an information copy to the BSS with after-action information that includes destination of evacuated patient(s).

d. Field Medical Card. The FMC will be initiated for each new patient and for cases required to be carded for record only. This will be accomplished according to AR 40-66 and FM 8-10-6. Field Medical Cards will be conspicuously attached to the patient's clothing.

e. Daily Disposition Log. The DDL is maintained by all Level I and Level II MTFs assigned or attached to the division. Information from this log is extracted, when required, and provided to the S1 or the supported unit requesting the information. The DDL is also the primary source document for information needed in the preparation of the patient status report (PSR) and the patient evacuation and mortality report (PE&MR). See Sample Format 1.

f. Medical Reports Format. Medical reporting will be accomplished using the FBCB2, FAX or voice, transmitted via radio/MSE. A manual backup system will be developed. Formats for medical

reports are required to maintain consistency and continuity in reporting procedures for information submitted to the BSS and the DSS. Data contained in these reports are required to support the division surgeon section (DSS) capability projections and to assist the BSS, HSSO, and FSMC commander in coordinating and planning CHS operations. Data is also extracted for consolidated reporting to higher headquarters. The guidelines presented below should be followed exactly.

(1) Each line of information is divided into a number of fields. Each field has a minimum number of alphanumeric characters as indicated in the sample format provided. See Sample Format 2.

(2) Each field is separated by a single slash (/).

(3) The end of each set of fields is indicated by a double Slash (//).

(4) If information from a prior report has not changed, "NC" will be entered in that field (/ NC/).

(5) Reports are formatted according to special instructions and reports format. A sample message is provided with each appendix.

g. *Medical Situation Report, Battalion Aid Station*. The medical situation report, BAS, is a daily patient summary report. This report is used to inform the commander of the battalion's patient, Class VIII, and medical equipment status. This report is submitted daily, covering the events in a 24-hour time period based on timelines provided by the higher headquarters. It is submitted to the supporting medical company. The battalion surgeon (platoon leader) or platoon sergeant is responsible for this report. This report could be dispatched via courier, FAX, and/or teletype. See Sample Format 2.

h. *Medical Situation Report, Medical Companies*. The medical situation report, medical companies, is a daily patient summary report. This report is submitted daily to the DSS according to timelines provided by higher headquarters. The following information will be included in line six of this report:

(1) Status of all assigned and attached ambulances, to include—

(*a*) Total number of ambulances.

(*b*) Number of ambulances that are operational.

(*c*) Number of ambulances that are nonoperational.

(2) Status of personnel; identify shortages by area of concentration (AOC) or MOS.

(3) Treatment of any enemy prisoner of war (EPW) will be entered in this section.

(4) Identify all patients seen during the reporting period with a number and provide the following information in the order provided below:

(*a*) Nationality.

(*b*) Name.

(*c*) Rank.

(*d*) Service number.

(*e*) Unit.

(*f*) Date of birth.

(*g*) Diagnosis.

(*h*) Disposition.

(*i*) Date of disposition.

(*j*) Gaining unit.

(5) A hard copy of each aid station's medical situation report must accompany the submitting medical company's report. See Sample Format 3.

i. Medical Situation Report, Medical Operations. The medical situation report, medical operations, is a consolidated patient summary report. This report is consolidated by the DSS and pertains to the previous 24 hours. It is submitted from the DSS daily to the division based on timelines established by the division surgeon. See Sample Format 4.

j. Patient Evacuation and Mortality Report. All Level I and II MTFs assigned or attached to the division prepare the PE&MR. The purpose of this report is to provide a status of patients seen by division MTF. This is a weekly report compiled as of 2400 each Sunday and distributed each Monday to supported units. See Sample Format 5.

k. Patient Summary Report. The PSR provides the status of patients seen by division medical companies and includes their subordinate elements (dental, optometry, mental health, or attached units). The PSR is a weekly report compiled as of 2400 each Sunday. It is prepared by all Level I and II MTFs operating in the division AO. It is submitted each Monday to the DSS. See Sample Format 6.

l. Blood Report. The blood report is a required report for requesting blood support. Level II MTFs will request only Group O Positive and Group O Negative liquid red blood cells. See Sample Format 7 (Sample Format 7A for written blood report and Sample Format 7B for voice message format).

m. Team Movement Report. The team movement report is used to track the status and location of teams (PVNTMED, combat stress, veterinary, ambulance, and treatment teams). See Sample Format 8.

SAMPLE FORMAT 1

SAMPLE FORMAT (DAILY DISPOSITION LOG) MEDICAL REPORTS

_____ INF DIV TSOP

DAILY DISPOSITION LOG

DTG:

NAME	GRADE	SSN	UNIT/NATION	INJURY/ILLNESS STATUS	DISPOSITION TIME
SHAW, L.	03	000000000	A TRP RECON	GSW, L-LEG/WIA	MTF-0900Z
HERRERA, C.	E4	000000000	C3, 6 INF/US	SICK/MIGRAINE/ DIS	RTD-1400Z
JONES, C.J.	E6	000000000	A1, 6 INF/US	LACERATION-L HAND/NBI	MTF-1200Z
EPW (UNKNOWN)			EPW	FRAG WOUND OF HEAD/DOA/KIA	MA-1220Z
IVANOVICH, N.	04	000000000	EPW	SW R-ARM/WIA	MP/BDE SCTY ELEM-1400Z
FLOWERS, R.C.	E8	000000000	B TRP RECON SQDN/US	BF/DNBI	MTF-1640Z
CONRAD, W.	E5	000000000	6 PANZER/GE	BURN, 3D DEGREE CHEST/ABDOMEN/WIA	MTF-1400Z
DECK, H.	02	000000000	C BTRY, 3 FA/US	PUNCTURE WOUND R-ANKLE/WIA	MTF-1400Z
HASLEY, B.	E1	000000000	B TRP RECON SQDN/US	CHEMICAL INJ SYSTEMIC/WIA	15TH CSH-1705Z
WATSON, WM. T.	E3	000000000	B TRP RECON SQDN/US	DE INJ BOTH EYES	15TH CSH-1815Z
FISHER, T.T.	E7	000000000	A TRP RECON SQDN/US	UNCONTROLLED VOMITING-BW/WIA	MTF-1900Z

NOTE: THIS LOG, IN THE ABOVE FORMAT, IS MAINTAINED BY ALL DIVISIONAL TREATMENT FACILITIES. IT DOES NOT LEND ITSELF FOR TRANSMISSION. HOWEVER, THE INFORMATION MAY BE EXTRACTED AND PROVIDED TO AGENCIES RESPONSIBLE FOR PREPARING THE CONSOLIDATED FEEDER REPORT.

LEGEND:

BDE	BRIGADE	FA	FIELD ARTILLERY	MP	MILITARY POLICE
BF	BATTLE FATIGUE	FRAG	FRAGMENTATION (WOUND)	MTF	MEDICAL TREATMENT FACILITY (LEVEL II)
BW	BIOLOGICAL WARFARE	GE	GERMAN	NBI	NONBATTLE INJURY
DE	DIRECTED ENERGY	GSW	GUNSHOT WOUND	R	RIGHT
DIS	DISEASE	INF	INFANTRY	RECON	RECONNAISSANCE
DNBI	DISEASE AND NONBATTLE INJURY (PURPLE HEART NOT AUTHORIZED)	INJ	INJURY	SCTY	SECURITY
		KIA	KILLED IN ACTION (PURPLE HEART AUTHORIZED)	SQDN	SQUADRON
DOA	DEAD ON ARRIVAL	L	LEFT	TRP	TROOP
DTG	DATE-TIME GROUP	MA	MORTUARY AFFAIRS	US	UNITED STATES
ELEM	ELEMENT			WIA	WOUNDED IN ACTION (PURPLE HEART AUTHORIZED)

SAMPLE FORMAT 2

SAMPLE FORMAT (MEDICAL SITUATION REPORT, BATTALION AID STATION)

_____ INF DIV TSOP

FM: BAS

TO: BSS//

INFO: FSB/FSMC // DSS (AS APPROPRIATE) //

CLASSIFICATION: (AS APPROPRIATE)

SUBJECT: MEDICAL SITUATION REPORT (BAS)

