SB 8-75-S5

DEPARTMENT OF THE ARMY SUPPLY BULLETIN

Army Medical Department Supply Information

Headquarters, Department of the Army, Washington, DC 20310-2300 20 May 2005

Effective until rescinded or superseded

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

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NOTICE

This Supply Bulletin is devoted entirely to the
U.S. Army Medical Materiel Agency, Materiel Acquisition Information

CHAPTER 1. GENERAL INFORMATION

1-1. INTRODUCTION

a. The U.S. Army Medical Command (USAMEDCOM) has tasked the U.S. Army Medical Materiel Agency (USAMMA), Materiel Acquisition Directorate, Fort Detrick, MD, with the following areas of responsibility:

(1) The Technology Assessment and Requirements Analysis (TARA) for Tables of Distribution and Allowances (TDA) facilities.

(2) The Combat Support Equipment Assessment (CSEA) for Tables of Organization and Equipment (TOE) facilities.

TARA and CSEA are the responsibility of the Technology Support Division (MMT-S) and are management tools that provide an unbiased review of the clinical requirements and operations for medical treatment facilities (MTFs). The goal of the TARA and CSEA is to provide decision makers at the USAMEDCOM with the management information needed to make informed decisions on the clinical and technological resources required to accomplish business plan missions and to develop acquisition strategies that ensure optimal clinical outcomes. The USAMMA is also responsible for acquisition and logistics management of new and replacement medical equipment and supplies for the TOE medical units and TDA medical facilities. In support of this mission, the MMT-S supports the Army Medical Department (AMEDD) in market and technology surveillance, equipment analysis, acquisition support, and program management.

b. The TARA team is invited to the MTF and provides the Commander with a "snapshot" of the facility's diagnostic imaging, physiological monitoring, and laboratory capability during an outbrief at the conclusion of the site visit. This is followed by a written report about 60 days after the completion of the site visit. The information obtained from the TARA visit can assist the Commander in managing his equipment and personnel, as well as improve and streamline his operation. In addition, requirements for new equipment can be centrally generated based on the TARA report.

c. In an environment of reduced fiscal resources, it is imperative that sound business practices are applied to capital investment equipment programs. The decision makers at the USAMEDCOM, Regional Medical Commands (RMCs), and individual TDA or TOE facilities must have a viable means of acquiring the management information needed to effectively balance limited resources with clinical requirements.

d. The TARA program presently focuses on diagnostic imaging, clinical laboratory, and radiotherapy equipment (in the case of medical centers). As the radiology model for the TARA program evolved, the USAMMA was tasked to expand the TARA to include other clinical areas and programs. First, in addition to assessment of diagnostic imaging equipment, the USAMMA developed a laboratory module to assist management at Army Medical Centers (MEDCENs) with consolidating testing equipment and promoting efficient work areas. Radiotherapy equipment has been assessed at medical centers. In addition, the TOE model has been developed to assist decision-makers with providing the appropriate equipment and technology to our field hospitals.

e. The Materiel Acquisition Directorate also manages administration of data for Unit Assemblages (UAs) (components and logistics management data), which is the responsibility of the Data Management Division (MMT-D).

1-2. PURPOSE AND APPLICABILITY

a. This SB 8-75-S5 issue outlines the policies and procedures that are used by the USAMMA MMT-S in the TARA program. In addition, information concerning technologies that support digital environments required for teleradiology and telepathology programs is provided.

b. Programs identified in this publication, e.g., Medical Diagnostic Imaging Support (MDIS) System or the Defense Imaging Network-Picture Archiving and Communication System (DIN-PACS), are not solely the responsibility of the USAMMA MMT-S; however, as technology program administrators, facilities are encouraged to contact the MMT-S for guidance on these issues. Point of contact (POC) is the USAMMA, ATTN: MCMR-MMT-S, Fort Detrick, MD 21702-5001; telephone DSN 343-4344/301-619-4344.

1-3. RESPONSIBILITIES

a. The USAMEDCOM is the Medical Care Support Equipment (MEDCASE) program manager. Asset management (based on information obtained by the TARA program) is necessary to ensure accessible, high-quality care, despite reductions in U.S. Army size and budget.

b. Functional Consultants. Functional consultants are provided by the Office of the Surgeon General (OTSG) and deployed with the TARA team to gather information with a focus on clinical operations.

c. The Diagnostic Imaging and Radiotherapy Subcommittee (DIRS) is a subcommittee of the Strategic Technology and Clinical Policies Council (STCPC). This subcommittee provides recommendations to the STCPC on leading edge or controversial MEDCASE program requirements for diagnostic imaging or radiation therapy equipment.

d. The USAMMA administers the TARA and CSEA for the USAMEDCOM. The USAMMA MMT-S performs the TARA and CSEA. The MMT-S is appointed by USAMEDCOM and serves as the functional consultant for reviewing and providing propriety approval or disapproval for MEDCASE Program Requirements (MPRs) or Super Capital Equipment Expense Program (CEEP) requirements with a unit price of $100,000 or greater.

e. The RMCs and MSCs manage the development and execution of MEDCASE requirements within their command.

f. MEDCASE Program Participants. MEDCASE program participants invite the TARA to assist them in developing equipment requirements consistent with mission needs. The activity Commander shall review and approve or disapprove requirements. Once the hospital Commander approves the requirement, the RMC reviews for final approval.

g. The USAMMA MMT-S works with other agencies that have related responsibilities ensuring that all groups are kept informed and part of the decision-making process. The MMT-S works with the U.S. Army Health Facilities Planning Agency (HFPA) to ensure that the TARA recommendations (including communications infrastructure and new equipment) match the facility plans. The Division also works with the Army Medical Department Center and School (AMEDDC&S) to determine workload requirements and to ensure appropriate technology is available for the Area Medical Laboratory (AML).

h. The MMT-S continues to support development of requirements and fielding of the Army portion of the tri-service DIN-PACS program and other PACS issues. However, the Army PACS Program Management Office (APPMO) at the U.S. Army Medical Research and Materiel Command (USAMRMC) now does central management of PACS for the Army. The APPMO can be contacted at:

APPMO

MCMR-ZF-PAC
504 Scott Street
Fort Detrick MD 21702
Telephone DSN 343-3045/301-619-3045

1-4. OVERVIEW OF SB 8-75-S5

a. Chapter 2 discusses the MEDCASE program. The MEDCASE program is a centralized funding program that provides the capital investment equipment required to support Army health care activities at TDA Army MTFs throughout the world. Equipment requirements originate at the activity level and are reviewed and approved at levels that depend on dollar value. The TARA database is used to front-load MEDCASE requirements for routine replacement of diagnostic imaging systems and acquisition of newly recommended equipment.

b. Chapter 3 discusses site preparation. Site preparation is the responsibility of the individual activity. The TARA Team can act as consultants for site-preparation information.

c. Chapter 4 discusses the goals of military radiology. The goal of military radiology is to be the prime provider of high-quality radiology services to all DOD beneficiaries of health care. The Military Radiology Functional Economic Analysis (FEA) discusses the vision of the military radiology community.

d. Chapter 5 provides details on the TARA program, its history, and future directions. The TARA team needs to understand the vision of the Commander to effectively evaluate each facility. Information on the facility is requested in advance or during the TARA site visit. Without the vision of the facility Commander and accurate data on workload, patient trends, and equipment, the TARA team can only provide its best estimates on future needs of each facility.

e. Chapter 6 discusses the CSEA. Conduct of the CSEA involves identifying non-sustainable/non-supportable equipment that is currently in use and conducting market investigations and market surveillance to identify suitable replacements. The CSEA helps ensure deployable MTFs, such as the Deployable Medical Systems (DEPMEDS), are kept at an appropriate level of readiness.

f. Chapter 7 discusses managing technology in the military laboratory. Management of laboratories in departments of pathology requires a review of the cost efficiency of procuring new equipment versus equipment or reagent rental and cost-per-test contracting. As equipment reaches its life expectancy and before purchasing new equipment, the possible benefits of cost-per-test contracting and reagent rental contracts are evaluated.

g. Chapter 8 provides information on the Digital Imaging and Communication in Medicine (DICOM) standard. The DICOM standard will allow radiology devices to interface with each other, even if they are miles apart and manufactured by different vendors. All new purchases or upgrades for Army MTFs should support the current DICOM standard.

h. Chapter 9 discusses the Sample Data Collection Program implemented by MMT-S to allow a rapid response to changes or trends in medical technology for deployable MTFs. The goal is to ensure MTFs have the most current and cost-effective technology available.

i. Chapter 10 discusses picture archiving and communication systems (PACS). PACS implementation is largely the responsibility of the APPMO. The USAMMA personnel provide PACS implementation support to the APPMO.

j. Chapter 11 provides information on the new Clinical Support Division (CSD). The primary responsibility of the CSD is to provide clinical oversight and guidance to the maintenance of the medical assemblages.

k. Chapter 12 discusses information on the Unit Assemblages (UAs). Also included is information on obtaining Supply Catalogs (SCs) or Supply Bulletins (SBs), a list of the major

medical assemblages, information on compact disc (CD), on-line capability to request National Stock Numbers (NSNs), how to recommend improvements and report errors in the UAs, and information on UA listings for consumable/support items.

l. Chapter 13 discusses information and products of the Materiel Acquisition Directorate, Data Management Division (MMT-D). This chapter includes information on AAC "W" and AAC "J" relationships, NSNs for controlled substances, FED LOG on CD, the Medical Services Information Logistics System (MEDSILS), and the Universal Data Repository (UDR).

m. A Glossary of Abbreviations follows Chapter 13.

CHAPTER 2. MEDICAL CARE AND SUPPORT EQUIPMENT (MEDCASE) PROGRAM

2-1. INTRODUCTION

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The MEDCASE Program centrally funds the capital investment equipment required to support Army health care activities at fixed Army MTFs throughout the world. Equipment requirements originate at the activity level and are centrally generated by the TARA team. Requirements that are generated at the MTF are reviewed and approved at the activity, the RMC, the USAMMA, and AMEDD consultants to the Surgeon General. Approved and disapproved requirements are recorded in the AMEDD central database (the MEDCASE Requirements and Execution [MRE] system) maintained by the USAMMA. The USAMMA receives MEDCASE funds from the USAMEDCOM that are managed and controlled in the MRE system for participating RMCs and MSCs. To review the entire MEDCASE program, refer to the SB-8-75-MEDCASE, dated 10 March 2004, which is on the USAMMA website at:

http://www.usamma.army.mil/

From the menu, select publications.

2-2. THE MEDCASE PROCESS

a. All MEDCASE diagnostic imaging and radiotherapy equipment requirements $100,000 and greater, regardless of Budget Line Item Code (BLIC), are centrally managed by the USAMEDCOM. The MMT, USAMMA, is responsible for the coordination of this program. This ensures consistency of application and compliance with AMEDD strategic plans.

b. At the direction of the USAMEDCOM, the MMT has developed and implemented a process to centrally generate MEDCASE requirements identified during a TARA visit. Using the data collected from site visits and MEDCASE program requirements (see Figures 2-1 through 2-3 for MEDCASE process), the TARA Team has constructed a database to assist in providing guidance for approving future MEDCASE requests. Information from the TARA database is used to front-load MEDCASE requirements in the MRE for routine replacement of diagnostic imaging systems. This reduces clinician and logistician administrative workload and eliminates duplication of effort. USAMMA generates the requirements documentation for the MTF, based on TARA recommendations. As a result, the MTF does not have to generate a DA Form 5027-R (MEDCASE Program Requirement [MPR]) or have to generate a DA Form 5028-R (MEDCASE Support and Transmittal Form).

(1) These requirements will have an Asset Control Number (ACN) with a 900 series sequence number assigned by the USAMMA. The MRE system is preloaded with these requirements and initially has an approved code of 5M with Project Code of TAR (TAR refers to any requirement generated by the TARA team).