LINE ONE	AS OF DTG IN ZULU TIME
LINE TWO	LOCATION (SIX DIGIT GRID COORDINATES)
LINE THREE	NUMBER OF PATIENTS SEEN (INCLUDING TYPE OF PATIENTS [W=WIA, D=DNBI])
LINE FOUR	NUMBER OF PATIENTS RETURNED TO DUTY
LINE FIVE	NUMBER OF PATIENTS EVACUATED FROM BATTLE AREA
LINE SIX	NUMBER OF PATIENTS AWAITING EVACUATION
LINE SEVEN	NUMBER OF OPERATIONAL AMBULANCES BY TYPE OF VEHICLE (M996, M113)
LINE EIGHT	LOGISTIC STATUS (GREEN, AMBER, OR RED)/USE REPORT CODES IN SAMPLE FORMAT 9

SAMPLE FORMAT 3

SAMPLE FORMAT (MEDICAL SITUATIONS REPORT, MEDICAL COMPANY)

_____ INF DIV TSOP

FM: FSMC COMMANDER
TO: BRIGADE SURGEON'S SECTION
INFO: FSB COMMANDER

CLASSIFICATION: (AS APPROPRIATE)
SUBJECT: MEDICAL SITUATION REPORT

LINE ONE:	AS OF: DTG IN ZULU TIME
LINE TWO:	PATIENT STATUS (WIA, DNBI) UNIT DESIGNATION//** TOTAL NEW PATIENTS SEEN/CONSOLIDATED BY EACH FSMC (AS TOTAL [W=,D=]) FSB (W=,D=)/PNT RTD (BAS TOTAL= +FSB=#//TOTAL # PATIENTS EVACUATED TO BDE REAR(DSA=#, TO CORPS)//# OF NEW PATIENT HOLDING// END OF DAY HOLDING CENSUS
LINE THREE:	UNIT STATUS **6 DIGIT COORDINATES//# OF COTS AVAILABLE FOR HOLDING//# OF COTS OCCUPIED//# OF COTS UPLOADED ON VEHICLE, TIME NEEDED TO GET HOLDING AREA OPERATIONAL **INDICATES THAT OPERATIONAL COTS ARE ASSEMBLED AND READY FOR PATIENTS
LINE FOUR	ANTICIPATED UNIT MOVE IN NEXT 24 HOURS; IF NONE, REPORT "0" UNIT//ANTICIPATED NEW LOCATION//ANTICIPATED TIME BECOMING OPERATIONAL (DTG)//*PROJECTED NUMBER OF PATIENTS REQUIRING EVACUATION TO REAR
LINE FIVE	HEALTH SERVICE LOGISTICS **GREEN, AMBER, OR RED **DENOTES MEDICAL PERSONNEL MAKING DETERMINATION OF COLOR STATUS BY UNIT STOCKAGE LEVEL AND PROJECTED OPERATIONS. CLARIFY ALL AMBER AND RED STATUS IN REMARKS. GREEN=80-100%; AMBER=65-80%; RED=LESS THAN 65% OF INITIAL STOCKAGE LEVEL
LINE SIX	EVACUATION ASSETS NUMBER OF AMBULANCES OPERATIONAL IN BSA/DSA
LINE SEVEN	INCLUDE # OF NBC PATIENTS//# OF EPW PATIENTS// PERSONNEL SHORTAGES//MAJOR END ITEM SHORTAGES (BASIS FOR LINE FIVE STATUS)
USE	REPORT CODES IN SAMPLE FORMAT 9

SAMPLE FORMAT 4

SAMPLE FORMAT (MEDICAL SITUATION REPORT, MEDICAL OPERATIONS)

_____ INF DIV TSOP

FM: 1ST BDE SURGEON'S SECTION
TO: DIVISION SURGEON'S SECTION

INFORMATION: NONE

CLASSIFICATION: AS APPROPRIATE

SUBJECT: MEDICAL OPERATIONS SITUATION REPORT

LINE ONE: AS OF: DTG IN ZULU TIME

LINE TWO: PATIENT STATUS
TOTAL NEW PATIENTS W-#, D=#//NUMBER OF RTD//# OF PATIENTS EVACUATED TO CORPS//# OF NEW PATIENTS IN HOLDING STATUS//END OF DAY HOLDING STATUS CENSUS

LINE THREE: UNIT STATUS
*UNIT DESIGNATION//6 DIGIT GRID COORDINATES//# OF OPERATIONAL COTS//# OF UNOCCUPIED COTS//# OF COTS UPLOADED ON VEHICLES, TIME NEEDED TO BE OPERATIONAL

*ONE PARAGRAPH FOR EACH FSMC ASSIGNED OR ATTACHED TO THE DIVISION AND ONE FOR THE SUPPORT MED COMPANY. TO BE REPORTED AS ALPHA, BRAVO, CHARLIE, ETC

LINE FOUR: ANTICIPATED OPERATIONS IN NEXT 24 HOURS; IF ONE, STATE UNIT DESIGNATION//ANTICIPATED DTG CLOSING TIME (NONOPERATIONAL)//ANTICIPATED NEW LOCATION//ANTICIPATED OPERATIONAL TIME//

LINE FIVE: HEALTH SERVICE LOGISTICS
UNIT ID WITH AMBER OR RED//UNIT ID WITH AMBER OR RED, STATUS LEVEL (AMBER OR RED)

SAMPLE FORMAT 5

SAMPLE FORMAT (PATIENT EVACUATION AND MORTALITY REPORT)

_____ INF DIV TSOP

PATIENT EVACUATION AND MORTALITY REPORT

DATE TIME GROUP (DTG): _____

(FROM) / (TO)

ALPHA (EVACUATED)

NAME	GRADE	SSN	*UNIT/NATION	TENTATIVE DIAGNOSIS	DESTINATION DTG
WILSON, V.C.	03	000000000	A TRP RECON SQDN/US	MULTIPLE GSWs ABDOMEN AND L-THIGH	15TH CSH/ 251015Z MAR 86
BANNON, E.J.	05	000000000	HHC, CAB 7ID/US	FOUO	15TH CSH/ 251215Z MAR 86
THOMPSON, R.L.	05	000000000	HHC, 3D BN 6 INF/US	ACUTE MYO-CARDIAL INFARCTION	15TH CSH/ 251535Z MAR 86

BRAVO (EXPIRED)

NAME	GRADE	SSN	UNIT/NATION	CAUSE OF DEATH	DTG
WILLIAM, W.R.	E3	000000000	B TRP RECON SQDN/US	BURN, THERMO, 3D DEGREE 26 PERCENT	251415Z MAR 86
MAGSAYSAY, M.			EPW	FRAG WOUND OF HEAD	251600Z MAR 86
COMRAD, W.F.	E5	000000000	6 PANZER/GE	RADIATION BURN/MULTIPLE GSWs-SEVERE TRAUMA	251805Z MAR 86

NOTES:

1. THIS IS A BY-NAME REPORT WHICH INCLUDES TWO CATEGORIES OF INFORMATION: THE NAME, GRADE, SSN, UNIT, DIAGNOSIS, AND DESTINATION AND DATE-TIME- GROUP OF PATIENTS EVACUATED (ALPHA); AND THE NAME, GRADE, SSN, UNIT AND CAUSE OF DEATH OF PATIENTS WHO EITHER DIED EN ROUTE, OR WHILE AT A REPORTING MTF (BRAVO).

2. THIS REPORT, WHEN COMPLETED, WILL BE CLASSIFIED IN ACCORDANCE WITH LOCAL COMMAND POLICY—ENCODE/ ENCRYPT FOR TRANSMISSION.

*UNIT/NATION FOR ENEMY PRISONER OF WAR WILL BE LISTED AS "EPW."

SAMPLE FORMAT 6

SAMPLE FORMAT (PATIENT SUMMARY REPORT)

_____ INF DIV TSOP

PATIENT SUMMARY REPORT

DATE-TIME GROUP (DTG): _____

(FROM) / (TO)

		WIA	NBI	DISEASE	*NP	TOTAL
	PATIENTS					
ALPHA	US	_____	_____	_____	_____	_____
BRAVO	ALLIED	_____	_____	_____	_____	_____
CHARLIE	EPW	_____	_____	_____	_____	_____
	DISPOSITION TOTALS					
DELTA	RETURNED TO DUTY			_____		
ECHO	EVACUATED BY AIR			_____		
FOXTROT	EVACUATED BY GROUND			_____		
GOLF	EXPIRED EN ROUTE			_____		
HOTEL	EXPIRED IN MTF			_____		

NOTE: THIS REPORT, WHEN COMPLETED, WILL BE CLASSIFIED IN ACCORDANCE WITH LOCAL COMMAND POLICY—ENCODE/ENCRYPT FOR TRANSMISSION.

*NEUROPSYCHIATRIC STRESS-RELATED PATIENTS SHOULD BE RECORDED HERE.

SAMPLE FORMAT 7

SAMPLE FORMAT (PATIENT SUMMARY REPORT)

SAMPLE FORMAT 7A, BLOOD REPORT

_____ INF DIV TSOP

Message Blood Report

FM: CDR CHARLIE MED 34FSB
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, CLOSTEXT OR RMKS: Used to provide additional amplifying information if required.
(8) Line 8, DECL: Mandatory if the message is classified.

SAMPLE FORMAT 7 (CONTINUED)

SAMPLE FORMAT (PATIENT SUMMARY REPORT)

SAMPLE FORMAT 7B, BLOOD REPORT

_____ INF DIV TSOP

Voice Transmitted Blood Report

LINE 1	151215Z
LINE 2	CHARLIE MIKE 34 HOTEL
LINE 3	20 JS
LINE 4	32 JSW
LINE 5	2 JS
LINE 6	140 JS
LINE 7	RECEIVED 30 JS/ TRANS 20 JS NO UNITS SHIPPED, REFRIGERATOR NEEDS REPAIR
LINE 8	(AUTHENTICATION IN ACCORDANCE WITH SOI)

*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, CLOSTEXT OR RMKS: Used to provide additional amplifying information if required.
(8) Line 8, AUTHENTICATE: Authentication, if required.

SAMPLE FORMAT 8

SAMPLE FORMAT (TEAM MOVEMENT REPORT)

_____ INF DIV TSOP

FM: FSMC
TO: SUPPORT OPERATIONS FSB//BRIGADE SURGEON'S SEC//DIVISION SURGEON'S SECTION

INFORMATION: NONE

CLASSIFICATION: AS APPROPRIATE

SUBJECT: TEAM MOVEMENT REPORT

LINE ONE: UNIT WILL BE REPORTED AS ALPHA, BRAVO, CHARLIE, ETC

LINE TWO: CURRENT LOCATION, SIX DIGIT GRID COORDINATES

LINE THREE: DEPARTURE AS OF: (DTG IN ZULU TIME)

LINE FOUR: DESTINATION AND ROUTE

LINE FIVE: ARRIVAL AS OF: (DTG IN ZULU TIME)

LINES TWO THROUGH FOUR ARE REPORTED PRIOR TO DEPARTURE FROM ANY SITE; LINE FIVE IS REPORTED UPON ARRIVAL

SAMPLE FORMAT 9

SAMPLE FORMAT (REPORTS CODES)

_____ INF DIV TSOP

1. PURPOSE: To list medical codes used to assist medical units in filling out medical reports and Class VIII resupply requests.

2. FREQUENCY: NA.

3. RESPONSIBILITY: Division surgeon.

4. ADDRESSEES: All medical units.

5. TRANSMISSION: NA.

6. REPORTS FORMAT: NA.

7. REMARKS:

A. Each major command (MACOM) establishes reporting codes which meet operational requirements for their units.

B. The following tables (TABs) will assist in compiling the report as required.

(1) TAB A: Table of Minimum Essential Supply Items

(2) TAB B: Disease Codes

(3) TAB C: Authorized Abbreviations

(4) TAB D: Cause of Casualty

TAB A (TABLE OF MINIMUM ESSENTIAL SUPPLY ITEMS) TO SAMPLE FORMAT 9 (REPORT CODES)

_____INF DIV TSOP

SURGICAL DRESSING MATERIEL

090	BANDAGE, GAUZE ROLLER
091	FIRST AID DRESSING
092	BURN DRESSING
093	GAUZE, ABSORBENT
094	BANDAGE, COTTON PLASTER OF PARIS, IMPREGNATED
095	COTTON WOOL, ABSORBENT

GASTROINTESTINAL

100	ANTIHELMINTIC
101	ANTIDIARRHEAL
102	ANTIDYSENTERIC
103	ANTACIDS

MISCELLANEOUS

110	DISINFECTANTS
111	ANTISEPTICS
112	DETERGENTS, SURGICAL
113	HYPODERMIC SYRINGES AND NEEDLES
114	SURGICAL SUTURE/LIGATURE MATERIEL
115	SPLINTING MATERIEL

TAB B (DISEASE CODES) TO SAMPLE FORMAT 9 (REPORT CODES)

_____INF DIV TSOP

DISEASE	CODE
Cholera	000
Typhoid Fever	001
Paratyphoid Fever	002
Other Salmonella Infections	003
Bacillary Dysentery	004
Amoebiasis	006
Other Enteric Infection	008
Pulmonary Tuberculosis	010
Plague	020
Tularemia	021
Anthrax	022
Brucellosis	023
Dyptheria	032
Scarlet Fever	034
Erysipelas	035
Meningococcal Infection	036
Tetanus	037
Acute Poliomyelitis	043
Smallpox	050
Chicken Pox	052
Measles	055
Rubeola	056
Yellow Fever	060
Viral Encephalitis (unspecified)	065
Infectious Hepatitis	070
Epidemic Parotitis	072
Mononucleosis	075
Epidemic Louse-Borne Typhus	080
Q-Fever	083
Malaria	084
Relapsing Fever	088
Syphilis	090
Blennorrhea	098
Venereal Ulcers	099
Leptospirosis	100
Influenza	470
Other	989 (If this code is used, provide details.)

TAB C (AUTHORIZED ABBREVIATIONS) TO SAMPLE FORMAT 9 (REPORT CODES)

_____INF DIV TSOP

AUTHORIZED ABBREVIATIONS

ARMS AND SERVICES:

AVN	AVIATION
ABN	AIRBORNE
AD	AIR DEFENSE
AMINF	ARMED INFANTRY
AMPB	AMPHIBIOUS
ARMD	ARMORED
ARTY	ARTILLERY
AT	ANTITANK
ATAGM	ANTITANK GUIDED MISSILE

EMPLOYED MEANS:
MORTARS
POISON
ROCKETS
SABOTAGE
TUBEARTY
MISSILES

COMMAND LEVEL:

AG	ADJUTANT GENERAL
ARMY	ARMY
BDE	BRIGADE
BN	BATTALION
CO	COMPANY
CORPS	CORPS
DIV	DIVISION
GP	GROUP
HQ	HEADQUARTERS
PLT	PLATOON
RGT	REGIMENT

NATIONALITY:

BE	BELGIAN
CA	CANADIAN
GE	GERMAN
NL	NETHERLANDS/HOLLAND
UK	BRITISH
US	AMERICAN

TAB D (CAUSE OF CASUALTY) TO SAMPLE FORMAT 9 (REPORT CODES)

_____INF DIV TSOP

CAUSE OF CASUALTY TO BE USED FOR MASS CASUALTY REPORTING.

ACCIDENT:	AIRCRASH
ACCIDENT:	MARITIME
ACCIDENT:	MOTOR VEHICLE
ACCIDENT:	RAILWAY
ACCIDENT:	FIRE
ACCIDENT:	INDUSTRIAL
ACCIDENT:	POISON
ACCIDENT:	NATURAL DISASTERS
ACCIDENT:	OTHER CAUSES
BATTLE:	CONVENTIONAL
BATTLE:	NUCLEAR
BATTLE:	BIOLOGICAL
BATTLE:	CHEMICAL

APPENDIX H

INFORMATIONAL SYSTEMS SECURITY PROCEDURES

H-1. General

Protection of the information generated by communications technology in use and the INFOSYS must be protected at all times. Commanders must examine the vulnerability of their INFOSYS to enemy exploitation or attack. Protection safeguards include electronic means, physical barriers, and procedures. Protecting computer and communications systems from enemy intrusion, disruption, and destruction is an initial basic step in an overall protection approach.