(2) The USAMMA MMT prepares the MEDCASE transmittal outlining those requirements identified during the last TARA visit, and coordinates the transmittal through the MTF and the RMC for staffing and concurrence purposes. The RMCs and MTFs should follow their own internal review procedures (Chiefs of Medical Maintenance, Facilities, Logistics, and Radiology; the Deputy Chief for Administration [DCA]; and Commander) in determining whether or not to concur with the requirement. After the MTF and the RMC make the decision to concur or non-concur, the RMC MEDCASE manager must return the documentation showing concurrence or non-concurrence to the USAMMA. The activity MEDCASE manager establishes the requirement in the “Requirements Module” of Army Medical Department Property Accounting System (AMEDDPAS)/Defense Medical Logistics Support System (DMLSS) when the TARA transmittal is received. On receipt of concurrence from both the RMC and the MTF, the USAMMA MMT converts the requirement to approved 1A status in the MRE system.

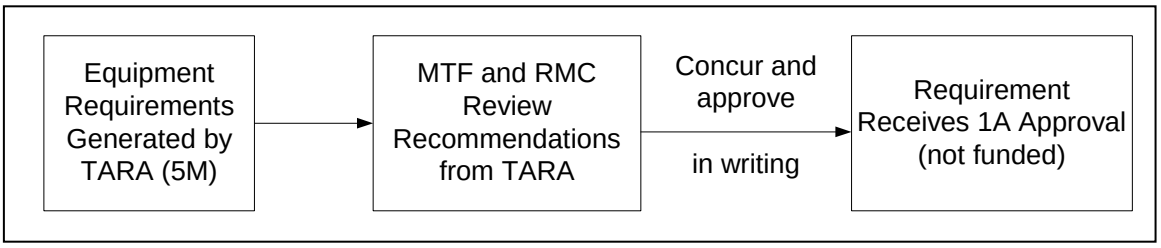

Figure 2-1. Centrally generated MEDCASE Program requirements and process (continued in Figure 2-3).

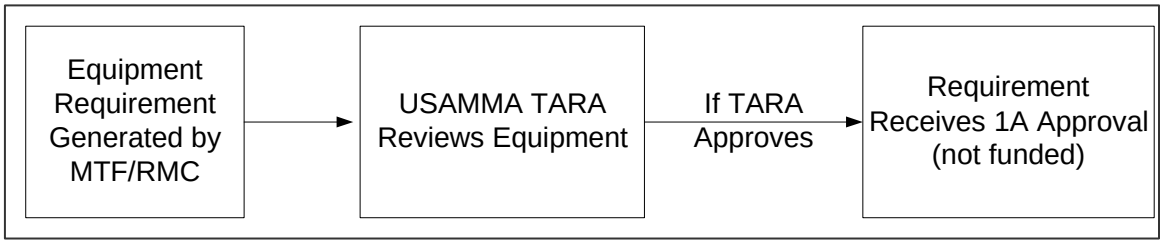

Figure 2-2. MTF generated MEDCASE Program requirements and process (continued in Figure 2-3).

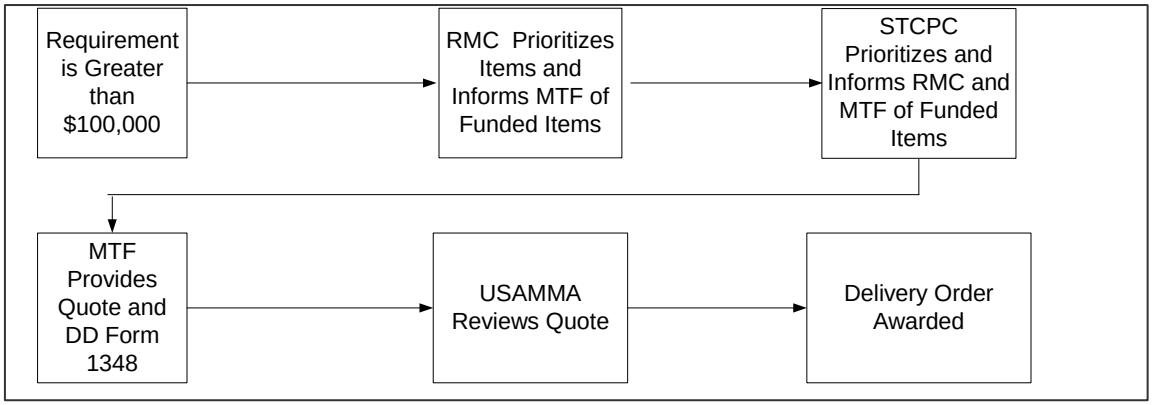

Figure 2-3. Flowchart of the funding process for 1A-approved requirements.

(3) The 1A requirement in the MRE database validates the requirement but does not signify that the requirement is funded. These requirements are used to support the AMEDD's equipment funding budget in the coming fiscal years (FYs). Neither centrally-generated requirements nor MTF-generated requirements receive priority for funding; both are reviewed equally by USAMEDCOM.

(4) BLIC UR funding is allocated from USAMEDCOM at two levels:

(a) MEDCASE requirements (greater than $250,000)
(b) SuperCEEP requirements (those between $100,000 and $250,000).

The USAMEDCOM is responsible for funding all items.

(5) Once the equipment is funded, the MTF must submit to the USAMMA MMT-C for final approval DD Form 1348-6 (*DOD Single Line Item Requisition System Document*) and a vendor quote for the system the radiology and logistics departments choose to purchase. Once the USAMMA concurs with the quoted system, MMT-S sends the requisition package to the Defense Support Center Philadelphia (DSCP) or U.S. Army Research Acquisition Activity (USAMRAA) for purchase.

2-3. MTF-GENERATED MEDCASE PROGRAM REQUIREMENT

a. MTFs may continue to generate and submit requirements at their discretion. In addition, MPRs submitted for changing mission requirements or expanded business opportunities still require the facility to submit a MEDCASE requirement. The process for MTF-generated MPRs has not changed; see the 2004 edition of the SB 8-75-MEDCASE.

b. The justification must include, at a minimum, the following information:

(1) What is the item requested to be used for?
(2) Why is the item needed?
(3) How will the item be used with other equipment?
(4) What are the advantages of the requested item compared with equipment currently in use or available?
(5) Why are these advantages needed?
(6) Have specific details been presented regarding cost-benefits, personnel savings or productivity, the enhancement or curtailment of services, frequency or duration of breakdown, or other specific factors that may be relevant?
(7) What will be the impact upon mission accomplishment if the requested item is not acquired?
(8) Is the anticipated workload provided?
(9) Has consideration been given to the use of available excess assets to satisfy this requirement?

2-4. USAMMA MEDCASE MANAGER POINT OF CONTACT (POC)

a. POC is as follows:

USAMMA
ATTN: MCMR-MMT-C
1423 Sultan Dr., Suite 100
Fort Detrick MD 21702-5001

Telephone for both continental United States (CONUS) and outside the continental United States (OCONUS) activities is DSN 343-4328/301-619-4328. Telefax number is DSN 343-4480/301-619-4480.

b. A checklist for the MTF MEDCASE manager is shown in Figure 2-4.

Task	Task Completed
1. Wait for Central MEDCASE Requirements transmittal from the USAMMA for TARA identified requirements	
2. Route through MTF for signatures	
a. Chief, Department of Radiology	
b. Chief, Medical Maintenance	
c. Chief, Facilities	
d. Chief, Logistics	
e. Others required by MTF	
f. DCA (if required)	
g. Commander	
3. Send to RMC for concurrence	
4. RMC should concur/non-concur and forward copy to USAMMA and MTF	
5. Await funding	
6. Once funded, send quote and DD Form 1348-6 to the USAMMA for diagnostic imaging equipment	
7. Await system	

Figure 2-4. Checklist for MEDCASE Manager

CHAPTER 3. SITE PREPARATION REQUIREMENTS

3-1. INTRODUCTION

a. Each MTF is responsible for managing site preparation requests for funding and document preparation. If not planned and budgeted for, site preparation can become a major problem. Site preparation is normally accomplished by the activity's facility engineer.

b. Equipment site preparation is a responsibility of the Facility Manager. Facility Managers coordinate and develop requirements for installation of SuperCEEP and MEDCASE equipment purchases. Funding to support SuperCEEP and MEDCASE site preparation is centrally managed at Assistant Chief of Staff for Installations, Environment, and Facility Management (ACSIE&FM), USAMEDCOM. Funding for repair or construction projects in support of these equipment purchases are addressed in Supply Bulletin (SB) 8-75-11 (20 November 2004), Chapter 8, paragraph 8-9, and, in part, states:

> " … All projects will be submitted to the MSC for validation, approval, and regional prioritization. Upon approval, the MSC will prioritize and fund the project based on funds available` and if it is within specified funding range. Currently, this range is $25,000 to $300,000. Projects greater than $300,000 will be forwarded by the MSC directly to ACSIE&FM for approval. The ACSIE&FM will release funds for approved projects. Projects will be funded in accordance with the MEDCOM prioritizing scheme and the MTFs ability to execute."

Items purchased for MILCON projects are exempt from this process.

c. Site preparation includes certain utility and/or facility modifications that must be made to allow the contractor to install the system. "Extended installation" site preparation is work that is specifically required to make the piece of equipment operate and may consist of secondary utility work, special air conditioning requirements, minor rough-in carpentry work, plumbing, the mounting of conduit or the running of wires through conduit, and the mounting of junction boxes, line switches, or fuses, or all of these. Facility modification for aesthetic and/or functional changes will not be included in the equipment site preparation request. These modifications will be funded using hospital "core" funds or Defense Health Program (DHP) Major Repair funds.

d. Site preparation is NOT funded by MEDCASE funds, except for specific approved extended installation costs. DHP procurement funds cannot be used to finance a service contract. Each MTF must program for and obtain DHP O&M funds for site preparation in accordance with command procedures. In some instances, site preparation can be funded with MILCON funds for BLIC "MB" requirements, although these are not O&M funds.

e. Site preparation documentation with the statement of work, including costing breakouts, vendor quote, and DD Form 1348-6 will be submitted to both the USAMMA and the USAMEDCOM ACSIE&FM.

f. Certain approved site preparation costs may be included as part of the installation of equipment by the vendor. However, unless specified in the delivery order, carpentry, plumbing, mounting of conduit or running or wires through conduit, and the mounting of junction boxes, line switches, or fuses are not included in the installation costs.

g. Turnkey acquisition is a strategy where a single vendor performs site preparation as well as supplying and installing new equipment. Because turnkey acquisition is not a local contracting activity, MTFs that consider turnkey acquisition must request an exception to policy to locally procure equipment with turnkey installation.

h. To provide guidance for accomplishing equipment site preparation projects and to delete the requirement for the quarterly Site Preparation/Installation Status Report, site preparation managers should see the *Facility Information Bulletin (FIB)* 2005-006. USAMEDCOM

Form 255-R *(Operation and Maintenance, Army [OMA]-Funded Equipment Site Preparation Project Request)* will be used to request site preparation funding. Site preparation managers should also reference *USAMEDCOM Regulation 700-2*. Detailed information on MEDCASE funding of site preparation is in Department of the Army (DA) Supply Bulletin *SB-8-75-MEDCASE* dated 10 March 2004. Detailed information is available from the Program Manager, USAMEDCOM, ATTN: MCFA-M, 2050 Worth Rd, Fort Sam Houston TX 78234-6000; telephone DSN 471-7154/210-221-7154.

3-2. FUNDS AND FUNDING POLICY FOR SITE PREPARATION

a. *FIBs* are prepared by the ACSIE&FM, USAMEDCOM, and distributed as needed to the USAMEDCOM headquarters staff, the HFPA, USAMEDCOM MSCs, and USAMEDCOM facilities worldwide. These bulletins provide facility-related management policy, information or guidance of current interest to the USAMEDCOM ACSIE&FM, Chiefs of Logistics, and facility managers. Local reproduction and distribution is authorized and encouraged. *FIB 2005-006* provides guidance for accomplishing equipment site preparation projects.

b. This guidance is applicable to all USAMEDCOM MTFs and installations for new equipment ($100,000 and greater in price) purchased through the MEDCASE Program; excess equipment approved for relocation to satisfy MEDCASE requirements (IAW AR 40-61); and other equipment on a case-by-case basis. Appropriate site preparation costs for new capital equipment (costing $100,000 or greater) will be financed by the USAMEDCOM ACSIE&FM through command-managed programs (e.g., MEDCASE). Once the design and project execution have been funded by ACSIE&FM in accordance with USAMEDCOM Form 255-R submitted by the medical activity (MEDDAC), request for additional funds will be made in writing. Prior to incurring any additional obligations for which ACSIE&FM reimbursement is expected, the ACSIE&FM Program Manager must be consulted by telephone to ascertain the availability of funds and the appropriateness of the expense.

c. Any site preparation project less than $1,000 will be funded from local resources. All projects more than $1,000 will be submitted for site-preparation funds.

d. Activities are not authorized to reprogram funds provided for a specific project to any other requirement unless the ACSIE&FM Program Manager approves such reprogramming in writing.

e. Activities are required to intensively monitor site-preparation projects and report excess funds to the ACSIE&FM Program Manager.

f. Projects that include maintenance and repair items ("K" Account) and minor construction (“L” Account) will contain a statement by the MTF activity (facility manager) that funds (DHP hospital “core” or DHP Major Repair) will be provided to cover these requirements.

g. Design estimates can be initially funded by the MTF from their regular resource distribution, if available. The cost of design should not exceed six (6%) percent of the estimated project cost. On approval of final design, the cost for design will be reimbursed along with project funding.