H-2. Communications Security

Due to the present and ever-increasing dependence upon automated INFOSYS within the Army, information security (INFOSEC) and information systems security (ISS) encompasses signal security and computer security. The term provides for integrating signal security (SIGSEC) and computer security (COMPUSEC) efforts into a unified approach to protecting sensitive (classified and unclassified) information in electronic form during transmission or while contained in information processing systems has become critical. In both war and peace, computer systems and networks on which units rely for logistics, personnel, administration, maintenance, medical and financial data processing and transfer are vulnerable to attack.

H-3. Warfighter Architecture Requirements

The Army's Enterprise Strategy focuses on three warfighter crucial architectures.

a. *Operational Architecture*. Operational architecture (OA) (see Appendix D) defines the tasks supported by the information flows, operational elements, assigned tasks required to accomplish or support a military operation.

b. *Systems Architecture*. Systems architecture (SA) (see Appendix D) defines the physical content, location, and identification of key nodes, circuits, networks, warfighting platforms, and specifies system and component performance parameters. The SA shows how multiple systems within a subject area link and may describe the internal construction or operations of particular systems in the SA.

c. *Technical Architecture*. Technical architecture (TA) (see Appendix D) sets minimal rules governing the arrangement, interaction, and interdependence of the parts or elements of a system. The SA are constructed to satisfy OA requirements in accordance with standards defined in the TA:

(1) The goal of the current security architecture is to ensure sensitive information and assets are protected.

(2) Earlier security systems did not meet the requirements for flexibility, accountability and interoperability. Security policies and procedures are evolving to satisfy current requirements. In the future, the security systems must contain traceable paths for the protection of information processing. The goal of security architecture is to protect information and provide security services.

(3) It is important that users know that the data is authentic and that valid users sent it. Security architecture must protect the confidentiality, integrity, and availability of information that is created, processed, stored, and communicated. Threats to the INFOSYS can come from a variety of sources ranging from an accidental intrusion to a deliberate military attack. Security architecture and cryptographic equipment are subject to capture by enemy forces and must include solutions to isolate captured components, to control and negate, or exploit their loss.

H-4. Security Policies

The security policies for the Tactical Packet Network (TPN) mandate all hardware to be accredited for Secret operation. The exception to this policy is the tunneling of SBU STAMIS users via in-line network encryption, currently the Network Encryption Systems (NES), through the deployed TPN. The typical configuration calls for the use of—

- Firewalls (FW) at gateway points between network types.
- High Assurance Guards (HAG) between the SIPRNET.
- Nonsecure Internet Protocol Router Network (NIPRNET).

a. The National Security Agency (NSA) is developing a set of solutions to provide secure interoperability for the Defense Information Infrastructure (DII) and the DISN—a subset of DII. (The ACUS and the TPN are subsets DII.) The NSA solution, the Multilevel Information Systems Security Initiative (MISSI), is expected to provide the security services required by the WIN security policy through all transitional phases. The MISSI products will provide the following security services:

(1) *Data integrity*—verification that data has not been modified in transmission or during computer processing. There is currently no widely used capability to accomplish this with e-mail or with the message traffic (hard or soft copy). This is a new requirement.

(2) *Identification and authentication* (I&A)—verification of the transaction originator. This is similar to using a personal identification number (PIN) on a bankcard. Current procedures require system administrators and information system security officers to issue user identification (USERID) and passwords. The potential exists for a release authority to give his USERID and password to an unauthorized person. The same potential exists when using cryptocards and PINs.

(3) *Nonrepudiation*—proof of participation by both sender and receiver in a transaction. Current capabilities allow confirmation when the user receives or reads e-mail. However, the Army uses many e-mail software packages that do not have this capability.

(4) *Data confidentiality*—privacy of data with encryption during transmission or computer processing. This includes encrypting text before transmission or the separation of data during processing. Using bulk data encryption and limiting network access meets this requirement. The secure telephone unit—third generation (STU III) keys provide this capability for voice traffic over commercial networks.

(5) *Access control*—ensuring that data transmission or computing processing systems are not denied to authorized users. Firewalls prevent the unauthorized access while the secure mail guard (SMG) provides for multilevel security (MLS) e-mail exchange. This capability is not fully utilized in garrison environments and is not currently deployed.

b. A MISSI building block approach is used to develop products that stay current with evolving security requirements and technology (Figure H-1). Product categories are as follows:

(1) *Workstation security products*. These products include cryptocards and their associated crypto-ready applications that perform workstation security services.

(2) *Crypto-ready applications*. An evolving set of commercially available user software packages that call up the crypto security services.

(3) *System/enclave security products*. These products typically reside at the enclave boundary and provide access control and/or encryption services to external networks.

(4) *Secure computing products*. These products are high-trust computer operating system and application programs that contain features and assurances that support information sensitivity labels. They also prevent the deliberate or accidental release of information to unauthorized users. These capabilities enhance security in the local enclave. These capabilities currently exist in networks that use USERID and system-level passwords.

(5) *Network security management products*. These products support the security management of the network and perform services such as electronic key generation and distribution, issuing of user certificates, maintaining user directories, and revoking user privileges.

(6) *Voice security products*. The MISSI does not provide voice security products. However, MISSI technology will be used in the secure telephone equipment (STE). The STE will be compatible with existing STU III and will replace the existing secure telephone (KY-68). Additionally, the NTDR may use personal computers (PC) cryptocards and embedded cryptographic modules.

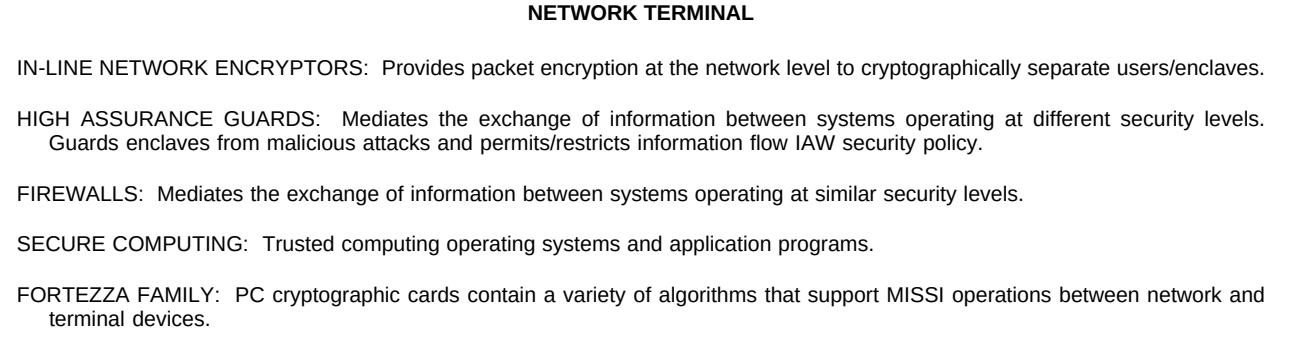


Figure H-1. Multilevel information system security initiative building blocks.

c. Prior to fielding WIN upgrades, developers will employ security tools (see FM 100-6) to identify system vulnerabilities and apply countermeasures. Access controls, MISSI security services, and encryption will be used to protect the confidentiality and integrity of the data passed. These tools will also be used at network entrances to isolate segments and detect intrusion. Once detected, countermeasures (including tracing and exploitation) will minimize the impact of the intrusion.

H-5. Midterm Programs and Initiatives

The midterm design will replace NES with a guard and add a cryptocard to support Defense Message System (DMS) and guard fractions.

a. The following security initiatives and capabilities will be implemented as they become available for the majority of systems to support the evolution toward the WIN infrastructure:

(1) Provide a standard technique for "producer-to-consumer" protection of services in the SBU environment (for example, e-mail services, file transfer and storage, and video services). The MISSI security products implement the approved Army standards for SBU level security.

(2) Integrate initial user account-level security management capabilities into the security architecture. The DMS Phase I delivers security management with a certification authority workstation (CAW) user agent infrastructure for DMS accounts.

(3) Provide network component-level access controls and user-level distributed I&A services. Using a PC cryptocard is the approved Army standard network access control technique and supports log on and authentication services.

(4) Provide multilevel separation of unclassified, SBU, and SECRET information processed over one network environment. This is currently accomplished using in-line network encryptors (INE). The objective security architecture provides trusted guard functionality to allow multilevel operations.

(5) Provide protected interconnection with, and interfaces to, the Internet. Firewalls technology, in conjunction with a cryptocard-based I&A, is a proposed way to protect against intrusion from the Internet.

(6) Provide continued separation and protection for TOP SECRET (TS) and SCI. Dedicated intelligence networks or subchannels on existing communications carriers will use INE technology to ensure separation.

(7) Provide secure voice compatibility and interoperability between analog and emerging digital voice communications. Secure telephone equipment, when fielded, will provide compatibility and interoperability with STU III in voice mode.

(8) Provide compatible and interoperable cryptography between voice and data systems.

(9) Provide initial common security management infrastructure for end system and network security products. A common security management infrastructure will support network security and STE. An initial security association management protocol (SAMP) will be available that uses common security labels, a security management information base (SMIB), and security audit tool applications.

(10) Provide cryptographic security products that support multimedia information processing. High-speed "key agile" encryptors will be developed to support a synchronous transfer mode environment.

(11) Provide end system security products that are compatible with projected end system platforms.

(12) Provide compatible interfaces between tactical and garrison C2 environments. Tactical bridges will be provided through the Integrated Tactical-Strategic Data Network (ITSDN) employing MISSI products.

b. The MISSI is an evolutionary initiative with products delivered as available. Each new release of MISSI products will address the system security objectives of improved performance levels and progressively higher assurance. The MISSI products include:

(1) *In-line network encryptors*. These products typically reside at the boundary between local and WANs and provide highly robust encryption and access control services.

(2) *Workstation products*. These products reside at individual workstations and provide writer-to-reader security services, intrusion detection, virus detection and so forth. When used as recommended and in combination with trusted operating systems, application programs, and guard functions, these products may provide MLS network solutions.

(3) *Firewalls and secure server products*. A FW is a set of components that control access between networks. Server products typically reside on the local network boundary as a guard. They can also reside within the local network to provide common security services for applications such as high-low guards, files services, and database management. Examples are the tactical guard (TG) and the HAG, either could be equipped with a data encrypting capability.

(4) *Security management services*. These encompass such security measures as cryptographic keying, access control, authentication, and using passwords. These services include:

(*a*) The CAW which will reside on the LAN and provide security support for the provision of such capabilities as digital signatures, cryptographic key, and access control permissions.

(*b*) Rekey managers that work in conjunction with Electronic Key Management System, providing cryptographic rekey support for security products.

(*c*) Audit managers which provide support for the collection and analysis of security relevant auditable events associated with security products. An example of an auditable event is a repeated failed user log in.

(*d*) Directories which provide a repository for public security information essential for global message addressing. An example is the public part of a user's digital signature.

(*e*) Mail list agents which are employed by messaging systems when a message is sent to many recipients to add security.

(5) *Fully digitized environment*. The STE will allow transition from a primarily analog environment to a fully digital environment. It builds on the need for a secure voice terminal capable of interfacing with and using the enhanced features and capabilities of the digital infrastructure. Interfaces allow both tactical and strategic digital circuit switching to occur. The STE will offer backwards compatibility and compliance with Integrated Services Digital Network (ISDN) standards for basic rate interface. It will provide high quality digital performance for secure and nonsecure voice and data operations. Security migration will allow for the capabilities to support identification and authentication of individual users that allow voice, data applications, voice conferencing control, and video conferencing greater security control. Interfaces to both ISDN and Switched 56 kilobits per second (Kbps) digital public switched telephone services will allow both Tactical and Strategic digital circuit switching to occur.

H-6. Objective Environment

a. The following high-level security objectives represent the target capabilities for the objective security architecture:

(1) Protect and share all levels of security with FWs and high assurance guards.

(2) Authenticate access through FWs and high assurance guards.

(3) Secure network transactions.

(4) Establish information domains for all functional areas (for example, command and control, intelligence, administrative, finance, and so forth).

(5) Institute global, dynamic management for all domains.

(6) Assure availability of service and share security technology with service suppliers.

b. Unlike the midterm architecture that concentrated on a single digitized division, the objective architecture will transition a corps at a time until all are upgraded. This will require an evolutionary process of incorporating security products, policies, and procedures as they are accepted into the Army architecture.

H-7. Multilevel Information Systems Security Initiatives Secret to Sensitive but Unclassified Configuration

a. Workstations equipped with cryptocards have writer-to-reader protection for data sharing between the SBU enclaves through unclassified networks. However, possibly in the midterm, legacy

trusted vice public networks will be used. During the midterm, the introduction of the HAG enables secret enclaves to exchange SBU data with SBU enclaves and secret enclaves to exchange secret data through unclassified networks. A CAW will be required in the objective architecture. The CAW will provide the network security management for MISSI. The CAW software will include certificate management, directory user agent, DMS user agent, administrative directory user agent, and simple mail transfer.

b. The objective architecture will include cryptocards with both Type I and Type H algorithms and can interoperate from Unclassified up to TS-SCI level. Sometime between the midterm and objective architecture, the legacy secret level backbone may transition to an unclassified network.

c. Future MISSI capabilities will incorporate future technologies and communications media such as synchronous optical network (SONET) and broadband integrated service digital network (BISDN). The security management capabilities from earlier solution sets will receive enhancements to provide higher performance in support of large-scale networks, such as the global grid.

d. Specific software and hardware mechanisms will be required to provide the security services in the objective architecture. Cryptocards perform key storage, encryption, decryption, digital signature, and verification of digital signatures. The secure network server (SNS) for the MISSI configuration is a high assurance guard. The HAG will provide multilevel security functionality in the objective architecture. It will contain multiple functions including mail applications, file transfer protocol, and remote log-in capability. The security policy programmed into the HAG will determine allowable traffic flows. A CAW will be required in the objective architecture. The CAW will provide the network security management for MISSI. The CAW software will include certificate management, directory user agent, DMS user agent, administrative directory user agent, and the SMTP. Objective networks may merge into one unclassified yet end-item protected network as a result of MISSI and other security products.

H-8. Standardization of Information Management Security Responsibilities During Joint and Coalition Operations

Standardization of IM security responsibilities during joint military and coalition forces are:

a. Achieved through international forums in accordance with policies and procedures as outlined in CJCSI 2700.01A. The policies and procedures require US military forces to communicate and share data and information with each other and their allies/coalition members. Areas of particular concern for compatibility and commonality include C4 and automated information systems, battlefield surveillance systems, target designation and aquisition systems, and COMSEC hardware and software systems.

b. Specific IM standardization responsibilities are:

(1) *Chairman, Joint Chiefs of Staff Responsibilities*.

(*a*) The Chairman of the Joint Chiefs of Staff (CJCS) functions within the chain of command by transmitting to the combatant commanders the orders of the President and the Secretary of Defense. The Chairman coordinates all communications in matters of joint interest addressed to the combatant commanders by other authority.

(*b*) The Chairman operates the National Military Command System (NMCS) for the Secretary of Defense to meet the needs of the NCA and establishes operational policies and procedures for all components of the NMCS and ensures their implementation.

(*c*) General operational responsibility for the Nuclear C3 System lies with the CJCS. The Nuclear C3 System is centrally directed through the Joint Staff. The Nuclear C3 System supports Presidential Nuclear C2 and the National Command Authority (NCA) C2 of the combatant commands in the areas of integrated tactical warning and attack assessment, decision making, decision dissemination, and force management and report back.

(2) *Combatant Commander Responsibilities*.

(*a*) Submit C4 system requirements, for joint operations within the scope of their missions and functions, to the Chairman of the Joint Chiefs of Staff. They also provide information copies of the correspondence to the Services, and defense agencies. This submission will include requirements for CJCS-controlled mobile, transportable C4 assets, when such requirements are not satisfied by normal military department or military service processes.

(*b*) Collect, provide comments on, and forward to the CJCS requirements applicable to joint operations for all C4 equipment that are generated by subordinate operational commands and are being submitted directly to the military departments or Services. The DISN/C4 resources must be validated at the combatant commander level.