3-3. INSTALLATION DURING SITE PREPARATION

a. Installation normally consists of physically attaching the equipment to the real property facility (building) and providing devices, plumbing, cabling, or wiring necessary to attach the equipment to the existing utility systems or those utility outlets previously made available through site preparation. Costs for the transportation, assembly, installation, calibration, and testing of equipment are not included in the request for site-preparation funding.

b. Prior to delivery and installation of the equipment, certain utility or facility modifications may be required. Only work that is required to make the equipment operate is eligible to be funded as site preparation. Work generated for aesthetic or functional reasons will not be included in equipment site preparation projects but will be included in a major repair or minor construction project. The preparation of the site may include, but is not limited to, items such as:

(1) Secondary utility work necessary to connect the equipment to existing utility services within the building. This work lies between the primary entry or source within the building and the room in which the equipment is to be placed.

(2) Installation of air conditioning for equipment if the manufacturer's written specifications state that the equipment must be operated in an air-conditioned space and provide temperature or humidity parameters that cannot be sustained by existing air conditioning.

(3) Provision of false floors or platforms required solely for the operation of the equipment.

(4) Installation of required shielding for electromagnetic radiating devices such as magnetic resonance imaging systems and linear accelerators should be identified to determine funding eligibility.

c. Most work eligible for funding as site preparation will be classified as "non-construction" (i.e., engineer's "M" cost account) by the Department of Public Works (DPW). The DPW is responsible for properly segregating and classifying all work.

3-4. PROJECT APPROVAL AND FUNDING PROCEDURES

a. The MTF must submit USAMEDCOM FORM 255-R. This Form will be used to justify all equipment site preparation submitted for USAMEDCOM funding. In addition, an approved DA Form 4283 showing DPW approval and cost summary is required along with a copy of the detailed cost estimate from the DPW showing the work items segregated into the following various engineer work classifications: "K" Maintenance/Repair; "L" Minor Construction; and "M" Equipment-In-Place (site preparation).

b. Preplanning and coordination. The actual installation of equipment normally begins after receipt, acceptance, and issue of the item to the user; however, proper planning and preparation will be done before receipt so timely installation can occur. Extended installation costs, site-preparation costs, and any ancillary costs associated with a turnkey project will be submitted to both the USAMMA and the USAMEDCOM prior to final approval and release of 1A-approved MEDCASE funds. The site preparation and planning documents should state "funding has been approved" and the documentation should be forward to USAMMA with the vendor's quote and DD Form 1348-6. A generic site preparation form that can be used to facilitate the process is in Figure 3-1. All site preparation will be planned and completed prior to the equipment delivery date. Early planning and coordination with the MTF Facility Manager and the DPW to determine a realistic date when site preparation will be completed will assist in establishing a delivery date for the equipment.

c. Reporting. The quarterly requirement for HSC Form 107-R is no longer required. The basic information concerning obligation, work progress, completion, and final cost will be accomplished via telephone/e-mail. The USAMEDCOM ACSIE&FM POC for the USAMEDCOM *FIB* is:

USAMEDCOM
ATTN: ACSIE&FM
Fort Sam Houston TX 78234
Telephone DSN 471-6441/210-221-6441

POC for Assistant Chief of Staff for Logistics (ACSLOG) is:
USAMEDCOM
ATTN: ACSLOG
Fort Sam Houston TX 78234
Telephone DSN 471-7119/210-221-7119

Generic Site Prep Form

	Site Prep Categories		Funding Source			
DIVISION	**DESCRIPTION:** **ACN:**	VALUE	MEDCASE	Site Prep	Construction	Notes
	Reviewed By: **DATE:**					
Division 1	**General Requirements**					
	Superintendent, Insurance, Laborer, Submittals (drawnings, architectual costs, etc), Equipment Rental, Temporary Facilities & Construction, Mobilization, Dumpster Rental, Site Cleaning, Project Meetings, Closeout and Record Documentation,	$0	#DIV/0!	#DIV/0!	#DIV/0!	% of total for each category
Division 1A	Software Licenses and WMTS Bandwidth Registration Fee (per how many components?), associated installation and PACS integration costs per individual modality.	$0	**$0.00**			
Division 2	Sitework & Demolition	$0			$0	
Division 3	Concrete	$0			$0	
Division 4	Masonry	$0			$0	
Division 5	Metals	$0			$0	
Division 6	Wood & Plastics	$0			$0	
Division 7	Moisture & Thermal Protection	$0			$0	
Division 8	Doors, Frames, Hardware, Windows & Glazing	$0			$0	
Division 9	Finishes	$0			$0	
Division 10	Specialties	$0			$0	
Division 11	Equipment (Illuminators or additional functional required and approved MEDCASE equipment)	$0	$0			
Division 12	Furnishings	$0			$0	
Division 13	Special Construction					
Division 13	RF Shielding (MRI Construction)	$0	$0.00	$0.00		60% MEDCASE & 40% site prep
Division 14	Conveying Systems	$0	$0			
Division 15	Mechanical					
Division 15a	HVAC - Equipment (Equip. Rm. Unit & Chiller)	$0		$0		
Division 15b	Plumbing	$0			$0	
Division 16	Electrical					
Division 16a	General Lighting and General Power/ panel breakers	$0			$0	
Division 16b	Main Power Feeders and Transformers	$0		$0		
Division 16c	Network / phone line	$0		$0		
PreTOTAL			$0	$0	$0	$0
Division 1A Total		**$0**	**$0**			
	Total Scheduled Values	**$0**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	

Figure 3-1. Generic site preparation form.

CHAPTER 4. MILITARY RADIOLOGY FUNCTIONAL ECONOMIC ANALYSIS

4-1. INTRODUCTION

a. The future of military health care will be characterized by access to high-quality care at anytime, anywhere, with total integration of patient records to the health-care process. These requirements have brought to the forefront the limitations of the delivery of radiology services. Availability and accountability of diagnostic images are hindered by single access to images and by manual storage. Military readiness is impeded by the lack of timely interpretations in the field and the constraints of a chemicals-based system. Access to care may also be restricted by the limited availability of radiologists, especially in remote locations.

b. Along with these limitations, several external forces are affecting delivery of radiology services. Increased regulatory oversight, TRICARE competition, managed care, and the downsizing of the Department of Defense (DOD) are just a few of the forces constraining radiology resources and altering health care delivery practices. The strategic direction of the Military Health System (MHS), the external forces influencing health care delivery, the limitations of film-based radiology, and the emergence of innovative technologies are all compelling reasons for change and contribute to the motivation behind this business process reengineering effort. The *Military Radiology Functional Economic Analysis* (*FEA*) (BPR1255047-035, September 4, 1996) represents the vision of the military radiology community that will effectively prepare DOD radiology services to meet the needs of MHS beneficiaries in the most effective and timely manner possible.

4-2. GOALS OF MILITARY RADIOLOGY

a. The goal of military radiology is to be the premier provider of top-quality radiology services to all DOD health beneficiaries in any situation or environment. To attain this goal, a radiology work group developed several objectives and performance measures. Although these objectives and measures encompass the cost, quality, access, and readiness of radiology services, a primary emphasis was placed on satisfying the customers, including patients, clinicians who request radiology services, and line Commanders of the radiology department.

b. To successfully attain the objectives and meet performance measures, the work group defined several changes to the process and scope of radiology services. To improve image file availability and accountability and provider productivity, radiology must implement efficient image management by automating image storage and retrieval. To reduce wait times, eliminate unread exams, and improve provider satisfaction, military radiologists intend to provide “real-time” radiology services. Instead of the days or weeks that often elapse between a physician request and the transcribed diagnosis, radiology will provide immediate responses to all exam requests. A triservice radiology department will improve radiologist productivity and education through the redistribution of its workload within and among Tricare regions, thereby enabling greater access to quality services. This capability will also enable 24-hour on-line availability of radiology services to deployed forces. Decentralized radiology departments will improve responsiveness and consultative services as radiologists are physically relocated to specific high-volume clinical locations. Similarly, centers of excellence will be developed to increase the use and effectiveness of consultations and second opinions. The result will be improved diagnostic accuracy leading to better patient care.

4-3. GOALS OF DIGITAL RADIOLOGY

a. To implement these improvements and others as well, digital radiology must become a reality. These improvements require immediate and simultaneous access to any image by those authorized to view and interpret diagnostic images. A PACS will facilitate

acquisition, storage, and distribution of radiology images in a digital format. Teleradiology will enable this image management to take place among facilities, regions, and international boundaries.

b. The implementation of PACS and teleradiology will facilitate the real-time and simultaneous access to images by radiologists and providers. Unfortunately, radiology images represent only half of the equation. Adequate modality upgrades to meet digital requirements and DICOM conformance will provide a seamless interface between the modality and PACS. Transcribed reports must accompany each examination result. Voice recognition dictation systems will eliminate transcription backlogs as providers are enabled to dictate and verify reports without delay. In addition, enhanced telecommunication lines must be installed prior to implementation of teleradiology. The simultaneous and immediate availability of radiology images and reports will greatly enhance radiology services.

4-4. BUSINESS PROCESS IMPROVEMENTS FOR MILITARY RADIOLOGY

a. To facilitate the recommended business process improvements and the transition of military radiology to a digital environment, MTFs should work with the MMT-S. The USAMMA MMT-S and the APPMO will ensure Army uniformity by providing guidance and consultation to Army hospitals before and during the implementation of digital technologies. Although radiology is the primary generator of diagnostic images, PACS could also be implemented to support other diagnostic imaging specialties (e.g., cardiology or dentistry). The archival and distribution requirements should not differ among diagnostic specialties. MMT-S will ensure that, before any equipment is installed at a site, the business process changes and expected benefits are clearly understood and accepted by the site personnel.

b. The radiology work group recommends several other business process improvements. These include new and modified radiology activities and extensions beyond the scope of the *FEA*. Of primary importance are the following items:

(1) The monitoring of performance, business trends, and clinical practices. This function of monitoring performance, business trends, and clinical practices can be best facilitated by the TARA program;

(2) The establishment of working relationships with non-DOD federal agencies;

(3) The retention of military radiologists; and

(4) Standardization of the use of the Current Procedural Terminology (CPT) coding system.

c. Two alternatives were defined to accomplish the recommended business process improvements.

(1) Continuation of analog, film-based radiology services. This alternative is based on the standard staffing requirements needed to meet current workload levels. Currently, there is a shortage of military radiologists. As a result of negative feedback and the unlikely prospect of increased staffing during military downsizing, this alternative was deemed unfeasible.

(2) Transition to digital radiology. This alternative enables the recommended business process improvements through the technologies previously discussed. The primary cost drivers of this alternative are PACS, teleradiology, telecommunications infrastructure, and voice recognition equipment. The anticipated monetary benefits estimated for this alternative include reductions in the costs for film, chemical purchase and disposal, file room clerks, and transcription services. Other monetary benefits could be realized in reductions in the costs associated with medical evacuations, file rooms, darkrooms, chemical capture devices, malpractice suits, and contract radiologists.