(*c*) Report to the CJCS incompatibilities or lack of interoperability among C4 systems and between tactical systems and the DISN.

(*d*) Test the C4 systems portions of appropriate OPLAN periodically as a part of a CJCS-sponsored or command-sponsored exercise. These tests will identify unresolved issues, verify operational procedures and interoperability, and provide joint training.

(*e*) Ensure that Service components and subordinate unified commands submit requirements for all C4 systems applicable to joint operations through the combatant commanders to the military departments or Services IAW procedures in effect.

GLOSSARY

ABBREVIATIONS, ACRONYMS, AND DEFINITIONS

AA air ambulance

ABCA American, British, Canadian, and Australian

ABCS Army Battle Command System

ABF Availability Balance File

ACS Assistant Chief of Staff

ACSIM Assistant Chief of Staff for Information Management

ACUS Area Common User System

admin administration

AE aeromedical evacuation

AF Air Force

AFATDS advanced field artillery tactical data system

AIS Automated Information Systems

ALE Automatic Link Establishment

AM amplitude-modulated

amb ambulance

AMC US Army Materiel Command

AMEDD Army Medical Department

AMEDDC&S Army Medical Department Center and School

AMIM Army medical information management

AML area medical laboratory

AO area of operations

AOC area of concentration

AOE *See* Army of Excellence.

APB Acquisition Program Baseline

APO Application Program Office

AR Army regulation

ARFOR Army Forces

Army of Excellence (AOE) (Nondigitized Divisions) The AOE developed during the end of the cold war is threat-based. The AOE relies on massing combat power to achieve success in the close fight and on massing effects to achieve overwhelming success throughout the battlespace. Information dominance is achieved through situational understanding and a common relevant picture of the battlespace. It has limited communication capabilities when compared to Force XXI communication capabilities.

ASAS all source analysis system

ASCC Army Service Component Command

ASG Assistant Surgeon General

ASL authorized stockage levels

ASMC area support medical company

ATAV Army Total Asset Visibility

ATCCS Army Tactical Command and Control System

atch attached

attn attention

AUTOCAP automation of the casualty analysis process

automated identification technology This is a family of technologies that support source data automation through various media to facilitate the rapid collection, consolidation, storage, and retrieval of data to and from Army management systems. It includes process control hardware, application of software, and hybrids that provides industry-standard, real-time data acquisition to enhance productivity. It includes bar codes, radio frequency identification, magnetic strips, smart cards, and optical memory cards.

AUTOREP Automation of the Theater Shelf Requisitioning Process

AWRDS Army War Reserve Deployment System

AXP ambulance exchange point

BAS battalion aid station

bde brigade

BCS3 Battle Command Sustainment Support System

BI background investigation

BLDREP blood report

BLOS beyond line of sight

BMDB brigade medical database

BMIS-T Battlefield Medical Information Systems-Telemedicine

bn battalion

BSA brigade support area

BSB brigade support battalion

BSM blood support management

BSMC brigade support medical company

BSS brigade surgeon section

BSU blood supply unit

BW biological warfare

C confidential

C2 *See* command and control.

C2OTM command and control on the move

C3 command, control, and communications

C3A command, control, communications, and automation

C4 command, control, communications, and computers

C4I *See* command, control, communications, computers, and intelligence.

CAC common access card

CAPS II Consolidated Aerial Port System II

casualty Any person lost to the organization by being killed, wounded, injured, diseased, interned, captured, retained, missing in action, missing, beleaguered, besieged, or detained.

CAW certification authority workstation

CCIR commander's critical information requirement

CCP casualty collection point

CDR Clinical Data Repository/commander

CD-ROM compact disk-read only memory

CEIS cost and economic information system

CHCS Composite Health Care System

CHCS II Composite Health Care System II

CHCS II-T Composite Health Care System II–Theater

CHCS NT Composite Health Care System, New Technology

CHPPM Center for Health Promotion and Preventive Medicine

CIO Chief Information Officer

CITDB corps interim theater database

CITPO clinical information technology program office

CJCS Chairman, Joint Chiefs of Staff

Class VII Medical supplies and equipment, including blood, and blood products.

CLS combat lifesaver

cmd command

CNR combat net radio

co company

COE common operating environment

COI chief of information

COMARFOR commander Army Forces

Command and Control (C2) The exercise of authority and direction by a properly designated commander over assigned and attached medical units/elements in the accomplishment of the health care mission. This is a medical functional area.

Command, Control, Communications, Computers, and Intelligence (C4I) Systems that allow the surgeon to direct, monitor, question, and react as the situation develops.

COMMZ communizations zone

COMPUSEC computer security

COMSEC communications security

CONOPS concept operations

CONUS continental United States

COOP continuation of operations plan

coord coordination

COP common operating picture

COSC combat operational stress control

COSCOM corps support command

COTS commercial off-the-shelf

CP command post

CRC CONUS replacement center

CRO carded for record only

CRP common relevant picture

CS combat support

CSA corps support area

CSC computer security center

CSH combat support hospital

CSS combat service support

CSSAMO combat service support automation management office

CULT common-user logistic transport

CZ combat zone

DA Department of the Army

DAA designated approving authority

DAAS Defense Automatic Addressing System

DAMMS-R Department of the Army Movements Management System-Redesign

DBSS Defense Blood Standard System

DCSIM Deputy Chief of Staff for Information Management

DD Department of Defense

DDL Daily Disposition Log

DEERS Defense Enrollment Eligibility Reporting System

definition of supply classes **Class I**, subsistence items; **Class II**, clothing and organizational equipment; **Class III**, packaged petroleum, oils, and lubricants and industrial gases; **Class IV**, construction materials; **Class V**, ammunition; **Class VI**, personal demand items; **Class VII**, major end items; **Class VIIIa**, all medical supply except blood and blood products; **Class VIIIb**, only blood and blood products; **Class IX**, repair parts.

DHSS Defense Health Support System

digitization The application of information to acquire, exchange and employ timely battlefield information. It will enhance situational understanding enabling friendly forces (10 Divisions, RC, and Joint/ Combined) to share a common picture of the battlefield while communicating and targeting in real or near real time.

DII Defense Information Infrastructure

DIMHRS Defense Integrated Military Human Resource System

DISA Defense Information Systems Agency

DISCOM division support command

disease and nonbattle injury (DNBI) A casualty status that results from a cause other than combat.

DISM disease and nonbattle injury management

DISN Defense Information System Network

DITSCAP Department of Defense Information Technology Security Certification and Accreditation Process

div division

DLA Defense Logistics Agency

DMLSS Defense Medical Logistics Standard System

DMLSS AM Defense Medical Logistics Standard System–Assemblage Management

DMOC division medical operations center

DMS Defense Message System

DMSO division medical supply office

DMSS Defense Messaging Support System

DNBI *See* disease and nonbattle injury.

DNVT digital nonsecure voice terminal

DOD Department of Defense

DODD Department of Defense Directive

DODI Department of Defense Instruction

DODPSP Department of Defense Personnel Security Program

DOIM Director of Information Management

DS direct support

DSA division support area

DSB division support battalion

DSG Deputy Surgeon General

DSMC division support medical company

DSS division surgeon's section

DTG date-time group

DTLOMS doctrine, training, leader development, organizations, materiel and soldiers

EAB echelons above brigade

EAC echelons above corps

EAD echelons above division

ECS emergency care specialist

EEFI essential elements of friendly information

EEM early entry module

EFTO encryption for transmission only

EIC electronic information carrier

EMT emergency medical technician/treatment

EN electronic notebook

EPLRS Enhanced Position Location Reporting System

EPW enemy prisoner(s) of war

ETA estimated time of arrival

ETMR Electronic Theater Medical Records

evac evacuation

1SG first sergeant

FAADC3I Forward Area Air Defense Command, Control, and Communications and Intelligence

FAX facsimile

FBCB2 Force XXI Battle Command Brigade and Below System

FEMA Federal Emergency Management Agency

fld field

FLOT foward line of own troops

FLOWCAP Flow Computer Assisted Program

FM field manual/frequency-modulated

FMC Field Medical Card

FMO Functional Management Office

Force XXI (Medical Reengineering Initiative [MRI]) Force XXI is knowledge and capabilities based and can be likened to a process that integrates the power of information technologies into combat and supporting systems to create increased effectiveness in US Army warfighting capabilities. Its operational environment is multidimensional, capable of operating in an extended battlespace that includes the electromagnetic spectrum, as well as physical dimensions of width, depth, and height. Its communications and digital connectivity reaches to other Army, Joint, coalition elements, and even back to the CONUS.

FOUO for official use only

FSB forward support battalion

FSC forward support company

FSMC forward support medical company

FSMT forward support MEDEVAC team

FST forward surgical team

FW firewall

G1 Assistant Chief of Staff (Personnel)

G2 Chief of Staff (Intelligence)

G3 Assistant Chief of Staff (Operations and Plans)

G4 Assistant Chief of Staff (Logistics)

G5 Civil Affairs

G6 Assistant Chief of Staff (Information Management)

GCCS Global Command and Control System

GCSS Global Combat Support System

GCSS-A Global Combat Support System–Army

GOTS government off-the-shelf

GPS global positioning system

GS general support

HA Health Affairs

HAG high assurance guards

HAPS Headquarters Analytical Processing System

HCD health care delivery

HF high frequency

HHC headquarters and headquarters company

HHD headquarters and headquarters detachment

hlth health

HN host nation

HQ headquarters

HSL health service logistics

HSRS health standard resource system

HSS health service support

HSSO health service support office(r)

HTPS Headquarters Transactional Processing System

I&A identification and authentication

IA information assurance

ICD interface control document

IHFR improved high frequency radio

IIF informal information flow

IM *See* information management.

IMA *See* information mission area.

IMO information management offices

IMP Information Management Plan

IMRSI International Military Rationalization, Standardization, and Interoperability

INE in-line network encryptors

information management (IM) Information management is the directing of relevant information to the right person at the right time in a usable format to facilitate decision making. It uses procedures and information systems to collect, process, store, display, and disseminate data and information. Information management transforms information from data to situational understanding.

information mission area (IMA) Includes all activities and resources of the Army employed in obtaining and creating data, processing information making it available, using it, and managing it. Encompasses the responsibilities, activities, and programs associated with, and related to, the disciplines of telecommunications, automation, visual information, intelligence, record management, publications and printing, and libraries.

information operations (IO) Information operations is the employment of the core capabilities of electronic warfare, computer network operations, psychological operations, military deception, and operations security, in concert with specified supporting and related capabilities, to affect or defend information and information systems, and to influence decision making.

information security (INFOSEC) The protection and defense of information and information systems against unauthorized access or modification of information, whether in storage, being processed, or in transit, and against denial of service to authorized users.

information systems (INFOSYS) Information systems are the equipment and facilities that collect, process, store, display, and disseminate information data. Information systems provide commanders with a common operational picture and transmit situational understanding from one commander to another.

INFOSEC *See* information security.

INFOSYS *See* information systems.

infrastructure The physical hardware used to interconnect computers and users. Infrastructure includes the transmission media, including telephone lines, cable television lines, and satellites and antennas, and also the routers, aggregators, repeaters, and other devices that control transmission paths.

interface In the context that the term is used throughout this publication, it means a point where one system intersects electronically (think of it as linking or welding together two pieces to form one solid piece) with another information data carrying system or even several other information systems without causing dysfunction to any of the other systems.

IO *See* information operations.

IR information requirements

ISDN Integrated Services Digital Network

ISS Information Systems Security

IT immunization tracking/information technology

ITDB Interim Theater Database

ITDB-ODS Interim Theater Database–Operation Data Store

ITDB-OLTP Interim Theater Database–On-line Transaction Processing

ITRCS inpatient treatment record cover sheet

ITSDN Integrated Tactical—Strategic Data Network

ITSEC information technology security

ITV in-transit visibility

J6 Communications-Electronics Directorate

JFC joint force commander

JMAR Joint Medical Asset Repository

JOPES Joint Operations Planning and Execution System

JP joint publication

JROC Joint Requirements Oversight Council

JTA Joint Technical Architecture

JTAV Joint Total Access Visibility

JTF Joint Task Force

KB kilobyte

kbps Kilobits per second

kHz kilohertz

KY-68 secure telephone

LAN local area network

LCM life-cycle management

LDB local databases

ldr leader

LERSM Lower Echelon Reporting and Surveillance Module

Levels of Medical Care Each level of care reflects an increase in medical capabilities while retaining the capabilities found in the preceding echelon. See FM 4-02 for a complete discussion on the deployment of medical units.

a. At Level I care includes lifesaving measures and stabilization, disease and nonbattle injury (DNBI) prevention, combat operational stress control (COSC) preventive measures, casualty collection, medical evacuation from supported units to supporting medical treatment elements.

b. Level II care provided in a clearing station operated by the treatment platoon of the medical company. The patient is evaluated to determine his medical priority for continued evacuation to the rear, or is treated and returned to duty (RTD). Emergency care, including beginning resuscitation, is continued and, if necessary, further emergency measures are instituted; however, these measures do not go beyond the measures dictated by the tactical situation.

c. Level III care in CHS medical treatment facilities (MTF) staffed for all categories of patients.

d. Level IV medical care (designed under Medical Force 2000 (MF2K) enables the patient to be treated in a general hospital (GH) or field hospital (FH) (see FM 4-02.15). This GH and FH is staffed and equipped for general and specialized medical and surgical care.

LIWA Land Information Warfare Authority

LOC lines of communication

log logistics

LOGSA logistics support activity

LOGSITREP logistics situation report

MA Mortuary Affairs

MAA mission application administrator

MACOM major Army command

MAISRC Major Automated Information System Review Council

MAT medical analysis tool

MAU mission application user

MC multiple categories

MC4 Medical Communications for Combat Casualty Care

MCB movement control battalions

MCS Maneuver Control System

MDT medical detachment, telemedicine

MEDCEN United States Army Medical Center

MEDCOM medical command/Medical Command (US Army)

MEDDAC medical department activity

MEDEVAC medical evacuation

medical assemblage management Automates the management of medical assemblages for TOE medical units responsible for their storage and maintenance. Tracks overages, shortages, quality control information, and storage locations for each assemblage.

medical information operations Accentuated by command, control, communications, computers, and intelligence and interwoven through each of the ten Army medical functional areas. The goal of medical information operations is to leverage the commander's ability to enable, enhance, and protect the health of force within the theater of operations.

medical logistics A process that provides medical equipment and supplies in a timely manner at reasonable cost that the mission objective of sustaining a quality reserve and active force is met.

medical maintenance Supports the scheduled maintenance and repair of medical equipment essential for treating patients. It operates at medical logistics and table of organization and equipment hospitals within the corps and communications zone.

medical patient accounting and reporting Medical patient accounting and reporting will interface with medical regulating, the Defense Medical Regulating Information System, the Standard Installation/ Division Personnel System-3, and the Composite Health Care System.

medical supply A Theater Army Medical Management Information System that automates the management and requisitioning of medical materiel (Class VIII) required to support the medical needs of US military units. The medical supply operates at the division medical supply office, medical logistics battalion and table of organization and equipment hospitals within the corps, communications zone and at table of distribution and allowance hospitals in the continental US. It replaces all Class VIII manual reports and provides customer reorder lists for reordering and inventory.

medical surveillance The routine, standardized tracking of disease and injury incidence in meaningful categories to drive prompt prevention and control actions.

medical treatment facility Any medical installation. An MTF is a medical installation ranging in meaningful categories to drive prompt prevention and control actions.

MEDLOG medical logistics

MEDSITREP medical situation report

MEDSURV medical surveillance

MEDTCU medical transportable computer unit

METT-TC mission, enemy, terrain and weather, troops and support available, time available, civil considerations

MF2K Medical Force 2000

MHS Military Health System

MHSS Military Health Support System

MHz megahertz

MILSTRIP Military Standard Requisition and Issue Procedures

MISSI Multilevel Information Systems Security Initiative

MLMC medical logistics management center

MLS multilevel security

MMC materiel management center

MMMB medical materiel management branch

MNS mission needs statement

MOS military occupational specialty

MRC Medical Resource Component

MRD Medical Readiness Division

MRI Medical Reengineering Initiative. *See also* Force XXI.