4-5. DIGITAL TECHNOLOGY

a. The radiology work group unanimously agreed that the transition from film-based, analog systems to digital data acquisition, storage, transfer, and interpretation is necessary to maintain an edge in the readiness of our military forces and to improve the quality of services provided to radiology customers. The DOD-developed MDIS system was the first tool used to accomplish this functionality. At the time of this functional analysis, the consensus of the radiology work group was that the commercial market for similar digital technologies was maturing. The group recommended that, although the DOD should continue to support installed MDIS systems and other current obligations, it should also seek less expensive solutions that used integrate, scaleable commercial-off-the-shelf (COTS) packages. The solution for digital imaging storage and distribution was the DIN-PACS contract awarded to Agfa and IBM. Modality compatibility with DIN-PACS is provided through compliance with the DICOM standards (see Chapter 8). The successor to the DIN-PACS contract has been written to broaden the choice of vendors and was awarded in mid 2004.

b. The recommended functional improvements enabled by digital radiology will strengthen the MHS push towards attaining designation as the benchmark health care delivery system. The unified front presented here will enhance the joint medical readiness capabilities of the MHS. The digital transformation of radiology will enable the seamless integration of health care technology and the patients' records. The military radiology community is unified in commitment to the fulfillment of the recommendations that lie within this document.

4-6. RADIOLOGY PERFORMANCE MEASURES AND TARGETS

a. Performance measures are quantifiable indicators used to evaluate the effect of changes on functional processes. Managers typically use performance measures to gauge the amount, speed, quality, and cost of work done by an activity or function. These measures must be meaningful to the functional managers responsible for the activity. Furthermore, they must serve as indicators of the short-term impact of the business process changes and long-term contributions to the strategic direction of the MHS.

b. Sections 1 and 2 of *FEA* outline the goals of the MHS and the functional area of radiology. The radiology work group selected several performance measures that could be used to measure the degree of success in attaining those goals. Table 4-1 lists these performance measures, the means of capturing data for these measures, the current levels of performance, and a 6- to 10-year target. Local managers should use these and other performance measures to steer change within their organization.

c. The *FEA* cited a survey sent in April 1996 to 102 of the radiology sites. Responses to this survey were used to establish a baseline for several performance measures. Seventy sites returned the surveys. The mean, standard deviation, and confidence interval were computed for each radiology site type. The averages referred to throughout the remainder are for all responding radiology sites.

d. Several performance measures can be used as proxies for satisfaction, but unless critical stakeholders are specifically asked, it is difficult to know whether they are satisfied. On the basis of a telephone survey to 12 randomly selected Army, Navy, and Air Force facilities, it is estimated that only about 47 percent of military radiology departments use provider-satisfaction surveys. The work group set as a target that all radiology departments survey a random sample of providers and patients to measure the performance of the department and to identify opportunities for improvement. The work group has developed satisfaction surveys for both providers and patients that can be used by radiology departments. These or other surveys can be tailored to site-specific needs. Once baselines are established for the surveys, results should be compared from year to year, taking appropriate actions if a degradation in performance is recognized.

Table 4-1. PERFORMANCE MEASURES

Performance Measure	Source of Data	Current Performance Level	Six- to 10-Year Target
Provider and Customer Satisfaction	Telephone Survey	47% of radiology depts. Utilize Provider Surveys; 94% of radiology depts. Utilize Customer Surveys	100% use for each
Standards Compliance	Telephone Survey	53% use ACR Standards; 47% use ACR Appropriateness Criteria	100% awareness and use
Cost per RVU	MEPRS Central (June 1995)	Average an 8.6% increase per year over the past 6 years.	Do not exceed rate of medical inflation
Diagnostic Accuracy	Department of Legal Medicine	$24.1M in diagnosis-related claims since 1990; $3.86M due to a delay in diagnosis	Eliminate claims attributable to a delay in diagnosis: cut all others in half
RVUs/Radiologist (proxy raw procedures)[1]	DMIS-SS MEPRS Central (June 1995) JHMET	14,815 raw procedures Non-GME; 8,803 at GME locations	12,316 raw procedures at non-GME sites; 7.919 at GME locations
Technologists and Support per Radiologist[1]	DMIS-SS (June 1995) Survey	5.3 to 6.4 technologists and support personnel per radiologist	4.5 technologists and support personnel per radiologists
Report Turnaround[1]	Survey	2.5 days	One hour
Image File Availability and Accountability[1]	Survey	7.3% unavailable 2.9% unaccountable[2]	99.9% availability and accountability
Appointment Wait Time (days to available appointment)	CHCS	X-ray: 1 Mammo: 13 US: 10 Nuc Med: 4 CT: 6 Special: 6 MRI: 12 Angio/Inter: 3	Competitive with wait times at civilian facilities
Unread Examinations[1]	CHCS	Approximately 4.4% of exams are never read at 2 months[2]	All exams to be read
Fetch Time[1]	Expert opinion	2-20 minutes per search depending on location[2]	2 to 3 seconds per retrieval
Radiation Exposure	Digital equipment will measure	Not captured	Decrease by the reduction in repeat films
Technical Repeats[1]	CHCS	4.3%[2]	<1%
Medical Evacuations (MEDEVAC)	Bosnia Data	Not available	Eliminate Med Evacs for radiological reasons

ACR, American College of Radiology;
CHCS, Composite Health Care System;
DMIS-SS, Defense Medical Information System-Summary System;
GME, Graduate Medical Education;
JHMET, Joint Healthcare Management Engineering Team;
MEPRS, Medical Expense Performance Reporting System
RVU, Relative Value Units

[1]Data are for film-based performance and do not represent performance levels at PACS sites.
[2]These baseline measures are all significantly higher when accounting solely for larger radiology sites where the greatest number of procedures are performed.

e. Sites were surveyed randomly to determine the extent of the use of American College of Radiology (ACR) standards and appropriateness criteria as department guidelines. ACR standards define specific guidelines such as radiation dose, personnel qualifications, and equipment specifications required for proper execution of radiology procedures. ACR appropriateness criteria specify the indications that substantiate the need for a radiological study. Both of these are designed to improve the quality and utilization of radiology services. The work group set as a target that every radiology department maintain a current copy of these guidelines, study their contents, and apply them as standards within the department.

f. From the Medical Expense Performance Reporting System (MEPRS) central database, the work group extracted radiology cost and workload data from 1990 to 1995. Data was pulled for the diagnostic radiology and nuclear medicine accounts. This measure includes all direct and indirect costs divided by total weighted workload reported in MEPRS. Through the course of this six-year reporting period, workload reporting has changed. After 1993, the relative value scale was adjusted, thereby greatly increasing the number of relative value units (RVUs) for a given set of procedures. Because of this, the group chose to analyze the trend of cost per RVU from 1990 to 1993 and again from 1994 to 1995. Through the course of these years, the cost per RVU has averaged an 8.6 percent increase per year. The radiology work group believes that the increase in this performance measure should not exceed the rate of medical inflation. In the past this rate has exceeded 10 percent; current projections indicate a 5 percent rate in the short-term future. Yearly MEPRS data can be used at the local, service, and DOD levels to measure success in attaining this performance measure. For this metric to be meaningful, reporting must be accurate and consistent between years. Therefore, 1996 should be used as the baseline, since CPT coding has been assumed as the workload recording methodology for all of radiology.

g. To ensure diagnostic accuracy, radiology departments must maintain and perform proper quality assurance procedures (e.g., quality reviews, including access to experts as well as earlier diagnosis). The work group chose to analyze diagnostic accuracy from the standpoint of medical malpractice claims. The Department of Legal Medicine maintains a database of military medical malpractice cases, including the allegations and case outcomes. The records indicate that, in the 1990s, $15,900,000 has been paid for claims related to radiology services. These claims are identified by specialty code “S,” which is indicative of a radiologist or clinical service code DCA or DCB, indicating diagnostic or therapeutic radiology, respectively. Assuming that this is only 60 percent of the actual cases, radiology is likely responsible for approximately $26,500,000 in malpractice claims. Of the claims identified, 91 percent of the dollar value ($24,100,000) has been for diagnosis-related allegations. Sixteen percent of these ($3,860,000) have resulted from a delay in diagnosis. The work group believes that in the future there should be no claims attributable to a delay in diagnosis. Although they would like to eliminate all radiology malpractice claims, they have realistically set a target of a 50 percent reduction in the number and dollar value of other diagnosis-related claims.

h. Two sources were identified that specify the appropriate staffing levels for a given level of radiology workload.

(1) One, the *Joint Healthcare Manpower Standards Development Study,* was developed by the Joint Healthcare Management Engineering Team (JHMET) in August 1994.

(2) The other, *Productivity of Radiologists: Estimates Based on Analysis of Relative Values Units*, was developed by the ACR in December 1991.

Both publication sources provide guidelines that specify the number of radiologists required for a range of total procedures and weighted workload. Both studies report consistent findings. The DOD has switched to the Medicare reimbursement CPT methodology for capture and reporting of workload data. Unfortunately, the RVUs previously reported in MEPRS are not the same as the Health Care Financing Administration RVUs reported using the CPT system. Accordingly, the work group chose to analyze raw procedures per radiologist (as opposed to weighted workload RVUs), as raw procedure counts provide a relatively stable measurement

from year to year. Although variations in the complexity of workload may exist at a particular site, the overall case mix throughout the DOD will vary only slightly. According to the JHMET study, there should be one radiologist for every 12,356 procedures performed at a non-graduate medical education (GME) facility. A GME facility should have one radiologist for every 7,919 procedures performed. Workload data for 1995 from the MEPRS summary system and full-time equivalent (FTE) data from the Defense Medical Information System (DMIS) summary indicate that non-GME sites currently perform 14,815 procedures per radiologist and the GME sites perform 8,803 procedures per radiologist. These data indicate that military radiologists on average exceed workload targets and that the DOD is understaffed for radiology services. This represents another force for change identified by the work group.

i. The *Joint Healthcare Manpower Standards Development Study*, August 1994, estimated that approximately six technologist and support staff personnel should be available for every radiologist within a department. For facilities without a radiologist, one technologist is required for every 1,500 procedures. According to the radiology data collection survey and the DMIS summary, military radiology departments had on average 5.3 and 6.4 technologists and support staff, respectively, for every radiologist in 1995. Most sites are close to the established JHMET standard. The radiology work group predicts that changes in radiological technology will reduce the required support personnel. The work group has set the 10-year target at 4.5 technologist and support personnel for every radiologist.

j. Report turnaround time is the time that elapses between the execution of a radiology procedure and the availability of a transcribed report. Often clinicians spend days or even weeks waiting for the written interpretation before rendering a decision regarding the delivery of health services to a given patient. As reported in the radiology data collection survey, it takes 2.5 days, on average, before a transcribed report is available. The radiology work group has set one hour as a 10-year target for this measure. Reducing this time can significantly improve the quality of care.

k. The radiology data collection survey requested that each site obtain a random sample of 50 exams obtained within the last year. Of those 50 exams, the sites reported the number of films that were unavailable. A film may be unavailable because it is checked out by a clinician, improperly filed, or lost. Sites were also asked to specify how many of the images were unaccountable (the location of the film was not known). Of the surveyed sites, 7.3 percent of the images, on average, were unavailable, and 2.9 percent were unaccountable. These figures are greater at large medical centers where the greatest number of procedures is performed. In a survey of 100 consecutive requests at the Naval Medical Center, San Diego, California, more than 20 percent of requested films were either lost or unavailable. Lost films are another factor in medical malpractice lawsuits faced by radiology departments. In addition, availability and accountability of radiology images and reports affect the timeliness and quality of care. The work group believes that the appropriate target should be at least 99.9 percent availability and accountability of images.

l. To be the provider of choice for MHS beneficiaries, the work group believes radiology services must be provided in a timely fashion. If military radiology services cannot be provided within the same time frame as civilian health care sources, business will be lost to civilian contracts. Radiology sites reported from Composite Health Care System (CHCS) the number of days until the next available outpatient appointment for each of the radiology modalities. An attempt was made to obtain similar data for civilian hospitals from the ACR. The data were not available. Instead, several Northern Virginia hospitals were called with the intent of scheduling an appointment for each radiology modality.

m. The surveyed sites that have CHCS available were asked to query this database for the number of radiology procedures performed during a two-month period. Of those procedures, they were asked to identify how many that CHCS indicated as never having been interpreted. On average, 4.4 percent of the studies were never diagnosed. Some large

hospitals exceeded a 20 percent unread exam rate. The radiology work group contends that if proper utilization is taking place, all radiology studies should be interpreted with a transcribed report. They have set as a 6-year target that all studies be interpreted.

n. Early results from the pre-MDIS installation study indicate that clinicians typically spend 2 to 5 minutes each time they search for an image file. These findings are reflective of smaller hospitals and clinics where exam counts and file rooms are smaller. At larger medical centers, it is estimated that 20 minutes elapse from the time a request is made at the front desk until the film is handed to the requester. Greater than 20 percent of those searching for films left without them according to a survey at San Diego Naval Medical Center. This time spent retrieving films can amount to several hours a week for high-use areas such as the pulmonary and orthopedic sections. The work group anticipates significant reductions in fetch time with the implementation of digital technologies. Electronic storage will likely enable access to any locally stored image within 2 to 3 seconds.

o. Film-based analog radiology does not provide a mechanism to monitor the degree and amount of radiation to which a patient is exposed; therefore, there is no baseline for radiation exposure. Digital systems provide the capability to capture the amount of radiation exposure for each exam. The work group believes a baseline measurement should be established for each exam and in the aggregate for each patient as digital imaging is implemented within the DOD. This would enhance the quality of health care by giving practitioners the ability to determine and avoid dangerous levels of exposure. This performance measure needs to be captured, monitored, and standardized for the various imaging modalities and exam types. The ACR guidelines previously discussed provide standards with respect to the levels of radiation not to be exceeded for the various exams. As a target, the work group suggests that radiation exposures be reduced by the equivalent reduction in the number of technical repeats.

p. Repeat films are the number of films of any given examination deemed to be of non-diagnostic quality. Among other things, this could include underexposure, overexposure, poor patient position, processing error, or equipment error. According to the surveyed sites, approximately 4.3 percent of radiology exposures are repeated because of one or more of these errors. This error figure is commonly in the 10 percent to 12 percent range for teaching facilities. Digital radiology should eliminate almost all repeat films attributable to the exposure or processing errors, which constitute most repeat films. They set one percent or less as a target for repeat examinations.

q. Lack of expert diagnosis in deployed military situations often requires that people or films be transported to ensure high-quality care. When this happens, an individual may be lost from service unnecessarily. In addition, it is a time-consuming and expensive process. A goal of military radiology is to eliminate all medical evacuations that occur because of the need for a radiological diagnosis. If the results of a diagnosis are positive, evacuation for health reasons is acceptable. The work group wants to avoid situations in which an individual is evacuated solely for radiological diagnosis. They also want to avoid the situation where the lack of availability of an appropriate diagnosis precludes the timely evacuation of patients from remote or deployed locations. This situation directly impacts the timeliness and quality of care received.

CHAPTER 5. TECHNOLOGY ASSESSMENT AND REQUIREMENTS ANALYSIS (TARA) PROGRAM

5-1. INTRODUCTION

a. Background. The TARA program originated with a 1992 tasking by the Corporate Information Management group (later designated the Medical Functional Information Management group) to evaluate commercial capabilities for technology assessment and capital equipment asset management. This tasking led to the award of a pilot contract in January 1993 to conduct an initial evaluation of Ireland Army Community Hospital, Fort Knox, KY, in the areas of diagnostic imaging and laboratory. The product fell short of the program goals, and the decision was made, with the concurrence of the OTSG radiology consultant, to develop an in-house program.

b. During the remainder of 1993, the USAMMA MMT-S queried the technology assessment and asset management capabilities of several hospital systems and developed a composite program for AMEDD use (later designated the TARA program) that was first used at the Walter Reed Army Medical Center in April 1994. The STCPC formally adopted the TARA program in January 1995, directing full integration of clinical consultants and requiring a TARA visit to every AMEDD medical activity and medical center on a 3-year basis. After the initial round of site visits, the frequency was changed to every 4 years.

c. Process Improvements and Cost Avoidance. The radiology model of the TARA program has resulted in process improvements for requirements generation and delivery of services, expedited modernization of diagnostic imaging systems, and generated a cost avoidance of about $64 million for the AMEDD since 1995. To continue the success of the TARA program, value-added processes continue to be developed and refined.

d. Laboratory TARA. At the request of the USAMEDCOM, a TARA program for the laboratory area of MTFs was developed at the beginning of FY 1998. Benefits similar to those achieved with the radiology model also occurred for laboratory, although on a smaller scale. The TARA team has determined that the laboratory model was most effective in equipment evaluations when applied to medical centers and community hospitals with a high volume of laboratory work or a unique laboratory function. However, Laboratory Interoperability (a laboratory data transfer system), ensuring third-party reimbursement (particularly when considering that the Army hospital laboratory handles hundreds of thousands of tests per year), and issues of data management and accuracy (as well as equipment issues) continue to be addressed regardless of the scope of laboratory operations. The TARA team recommends that medical centers consolidate, when practicable, as much laboratory testing as possible on high-volume analyzers and testing equipment. This consolidation may require sending testing that does not require a rapid turnaround from MTFs to the MEDCEN within that RMC. The TARA team also encourages MEDCENs to continue to implement laboratory automation practices. (Laboratory automation is discussed in Chapter 7.)

5-2. THE TARA PROCESS

a. The on-site evaluation of current technology and management operations within the radiology and clinical laboratory departments is performed by OTSG radiology and laboratory consultants or their representatives and personnel of the USAMMA MMT, to gather information and validate previously submitted data. The purpose of the site visit is to interview departmental staff, observe scheduling and patient-flow patterns, and evaluate quality of service and the condition and utilization of existing equipment. The TARA provides an unbiased review of the clinical processes, requirements, operations, and equipment for diagnostic imaging, clinical laboratory, and patient monitoring systems at the facility. The goal is to provide senior decision makers with the management information needed to make informed decisions on the clinical and technological resources

required to accomplish business plan missions and to develop acquisition strategies that ensure optimal clinical outcomes. The mission is to ensure that medical technology within the AMEDD assessed under the TARA process remains on the established technology curve. Although state-of-the-art technology is expensive, benefits generally exceed the acquisition cost over the long run.

b. The TARA site visit consists of four major components.

(1) Assessment of clinical operations. The assessment is a clinical functional review by OTSG specialty consultants or senior clinicians. The functional review generally focuses on staffing, customer service, quality and risk management, patient management, appropriate functional task performance, and integration with other care areas. This review incorporates clinical input from the assessed facility with respect to workforce design, functional success, and mission, and compares the functional operation to accepted practice models. As a full AMEDD functional review, this evaluation also addresses leader development, training, and other military-relevant management issues.

(2) Assessment of requirements. Commercial, for-profit equipment utilization factors tempered by contingency issues unique to military hospitals are applied to the facility's workload to determine how the MTF compares with commercial counterparts. This comparison does not imply that the MTF should be held to commercial standards. However, these utilization factors provide the TARA team with benchmarks to begin the evaluation process.

(3) Assessment of operations. This includes an evaluation of procedural mix, staffing, work schedule, patient flow and throughput, and quality assurance and risk management to the extent that these factors apply to the acceptability and appropriate use of existing equipment.

(4) Assessment of equipment. This evaluation assesses whether the facility's existing equipment uses abandoned or obsolete technology and whether the equipment meets standards for acceptability. The assessment includes a market survey of current technology, a comprehensive evaluation of existing equipment, an evaluation of trends and developments that will affect diagnostic imaging, patient monitoring, and laboratory requirements at the MTF, and contract information where pertinent. The evaluation may include telecommunications equipment to determine if the existing infrastructure will support new teleradiology initiatives.

c. A TARA provides a snapshot of the facility's diagnostic imaging and clinical laboratory processes for the period during which the site survey was conducted. However, the TARA is not intended as a substitute for the facility's own routine evaluation of their operations. Because changes in a facility’s strategic vision could alter diagnostic imaging or laboratory requirements, the requirements for the MTF should be periodically reevaluated, especially in the event of a major change in mission.

d. The following information related to diagnostic imaging equipment will be requested and required prior to the site visit:

(1) CHCS data for the number and type of procedures performed annually, workload data for the last three to four years showing trends, patient numbers for each modality, and data for referrals outside the MTF;

(2) AMEDDPAS or DMLSS maintenance histories for diagnostic imaging systems in the radiology department. This should include, if applicable, imaging systems elsewhere in the hospital such as the urology or the obstetrics/gynecology sections;

(3) Business plan, if available, addressing services currently provided and services to be initiated or discontinued, including supplemental care expenditures for radiology;

(4) Patient demographics for catchment area;

(5) Blueprint or diagram of radiology department;

(6) Staffing information including authorized positions and actual staff numbers; and

(7) Plans, diagrams, or descriptions of existing telecommunications and networking infrastructure.

e. The following information related to laboratory equipment will be requested and required prior to the site visit at medical centers:

(1) Current property listing for all laboratory equipment and maintenance histories for all major laboratory equipment in the facility and any outlying clinics;

(2) Organizational chart;

(3) Blueprint or diagram of laboratory department;

(4) TDA for pathology, including actual staffing numbers and names by department;

(5) Contract information with cost data for major equipment, including whether the equipment is cost per test, leased, or purchased;

(6) Cost data for major equipment for supplies and consumables by month and year;

(7) Copies of workload detail statistics reports on a floppy disk or as e-mail attachment, with data broken down by month for the past 12 months;

(8) A copy of the facility's laboratory manual; and

(9) MEPRS reports for at least the last two quarters although MEPRS reports for the past entire fiscal year are preferred. The reports should include the computational summary indicating direct expenses, support costs, and ancillary costs, for a minimum of the last two quarters and the step-down assignment statistics reports.

f. The following information related to network management may be requested prior to the site visit:

(1) Network topology, including information on voice, data, major vendors for local area network (LAN) hardware, and upgrade plans and schedules, if any.

(2) Bandwidth to desktop and bandwidth of the backplane and percentage of bandwidth in use during typical network loads.

(3) The network protocol, i.e. asynchronous transfer mode (ATM) or Ethernet.

(4) The clinics on base or in remote locations, if any, the network supports and connectivity to the clinics.

(5) What major routers are in place and what networks do the routers interface?

g. Information on the wide area network (WAN), including what data is being carried on it.

h. The TARA will request that the facility dedicate a classroom or conference room for use during the visit for meeting and storing equipment. In addition, if required by local regulations, visitor badges should be provided on arrival or during the in-brief.

5-3. TEAM APPROACH FOR TARA

a. Currently, the TARA team consists of radiology and laboratory consultants from OTSG (expertise from consultants in other specialties, e.g., radiation oncology, is also available) and a group from the USAMMA. The USAMMA group contains specialists in biomedical and clinical engineering, medical physics, laboratory, and maintenance from the USAMMA MMT-S.

b. The team approach is necessary given the large amount of information that must be collected, organized, and analyzed. The preliminary analysis is presented to the commander during the out-brief. A formal report follows within six to eight weeks.

c. The maintenance portion of the TARA is necessary to evaluate the MTF's equipment. Relatively new equipment with extensive unscheduled maintenance must be considered for replacement along with older technology. Outsourcing of maintenance contracts and the impact that has on the availability of the device must be assessed. The goal is to maximize the availability of diagnostic equipment, so that it may be used by the clinician. Assessment of the maintenance support of that equipment is extremely critical to achieving that goal.

d. The biomedical engineering component applies to the radiology and laboratory areas. They provide expertise in the area of equipment evaluation, but they are also responsible for the development of acquisition strategies for new and emerging medical systems within their sub-specialty.