MRMC United States Medical Research and Materiel Command

MRO medical regulating office

MRSP Medical Readiness Strategic Plan

MS Medical Service Corps

MSDS Medical Service Delivery System

MSE mobile subscriber equipment

MSMC main support medical company

MSR main supply route

MSRT mobile subscriber radiotelephone terminal

MSS Medical Surveillance System

MTF medical treatment facility

MTI mobile tactical internet

MTMC Military Traffic Management Command

MTS movement tracking system

MTW major theater war

N not cleared but authorized access to sensitive unclassified information

NATO North Atlantic Treaty Organization

NAV navigation

NBC nuclear, biological, and chemical

NC not changed

NCA National Command Authority

NCS net control station

NDMS National Defense Medical System

NES Network Encryption Systems

NET network

NETOPS network operations

NIPERNET Nonsecure Internet Protocol Router Network

NLT not later than

NMCS National Military Command System

NRP nonunit replacement personnel

NSA National Security Agency

NT new technology

NTDR Near-Term Digital Radio

OA operational architecture

OASD (HA) Office of the Assistant Secretary of Defense (Health Affairs)

OCONUS outside continental United States

ODS operational data store

offensive information operations The integrated use of assigned and supporting capabilities, mutually supported by intelligence, to affect adversary decision makers or to achieve or promote specific objectives. The capabilities and activities include, but are not limited to, operational security, military deception, psychological operations, electronic warfare, physical destruction, and special information operations, and could include computer network attack.

OIPT Overarching Integrated Product Team

OPCON operational control

operation plan A plan for a single operation or series of connected operations conducted simultaneously or in succession. It is usually based upon stated assumptions and in the form of a directive employed by higher authority to permit subordinates to prepare supporting plans and orders. "Plan" is usually used instead of "order" in preparing for operations well in advance.

operational architecture A description (often graphic) of the operational elements, assigned tasks, and information flows required to accomplish or support a warfighting function. It defines the type of information, the frequency of exchange, and the tasks supported by these information exchanges.

operational environment Includes—

- All individuals, organizations, or systems, most of which are outside the control of military or National Command Authorities, that collect, process, and disseminate information to national and international audiences.

- All military operations and, thus, all Army medical operations that take place within the global information environment, which is both interactive and pervasive in its presence and the influence it exerts upon those operations.

- Current and emerging technologies that permit any aspect of an Army medical operation to be made known to a global audience in near-real time and without the benefit of filters.

operational systems A collection of system programs that control the basic operations and functions of a multidisciplinary computer system.

OPFAC operational facility

opr operator

OPTEMPO operations tempo

OR operating room

OSD Office of the Secretary of Defense

OSD (HA) Office of the Secretary of Defense (Health Affairs)

OTSG Office of the Surgeon General

PA physician assistant

Pam pamphlet

PBO property book officers

PC personal computer

PCP patient collecting point

PDA personal digital assistant

PE&MR patient evacuation and mortality report

PEO program executive officer

PERSCOM Personnel Support Command

PERSITREP personnel situation reporting

PIN personal identification number

PLGR precision lightweight GPS receiver

plt platoon

PM program manager

PMI personal medical information

PMO program management office

POD port of debarkation

POS position

PPBES Planning, Programming, Budgeting, and Execution System

PSR patient status report

PVNTMED preventive medicine

RAU radio access units

RBC red blood cell

RECON reconnaissance

regt regiment

Rmax maximum data sensitivity

RMC Regional Medical Command

Rmin minimum user clearance

RT receiver-transmitter

RTD return to duty

S secret

S1 Adjutant (US Army)

S2 Intelligence Officer (US Army)

S3 Operations and Training Officer (US Army)

S4 Supply Officer (US Army)

S6 Communications Staff Officer (US Army)

SA system architecture

SAMP security association management protocol

SAMS Standard Army Maintenance System

SAPERP Software Application Product Enterprise Resource Planning

SARSS Standard Army Retail Supply System

SB switchboard

SBCT Stryker Brigade Combat Team

SBI special background investigation

SBU sensitive but unclassified

SCI sensitive compartmented information

SCTACSAT Single-Channel Tactical Satellite

seamless A theoretical term in which a collection of systems or programs are joined together without causing any of the adjoining systems or programs to fail after the union in operation or function. The term "seamlessly" cannot technically occur. Information systems do not naturally weld or trunk together. At some point, however, information operations programmers can join programs or systems together electronically without causing any of the information systems to malfunction when joining together, allowing each of the systems at the junction to continue to fully function either as a single system or independently of each other, simultaneously.

SEN small extension node

SF Standard Form

SGT sergeant

SIDPERS Standard Installation/Division Personnel System

SIGSEC signal security

SINCGARS Single-Channel Ground and Airborne Radio System

SIPRNET Secret Internet Protocol Router Network

SITREP situation report(s)

SMG secure mail guard

SMIB security management information base

SMTP simple mail transfer protocol

SNAPS Shipboard Nontactical Automation Program System

SNS secure network server

SOI signal operating instructions

SONET synchronous optical network

SOP standing operating procedure

SPBS-R Standard Property Book System-Redesign

spt support

sqd squad

sqdn squadron

SRTS scaled range target system

SSA supply support activity

SSAA System Security Authorization Agreement

sta station

STAMIS Standard Army Management Information System

STANAG Standardization Agreement

std standard

STE secure telephone equipment

STU III secure telephone unit–third generation

SU situational understanding

SURG surgery/surgeon

sync synchronization

SYSCON system control centers

systems architecture view A description of systems and interconnections providing for, or supporting warfighting functions. It shows how multiple systems link and interoperate, and may describe the internal construction and operations of particular systems within the architecture.

TA technical architecture

TACLAN tactical local area network

TAML Theater Army Medical Laboratory

TAMMIS Theater Army Medical Management Information System

TC-AIMS II Transportation Coordinators' Automated Information for Movement System II

TDA table of distribution and allowances

technical architecture view The minimal set of rules governing the arrangement, interaction, and interdependence of system parts or elements, whose purpose is to ensure that a conformant system satisfies a specified technical set of requirements and standards that are based on common building blocks that have previously be established.

TFOP theater force opening package

TG tactical guard

TIMPO TriService infrastructure Management Program Office

tm team

TMA TRICARE Management Activity

TMIP Theater Medical Information Program

TO theater of operations

TOC tactical operations center

TOE tables of organization and equipment

TPFDD time-phased force and deployment data

TPN Tactical Packet Network

TRAC2ES Transportation Command Regulating and Command and Control Evacuation System

TRADOC US Army Training and Doctrine Command

TRANSCOM United States Transportation Command

trmt treatment

trp troop

TS top secret

TSC theater support command

TSG The Surgeon General

TSOP tactical standing operating procedure

TTP tactics, techniques, and procedures

U uncleared or not authorized

UC unclassified

UCC Unified Combatant Commander

UHF ultrahigh frequency

ULLS unit-level logistics system

US United States

USA United States Army

USACHPPM United States Army Center for Health Promotion and Preventive Medicine

USAF United States Air Force

USAMISSA United States Army Medical Information Systems and Services Agency

USAMMA United States Army Medical Materiel Agency

USAMMCE United States Army Medical Materiel Command-Europe

USAMRICD United States Army Medical Research Institute of Chemical Defense

USAMRIDD United States Army Medical Research Institute of Infectious Diseases

USAREUR United States Army Europe

USERID user identification

USFK United States Forces, Korea

USMC United States Marine Corps

USN United States Navy

USPFO United States Property and Fiscal Office

VA Department of Veterans Affairs

vertical and horizontal communications systems Provide deploying forces with mobile, responsive, and flexible voice, data, graphic, imagery, and video information during all phases of an operation.

VHF very high frequency

WAN wide area network

WIA wounded in action

WIN warfighter information network

WIN-T Warfighter Information Network-Tactical

WPS Worldwide Port System

WRAIR Walter Reed Army Institute of Research

WRM war reserve material

WS Weather System

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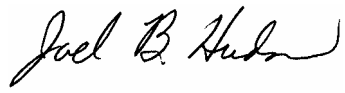

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