5-4. TARA SCHEDULE

The remaining tentative TARA schedule for FY 2005 through FY 2006 is in Table 5-1. If the Command at an MTF feels that TARA assistance is needed between scheduled site visits, assistance visits can be scheduled and coordinated at the Command's convenience. The TARA Team keeps the up-to-date schedule at

www.usamma.army.mil/TARA/TARA/TARA_schedule.htm

Table 5-1. TENTATIVE TARA SITE VISIT SCHEDULE, FY 2004 THROUGH FY 2005

Month	Facility
FY 2005	
May 2005	Fort Jackson, SC (Southeast Region)
June 2005	Fort Benning, GA (Southeast Region)
July 2005	Walter Reed Army Medical Center (North Atlantic Region)
September 2005	Fort Stewart, GA (Southeast Region)
FY 2006	
October 2005	Fort Campbell, KY (Southeast Region)
January 2005	Redstone Arsena, AL (Southeast Region)
January 2005	Fort Rucker, AL (Southeast Region)
February 2006	Tripler Army Medical Center (Pacific Region)
February 2006	121st General Hospital, Soule, Korea (Pacific Region)
March 2006	Fort Meade, MD (North Atlantic Region)
May 2006	Fort Knox, KY (North Atlantic Region)
June 2006	Brooke Army Medical Center (Great Plains Region)
August 2006	Fort Wainwright, AK (Western Region)
September 2006	Fort Irwin, CA (Western Region)

5-5. CLINICAL APPROACH AND BUSINESS PROCESS REENGINEERING

a. Radiologists who conduct the clinical component of the TARA site visit use the *FEA (BPR 1255047-035*, September 4, 1996) as a guide for comparing and gathering information. The *FEA* defines the ideal radiology support necessary to improve the cost, quality, access, and readiness of military health care services. The recommended functional improvements enabled by digital radiology will strengthen the MHS push toward attaining designation.

b. The JHMET sponsored by the Air Force Management Engineering Agency released in August 1994 the *Joint Healthcare Manpower Standards Development Study* that recommends approximately six staff personnel, including technologists, should be available to support each radiologist within the radiology department. For facilities without a radiologist or significant reception, clerical, or file room support, it is estimated that one technologist is required for every 1,500 studies. According to the radiology data collection survey and the DMIS summary report, military radiology departments had approximately 5.3 to 5.7 technologists and support staff for every radiologist in 1995. Most sites are close to established JHMET standard. The radiology workgroup predicts that changes in radiological technology will reduce the required support personnel.

5-6. REQUIREMENTS FOR OPERATIONS AND EQUIPMENT

a. Equipment utilization. The TARA team uses commercial equipment utilization factors, tempered by contingency issues unique to military hospitals. These utilization factors are applied to the facility's workload to determine how the hospital or clinic compares with commercial counterparts. This comparison does not imply that the hospital or clinic should be held to commercial standards. However, these utilization factors provide the TARA team benchmarks with which to begin the evaluation process. As shown in Tables 5-2 and 5-3, the TARA team used the following method to determine the ideal utilization (*U*) factors for each section of the radiology department: *U* = current MTF studies/year ÷ (expected MTF hours/year × studies/hour). The utilization factor represents the number of systems needed to handle the patient workload at the facility. These factors are only used as guidelines and can change from facility to facility, based on types of studies, mission, and the catchment area.

b. The productive use for diagnostic imaging equipment is based on the typical amount of time expected to perform a study, exam, or procedure. For example, an ultrasound study, on average, takes approximately 45 minutes, which equates to 1.33 studies per hour, as shown in Table 5-3. The productive use for clinical laboratory test equipment is based on the annual test volume divided by manufacturer's annual throughput. These numbers are then tempered according to hours of operation and test menu configuration. Calculations are instrument specific and can provide for a number of solutions depending on which make and models are used. Equipment focus is on what is currently in use, what is predominant within the region, and any equipment identified by the laboratory manager.

c. Once the number of hours per year and the studies per hour are determined, the two are multiplied together to conclude the ideal studies per year. For example, with ultrasound there are 2,000 available hours per year with 1.33 studies per hour, which equates to 2,660 ideal studies per year, as shown in Table 5-3.

d. Based on technologists' interviews and CHCS reports, the number of studies per year for the facility is determined. This number is then divided by the ideal number of studies per year to determine the utilization requirement or the proposed number of systems that the department should have. For example, with ultrasound, a hospital seeing 4,500 patients per year will have a utilization of 1.7 or 2 systems.

Table 5-2. DIAGNOSTIC IMAGING HOURS AVAILABLE

Modality	Expected hours used per day	Expected days used per week	Expected weeks used per year	Expected MTF hours used per year
Radiography (busiest shift)*	4	5	50	1,000
Radiography (all shifts)**	24	6	50	7,200
Fluoroscopy	5	5	50	1,250
Mammography	8	5	50	2,000
Ultrasound	8	5	50	2,000
Nuclear Medicine**				
Computed Tomography	16	6	52	4,992
Magnetic Resonance Imaging	16	6	52	4,992
Clinic	8	5	50	2,000
Radiation Therapy	7	5	50	1,750
R/F Simulator	7	5	50	1,750

*Workload for period of peak utilization (usually 0730 to 1130).
**Smaller facilities may essentially work only one shift with after-hours support to emergency room or urgent care being a small percentage of workload
**Gamma cameras for nuclear medicine typically see 5 patients/day and are used 230 days/year for an annual total of 1,150 patients/camera/year.

Table 5-3. DETERMINING EQUIPMENT UTILIZATION

Technology	Expected MTF Hours/Year	Studies/Hour	Ideal Studies/Year	Current MTF Studies/Year	Utilization
Radiography (busiest shift)*	1,000	4	4,000	A	A ÷ 4,000
Radiography (all shifts)*	7,200	4	NA	NA	NA
Fluoroscopy	1,250	1.33	1,663	B	B ÷ 1,663
Mammography	2,000	2	4,000	C	C ÷ 4,000
Ultrasound**	2,000	1.33	2,660	D	D ÷ 2,660
Nuclear Medicine	1,840	1.6	1,150	E	E ÷ 1,150
CT***	4,800	2	9,984	F	F ÷ 9,984
MRI***	4,800	1	4,992	G	G ÷ 4,992
Clinic	2,000	5	10,000	H	H ÷ 8,000
Linear Accelerator****	1,750	4	6,500	I	I ÷ 7,000
R/F Therapy Simulator	1,750	1	1,750	J	J ÷ 1,750

*Equipment utilization for general radiology is calculated to meet workload of busiest shift, usually the shift between 0730 and 1130.
**Calculations are based on actual management engineering time studies; each procedure has been assigned room productivity times. The exact time was based on industry information tempered by unique aspects of the DOD's medical operations and the operation of the local facility. The following example shows how this method was used to derive the equipment utilization factor for ultrasound.

Equipment	Ultrasound
Hours available/year	8 hours/day × 5 days/week × 50 weeks = 2,000 hours/year
MTF Productive time	1.33 study/hour (45 minutes/study for MEDDAC/MEDCEN)
Ideal studies/year	1.33 study/hour × 2,000 hours/year = 2,660 ideal studies/year
MTF studies/ year	4,500 studies/year
Utilization factor	4,500 studies/year ÷ 2,660 ideal studies/year = 1.7 systems

***MTF hours of operations and number of studies per year for CT and MRI are based on DOD standards. However, the number of studies per hour that can be conducted on these systems is being reviewed as scanning times have become shorter. As a result of shorter scanning times, the ideal number of patients per year may increase and the equipment utilization factor may decrease.
****Linear accelerator is number of treatments, not patients (most patients require a number of treatments), and rounded down to reflect complexity of some procedures that require additional time on the machine.

5-7. TARA CYCLE REVIEW

a. The radiology model of the TARA program has resulted in process improvements for requirements generation for new equipment and delivery of services, expedited modernization of diagnostic imaging systems, and generated a cost avoidance of nearly $64 million since 1995 (Table 5-4). In addition, the laboratory model generated a cost avoidance of approximately $2.4 million since FY 1998. The direct cost avoidance from the TARA process is based on the removal of technology that is no longer required. The benefits from corrections in scope are gained when, after TARA review, requested technology is replaced with lower cost technology that is more appropriate for the clinical requirements and workload at the MTF.

b. During the first complete TARA cycle, about 40 Army MTFs were visited. (Since that time, the total number of facilities visited has reached about 75, including facilities of the Air Force, Navy, and Department of Veterans Affairs.)

c. Facilities are often short of clerical staff for the radiology department. This reduces the efficiency and throughput of the department because technologists spend significant time performing clerical duties (e.g., performing receptionist duties or entering patient data). Adequate clerical support will probably increase the department's overall productivity.

Table 5-4. TARA PROGRAM COST AVOIDANCE TO DATE

Fiscal Year	TARA Direct (Radiology)	Corrections in Scope (Radiology)	Laboratory Direct*
1994	$10,975,000	$1,097,500	NA
1995	$14,553,250	$1,455,300	NA
1996	$11,455,700	$1,145,570	NA
1997	$3,289,000	$328,900	NA
1998	$3,959,000	$395,900	$1,677,750
1999	$4,059,100	$405,910	$688,000
2000	$3,123,800	$312,380	$117,000
2001	$6,285,000	$628,500	NA
2002	$425,000	$42,500	NA
2003	$4,530,000	$453,000	NA
2004	$3,204,000	$320,400	NA
2005*	$1,685,000	$168,500	NA
Total	$67,543,850	$6,754,360	$2,482,750

Since program inception, combined total cost avoidance for the TARA program is about $77,000,000.
*FY not completed.

e. With the start of TRICARE Next Generation, MTFs will be responsible for funding cost of exams for patients referred to outside facilities. Consequently, the TARA team has begun evaluating the types of exams sent out for patient care and the cost of the exams. The TARA team will provide recommendations to help bring studies back into the MTF or help justify why it is cost beneficial to send patients out of the network.

f. Previously, analog fluoroscopic systems had excessive downtime attributable to problems with the imaging chain and spot-film devices, requiring MTFs to have a backup system to accommodate their workload. The conversion to digital technology eliminates mechanical complexity and should improve the reliability of the systems making backup fluoroscopy systems no longer necessary. The point here is twofold:

(1) Requirements should not be approved based solely on the fact that a facility is replacing an existing system.

(2) Workload, maintenance, and facility considerations change periodically and should always be evaluated in the approval process. In addition, staffing, facilities, and maintenance services are an integral part of any diagnostic imaging "system" and materially affect the facility's requirement.

g. Military radiology faces challenges in providing high-quality health care for all Armed Forces personnel and other beneficiaries within a changing military medicine environment. The goal of military radiology is to achieve the readiness capability required

by military commands, to maximize the value of its health care services, and to promote a coordinated, collaborative Tri-Service approach to radiology. Several constraints affect the ability of the MHS to successfully fulfill the requirements of this goal, and with current limitations and changes in the health care environment, military radiology must prepare for the future.

h. The conversion to digital technology enhances efficiency and improves access to services. The proliferation of digital acquisition and processing devices and, ultimately, “filmless” hospital archive and teleradiology systems such as DIN-PACS is necessary to meet the MHS objectives outlined for radiology such as reducing report turnaround times and improving image accountability. Wet chemistry film processing, except for mammography, should be replaced with computed radiography. Networking of ultrasound and nuclear medicine systems to modality processing systems enhances clinician and technologist productivity. Establishing this network also reduces life-cycle costs by extending the life expectancy of the systems and allowing relatively inexpensive software upgrades in lieu of expensive hardware replacement. Digital technology is now more standard of care than emerging or state of the art, and few vendors still produce analog systems.

i. The military radiology community recognizes both the need for change and the opportunities for change that exist and has undertaken the corporate information management business process reengineering (BPR) effort (results published in *the FEA, BPR 1255047-035*, September 4, 1996). Rather than focusing on a specific technological solution, the goal of this effort is to streamline radiology activities and processes. The future of military health care will be characterized by access to high-quality care anytime and anywhere with total integration of patient records. These requirements magnify the limitations of current radiology services.

CHAPTER 6. COMBAT SUPPORT EQUIPMENT ASSESSMENT (CSEA)

6-1. INTRODUCTION

a. The MMT-S has a standardized methodology for assessing, planning, and acquiring technology within the AMEDD and DOD TO&E MTFs. This assessment process is designated the CSEA.

b. The medical reengineering initiative (MRI) and Medical Communications for Combat Casualty Care (MC4) are top priority, and the USAMRMC requires an evaluation of the capability of our TOE units to receive these technologies. The CSEA process is an excellent evaluation tool for assessing the military unique requirements for medical equipment in the TOE environment.

c. The CSEA process incorporates factors regarding the TOE environment when making a technology assessment. TOE equipment is often deployed where it may be exposed to environmental extremes of heat and cold. Availability of utilities such as water or electricity is considered. Power consumption from a field generator are analyzed for their impact. This equipment must be reliable and maintainable because of the remote location of the equipment far from a service or repair center.

6-2. SUPPORT FOR DEPLOYABLE MTFS

a. All medical equipment fielded to TOE units has a life expectancy. It is the USAMMA's responsibility to track items fielded at different times and ensure the MTFs have the equipment needed to accomplish their mission. For example, DEPMEDS was fielded in the mid-1980s. The equipment initially fielded with those systems has reached obsolescence or becoming difficult to support.

b. Modernization and sustainment requirements for echelons II and III are a continuous process. The TOE CSEA considers the medical reengineering initiatives, patient movement items, medical detachment/telemedicine, and other AMEDD initiatives. The purpose is to provide the AMEDD with the information to make the best business decisions with constrained resources.

6-3. DEPLOYABLE MEDICAL SYSTEMS - BACKGROUND

a. The current policy on DEPMEDS is to ensure maximum standardization, increase efficiency, and minimize costs. Ongoing objectives include the following:

(1) Reduce duplication of efforts in preparing for field medical operations
(2) Achieve maximum standardization of medical and non-medical materiel
(3) Promote the coordination, exchange and critical evaluation of information
(4) Provide a forum for the discussion and resolution of differences.
(5) Perform a form, fit, and function analysis/test on all new equipment items before it is fielded.

b. The desirable characteristics of the DEPMEDS are:

(1) Ability to provide current quality care;
(2) Affordability;
(3) Maintainability;
(4) Portability;
(5) Modular design for ease of incorporation into a variety of service-specific configurations;

(6) Usability by all four services, and
(7) Ability to be strategically airlifted.

c. The original DEPMEDS Medical Materiel Sets and their combination by each service to form field MTFs, supported our Armed Forces in combating the Soviet threat in Europe and around the world. The threat has changed to regional conflicts and humanitarian and disaster relief. As a result, the military services are developing smaller and lighter deployable systems and augmentation sets. With the introduction of the single integrated medical logistics manager during Operation Desert Shield, the need for materiel standardization became paramount. The number of items to be supported in a theater of operations must be kept to a minimum if the integrity of the logistics and supply pipeline is to be maintained.

d. Standardization of DEPMEDS systemically ensures modern, effective care and treatment in even the most arduous and demanding settings. There is no compromise in quality of care or treatment within the control of the medical system. The term “austere but adequate” was used in the past, but there was much debate about what that phrase really meant and what it entailed. While the spirit of “austere but adequate” was well-intended, it inaccurately implied willing acceptance of a compromise. DEPMEDS are designed to be effective and to meet modern standards of medical care. The only limitations on care are those imposed by tactical or transportation limitations, not by system design or policy.

e. Previously, DEPMEDS sets contained analog radiology and laboratory capability. To meet the objectives of the MHSS, the *Military Radiology Functional Economic Analysis* (*FEA*) stated that the DOD must transition from analog to digital image acquisition, storage, and transfer. Analog systems are characterized by poor film availability and accountability, lengthy response times (for both clinician and patients), and the generation of hazardous waste.

f. The USAMMA is currently transitioning to a digital radiology systems, with the advent of deployable CR readers, multislice CT systems, and mobile C-arm units, as well as table
x-ray systems. In addition to direct cost implications, analog systems negatively affect deployability, quality of care and access to care, and may increase malpractice risk. To support these objectives and other digitization initiatives, future equipment purchases or upgrades must meet current digital imaging standards, and the radiology departments have been re-engineered to incorporate digital imaging.

6-4. NONSUPPORTABLE, NONSUSTAINABLE, AND OBSOLETE ITEMS (NNI) OF EQUIPMENT AND AMEDD LIMITED SUPPORT ITEMS (ALSI)

a. The USAMMA has formed an integrated process team to address nonsustainable/ nonsupportable equipment. The mission of the integrated process team is to develop an integral process that will provide a list of NNI equipment and associated items and develop short- and long-term replacement plans for these items (both medical and non-medical).

b. The term NNI is defined as equipment for which one or more of the following apply:

(1) The original manufacturer no longer manufacturers the item.
(2) Accessory, repair parts, and support items are not available.

Sixty-two Medical Materiel Sets and 329 types of devices were reviewed and originally 57 items were designated NNI. To date, 48 items have been retired; 21 new items have been identified; and 31 items remain open

c. After further analysis, a second category of NNI items was created — AMEDD Limited Support Item (ALSI). It was determined that NNI will only refer to items that can no longer be supported by any source, and ALSI will refer to items that can be supported for a

limited time through the USAMMA Maintenance Engineering and Operations Directorate. Currently, at least 31 items are classified as NNI and at least 30 items as ALSI.

d. The MMT-S has developed a program that addresses not only the current list of NNI equipment but also performs medical equipment assessments to anticipate the replacement of future NNI equipment. One of the requirements of this program is ongoing market investigation and market surveillance to stay abreast of changing medical technologies. The specific goal is to conduct surveillance and evaluation of new and emerging technology for deployable MTFs and ensure the appropriate clinical proponents are advised of findings and recommendations.

6-5. MARKET INVESTIGATION AND MARKET SURVEILLANCE

a. Market investigation and market surveillance is the responsibility of the USAMMA MMT-S. The intended audience is clinical subject matter experts from all services and decision-makers within the USAMEDCOM (e.g., USAMMA leadership, MRMC Headquarters, and the AMEDDC&S Combat Developer). Market investigations and market surveillance must be accurate because of their use in the decision-making process. These decisions are the basis for the procurement of large quantities of medical equipment.

b. USAMMA finds itself faced with replacing equipment from a range of categories. Both medical and nonmedical items that are no longer sustainable or maintainable must be replaced; 30 ALSI items are sustainable only for a limited time through the National Maintenance Point (NMP), USAMMA. More items that are nonsustainable or nonsupportable are being identified. Because the availability of funds often is a limiting factor, it is important that we define specific requirements and have a clear understanding of the potential costs involved in conducting a product comparison/market survey of this nature.

6-6. OTHER RESPONSIBILITIES IN THE TOE ENVIRONMENT

a. The CSEA focuses on assessing the capability to accept new and emerging technologies from MRI, MC4, or other initiatives. To support this, other responsibilities of the CSEA team include the following:

(1) Provide technical guidance, assistance, and instructions to field medical units for resolving medical logistics problems.

(2) Assist field commanders and materiel maintenance managers in identifying and resolving medical logistics problems that affect medical logistics readiness.

(3) Collect, correlate, assess, and disseminate medical equipment information required to respond to problems from the materiel, fielding, or system users.

(4) Recommend the appropriate equipment be authorized in medical equipment and medical materiel sets.

(5) Support the goals of the Logistics Assistance Program (LAP).

(6) Ensure field medical units are aware of current medical policies, procedures, regulations, and management techniques associated with equipment maintenance requests.

(7) Assist commanders in determining the appropriate medical maintenance support for the maintenance program through the AMEDD NMP, USAMMA.

(8) Provide technical training to improve readiness.

(9) Visit other organizations providing medical logistics support to field medical TOE units.

(10) Evaluate the adequacy of medical equipment to perform missions and functions in accordance with the Combat Developer's requirements.

(11) Provide a vehicle for accomplishing follow-on evaluations for newly fielded or modified medical equipment items for deployable assemblages.

(12) Provide UA rework to ensure accuracy and completeness of individual UAs. In addition, provide UA handbooks detailing UA equipment, accessories, and consumables to aide unit commanders and logisticians with ordering and inventory.

(13) Provide technical support to participants of medical set reviews.

CHAPTER 7. MANAGING TECHNOLOGY IN THE MILITARY LABORATORY

7-1. INTRODUCTION

a. Health care initiatives have mandated that military laboratories begin to look at the way they do business to ensure the highest quality health care be provided in a timely manner. The USAMMA has been tasked to look at their business operations in comparison to the commercial counterparts and provide improvements. In some aspects this method has been effective, but in others there are military issues that cannot be addressed by comparing operations with the commercial sector.

b. Contracting methods have been developed in the commercial sector that can be taken advantage of by military laboratories. These new ways available for equipment and supply contracts allow the laboratories to keep up with the latest developments in technology, which was difficult to accomplish previously when facilities were purchasing equipment.

c. Issues that are not addressed include military readiness and training and the high turnover of military personnel that affects the efficiency of the laboratory. These issues have an impact on staffing and equipment configuration as they relate to workload. It is necessary to develop benchmark indicators other than the commercial benchmarks to properly look at the operations of military laboratories.

d. After the first year of applying the TARA process for laboratory, the TARA team determined that the process could most effectively be applied and the greatest cost avoidance realized at Army medical centers. To maximize effective use of high-volume analyzers at medical centers, the TARA team suggests that laboratory testing not requiring a rapid turnaround be consolidated in each RMC at the medical center to the extent practical. This consolidation will ensure that high-volume analyzers at the medical centers operate as cost-efficiently as possible and allowing in some cases removal of underused equipment at medical activities.

7-2. EQUIPMENT CONTRACTING FOR THE LABORATORY

a. The USAMMA MMT-S maintains a database to track the different contracts and contracting methods available for laboratory equipment. When replacing the major analyzers, all methods of contracting for analyzers should be considered. The technology for the major analyzers is continuously improving and a capital investment in these types of analyzers is not always prudent. These analyzers can become obsolete within a couple of years or test menus can change and the return on investment would be low. The high supply costs for these analyzers should also be considered. Once the instrument is purchased, the facility needs to continue expenditures on supplies. Some contracting methods incorporate expenditures and supplies in the rental costs.

b. There are three different methods of acquiring laboratory equipment.

(1) The traditional contracting method is purchasing equipment. This method is valid when acquiring equipment that is low in cost or has a long life expectancy, both in terms of useful life and technology obsolescence. Examples of this type of equipment in the laboratory would be microscopes and centrifuges. A number of government contracting agencies keep central contracts for this type of equipment to achieve volume discounts. The General Services Administration (GSA), Department of Veterans Affairs National Acquisition Center, or the DSCP have contracts available. In other cases, the facility can contract on their own to purchase equipment. In the case of purchasing equipment, local procurement dollars will be used for CEEP (less than $100,000) and centrally managed procurement dollars (through the USAMEDCOM) for Super CEEP ($100,000 to $250,000) or MEDCASE (more than $250,000) equipment.

(2) Reagent rental contracting is based on leasing the equipment for a monthly fee that can be very low with the guarantee that the MTF will buy a certain volume of reagents from the company supplying the equipment. Contracting for this method is usually done individually by each facility with the vendors. Although this avoids the high initial expenditure and considers the cost of supplies, in most cases the equipment is owned by the facility at the end of the lease. Again this does not consider new technological developments, changes in mission, obsolescence, or facility needs.

(3) Cost-per-test is similar to reagent rental in that it is based on purchases of reagents or supplies for the analyzers. The difference is that the equipment is owned by the vendor and can be upgraded or turned in at the end of each contract year. Cost-per-test contracting is based on annual workload, and vendors work with the facility to determine what equipment configuration is appropriate for their workload and mission. A number of regional cost-per-test contracts with different vendors exist that offer volume discounts. Prices vary in accordance with the volume, percent utilization of a specific vendor's equipment, type of service contract and equipment and configuration within the facility. Contracts are done either through a central or regional government-contracting agency.

7-3. MILITARY LABORATORY BENCHMARK INDICATORS

a. The laboratory benchmark indicators are collected at each facility. These indicators are collected at all MEDCENS during the TARA visit and are being collected centrally by the office of the MEDCOM Laboratory Program Manager for all other MEDDACS. The indicators from the different facilities will be used to establish peer groups based on relative case mix index, average daily patient load and inpatient work units for hospital based laboratories, and ambulatory work units and outpatient visits for clinic based laboratories.

b. The indicators are based on workload, manpower, and expense. Ideally, data from an entire FY is used for analysis. The indicators are derived from CHCS workload and EAS-IV, MEPRS, and MEPRS Executive Query System (MEQS) reports. The TARA team members do not validate the data but accept it as reflected in the reports. Attention to detail by the laboratory manager and staff inputting the data is vitally important if accuracy of data is to be assured. Laboratory management personnel should validate Uniform Chart of Accounts Personnel (UCAPERS) and CHCS workload input on a periodic basis.

c. The following data is collected and tabulated during a requested or medical center site visit:

(1) Workload

(a) D codes: ancillary CPT weighted procedures for 6 months and ancillary CPT reportable tests for 6 months.

(b) F codes: CPT weighted special programs procedures for 6 months and CPT reportable special programs tests for 6 months.

(c) Total workload: total CPT weighted procedures for 6 months and total CPT reportable tests for 6 months.

(2) Personnel

FTEs assigned
FTEs available
FTEs available and percentage assigned
Percentage of direct expenses (personnel)
CPT weighted/FTE (assigned)
CPT weighted/FTE (available)

CPT weighted/technical FTE (assigned)
CPT weighted/technical FTE (available)
CPT reportable tests/FTE (assigned)
CPT reportable tests/FTE (available)
CPT reportable tests/FTE (assigned)
CPT reportable tests/FTE (available)

(3) Expenses

D codes for direct, personnel, finance, support, and ancillary services
F codes for direct, personnel, finance, support, and ancillary services
Totals for direct, personnel, finance, support, and ancillary services

D codes for ancillary cost/weighted test and ancillary cost/reportable test
F codes (special programs) for cost/weighted test and cost/reportable test
Total workload for total cost/weighted test and total cost/reportable test.

(4) Inpatient services

CPT weighted workload
CPT reportable tests
CPT weight per reportable
Laboratory expense
Cost per weighted procedure
Cost per reportable test
Laboratory cost per disposition

Laboratory cost per inpatient work unit
Dispositions
Case mix
Inpatient work units
CPT weighted disposition
CPT reportable disposition
CPT weight per inpatient work unit
CPT report inpatient work unit

(5) Outpatient services

CPT weighted workload
CPT reportable tests
CPT weight per reportable test
Laboratory expense
Cost per weighted procedure
Cost per reportable test
Laboratory cost per visit
Laboratory cost per ambulatory work unit

Outpatient visits
Average ambulatory units
Ambulatory work units
CPT weight per visit
CPT report per visit
CPT weight ambulatory work units
CPT report ambulatory work units
Average cost per visit

(6) Recapitulation

(a) Inpatient services: expense workload, percentage expense, and percentage workload;

(b) Outpatient services: expense workload, percentage expense, and percentage workload;

(c) Special programs: expense workload, percentage expense, and percentage workload; and

(d) Totals: expense workload, percentage expense, and percentage workload.

7-4. LABORATORY AUTOMATION

a. Automation in the laboratory can occur at different levels from a single instrument to a work area to the entire laboratory. The higher levels of automation will incorporate the technology of the lower levels at different scales. Test mix and volume as well as operations and management of the laboratory department will determine the appropriate level of automation for a facility.

b. Single instrument automation is applicable to almost any facility that is performing testing in house. Automated analyzers are known for their “walk away” operations. The technician can load the analyzer with bar-coded samples, and the analyzer will automatically perform the tests while the technician leaves to perform other duties. Most Army MTFs that perform laboratory testing, with the exception of some of the smaller outlying or troop medical clinics, will have some type of automated analyzer.

c. Total laboratory automation is the automation of all aspects of clinical pathology from specimen receipt to result reporting. In most cases, all automated analyzers are arranged in a track system that routes the bar-coded specimen tubes to the designated analyzers for tests to be performed. This process can eliminate a significant percentage of the staffing requirements of a laboratory. At the initial stages in the development of total laboratory automation, there was great market interest in adopting this process. As more facilities have investigated this process, it has been found that the greatest benefit can be achieved at large facilities performing high volumes of testing, up to 10 million aliquots per year. This high volume can be found at an 800- to 1,000-bed facility that is also receiving specimens from other facilities or at a commercial reference laboratory that supports nationwide operations. No Army facilities currently have a volume high enough to justify incorporating total laboratory automation. In the future, a DOD reference laboratory may be the place to consider total laboratory automation. However, as the majority of testing stays within the different medical centers and medical activities, testing volumes do not warrant total laboratory automation and currently is not a recommendation for any military facility.

d. Although total laboratory automation is not right for all facilities, many facilities are finding that there is potential in automation beyond that of the single automated analyzer. As a modification to total laboratory automation, work area automation has evolved. Work area automation takes a section of the laboratory and automates the processes within that section. The greatest benefit for work area automation has been achieved in the chemistry and hematology areas of the laboratory. A section can be arranged in a track mode similar to that of total laboratory automation where the laboratory worker takes the bar-coded specimens and places them on sample holders to be delivered to the various workstations. The workstations can then be set up to perform all designated tests, reflex any samples that do not meet a determined algorithm, and flag any specimens that may need manual testing. This takes the concept of total laboratory automation and uses it on a smaller scale. There are potential reductions in FTE requirements as well as increases in efficiency and reductions in manual handling.

e. In addition to automating test-work areas, pre-analytical stages also can be automated as part of this work area automation concept. In many facilities, specimen delivery and processing has been automated, benefiting the pathology department. Specimen delivery can be automated either through a pneumatic tube system, through a robotic delivery system programmed to perform any ward pickups as well as making programmed stops at all the different testing areas in the laboratory, or both. Automation of specimen processing can increase efficiency and decrease errors as a result of manual handling as well. Specimens that have been bar coded can be loaded into a modular system that reads the bar codes and sorts the specimens by the work area that will perform the tests. For specimens that need to be spun down, the modular system can be sent through a track system to a large centrifuge and spun before delivery to the work area.

f. Work area automation seems to be the best fit for Army facilities with high workload volumes. Costs will be much lower than that of total laboratory automation. The work cells can be designed around the current footprint of most facilities as opposed to reconstructing departments for total laboratory automation. FTE requirements can still be decreased within each work area.

g. Other issues exist that need to be addressed in considering robotics and automation. The first is determining what the workflow philosophy will be, depending on the needs of the laboratory. The second issue is looking at the preanalytical stage. Should that stage be automated, and if not, what needs to be done in this stage to accommodate the automation of other sections of the laboratory? A third issue is determining which areas can benefit the most from automation. The laboratory manager should consider areas where there is a high volume of repetitive functions that require little thinking. If the facility is performing a high volume of routine chemistry but a low volume of special chemistry, it makes more sense to automate only the routine chemistry area. If there is a high volume of testing in an area but there is a lot of technologist interpretation involved, perhaps it would not be effective to automate this area. It is important to automate the work that requires little user interface. The tedious tasks that are being done by technologists should be automated so that these employees can be used more efficiently and appropriately.

7-5. TELEPATHOLOGY

a. With the recent developments in telecommunications and telemedicine, telepathology is a new area of focus for the USAMMA. Currently, telepathology is used at a number of Army MTFs for consultation services with the Armed Forces Institute of Pathology (AFIP), larger Army MEDCENS, and between MTFs (Table 7-1). The technology used at these sites involves the use of dynamic telepathology where a slide is placed on a microscope with an attached digital camera at the sending site and the consulting site views the slide in real time over the Internet. The reviewing site remotely moves the slide and changes magnification objectives.

b. The application is more useful than the older technology of sending static images over the Internet. The role of dynamic telepathology is still being determined, but it is definitely useful for sites with two or fewer pathologists. There are some disadvantages of this system. The time that it takes for the stage instructions to be sent to the remote site and the image to be updated at the consulting site is significant. The network and telecommunication requirements to do this are also significant and require large bandwidth. Currently it is only feasible to us telepatholgy on cases that have only one slide or for cases in which there is a question on only one slide. With improvement in Internet bandwidth and capabilities, this problem should be resolved. In cases where a diagnosis cannot be made by telepathology, consultation is achieved in other facilities by sending the slides, and in some cases the tissue blocks, overnight to the consultation site and the reports are sent by fax machine back to the facility.

Table 7-1. ARMY MEDICAL TREATMENT FACILITIES THAT HAVE OR WILL HAVE TELEPATHOLOGY

Blanchfield Army Community Hospital, Fort Campbell
Brooke Army Medical Center, Fort Sam Houston, TX
Darnall Army Community Hospital, Fort Hood, TX
Dwight David Eisenhower Army Medical Center, Fort Gordon
Evans Army Community Hospital, Fort Carson
General Leonard Wood Army Community Hospital, Fort Leonard Wood
Heidelberg MEDDAC, Germany
Ireland Army Community Hospital, Fort Knox
Irwin Army Community Hospital, Fort Riley
Landstuhl Regional Medical Center, Germany
Martin Army Community Hospital, Fort Benning
Moncrief Army Community Hospital, Fort Jackson
Reynolds Army Community Hospital, Fort Sill
Tripler Army Medical Center, Honolulu, HI
Walter Reed Army Medical Center, Washington, D.C.
Winn Army Community Hospital, Fort Stewart
Womack Army Community Hospital, Fort Bragg
Wuerzburg MEDDAC, Germany

c. Ideally, telepathology will allow for the entire slide to be sent electronically to the consulting pathologist to review. Research is being done to develop this technology. One of the latest projects is virtual slide technology, although this is still in the development and validation stages. This technology proposes to digitize the entire slide view at a number of different depths at low power. These views will then be saved and sent electronically to the consulting pathologist. Once received, the pathologist can pull up the images, select the appropriate magnification and review the slide on the computer as he or she would on a microscope. The USAMMA is monitoring this technology and other developments and will work closely with the OTSG Pathology Consultant to assess the appropriate technological fit for telepathology within the Army MTFs.

7-6. DEVELOPMENTS IN PAP SMEAR TECHNOLOGY

a. Pap smear techniques for early detection of cervical cancer were introduced in the 1950s. As a result of these techniques, the mortality rate for cervical cancer has significantly decreased, and Pap smear techniques are widely used. The most common reason that cervical cancer goes undetected until the later stages is that women do not get routine Pap smears. Even with this success, the smear is not 100 percent accurate, and in some cases a false-negative diagnosis can occur.

b. This false-negative diagnosis can be attributed to any of the following during the Pap smear procedure:

(1) Sampling and slide preparation: Methods used to retrieve the sample involve scraping or brushing the cervix with a collection device and then transferring the cells to a slide. Although this is the only method of obtaining cells, the transfer process can lose up to 90 percent of the cells taken from the cervix.

(2) Slide review and recording: The cytotechnologist who reviews a Pap slide needs to properly cover the entire slide and document any abnormal cells for review by a pathologist. Although this process is important, it becomes tedious, and the technologist can easily miss cells or sections of the slide without a tracking system to annotate what portions of the slide have already been reviewed.

(3) Negative slide rescreening: The College of American Pathologists mandates that at least 10 percent of negative slides be rescreened. Although this requirement has improved the quality of health care, it is still only a 10 percent rescreening, and some false-negative slides are not rescreened. Some facilities rescreen more than 10 percent, and some do selective rescreening. Selective rescreening involves cases where there may be a history of cancer or other risk factors that increase the chances of cancer in the patient; 100 percent rescreening would be ideal but staffing issues often make that objective difficult to obtain.

c. The issues have been addressed by the industry, and alternatives are available. Although some false-negative findings are inevitable, alternatives such as automated slide preparation, video-tracking microscopes, and total automation of the screening process can reduce the percentage.

d. Automated slide screening has been developed to ease the workload on the technologists and provide for standardized slide review. Computerized microscopes have been developed to track the screening pattern for every slide and the time spent on each slide. Total automation has been developed to identify slides in which screening or rescreening needs to be performed whether on the slide or through identified video images.

e. Totally automated systems are now available. This method of testing will only be beneficial at larger, high-volume sites. Unless Pap smear testing is consolidated among sites, many Army facilities do not have the volume to justify this technology.

f. Product information on what is available on the market is maintained at the USAMMA. The MMT-S will continue to monitor developments in improving Pap smear procedures and assess appropriate technology in conjunction with the Lab, Pathology, and Obstetrics/Gynecology consultants.

CHAPTER 8. DIGITAL IMAGING AND THE DIGITAL IMAGING COMMUNICATION IN MEDICINE (DICOM) STANDARD

8-1. INTRODUCTION

a. Digital imaging has streamlined processes within the radiology department. Most of the tasks related to film production, transcription, and filing have been eliminated and replaced with the acquisition and storage of data on-line. To support digital imaging and the reengineering of the radiology department, all new purchases and upgrades should support the DICOM 3.0 standard. All diagnostic imaging modalities will ultimately conform to DICOM standards. Focused purchases now of DICOM-conformant systems will later facilitate integration of acquisition devices to a hospital or radiology information system (HIS/RIS), an image management system, or a Picture Archiving and Communication System (PACS).

b. The American College of Radiology (ACR) and the National Electrical Manufacturers Association (NEMA) jointly developed the DICOM Standard to facilitate interoperability of medical imaging equipment, regardless of the device manufacturer. The DICOM Standard facilitates interoperability of medical imaging equipment by specifying the protocols to be followed by devices claiming conformance to the Standard and the syntax and semantics of the information exchanged using these protocols. The DICOM Standard supports operation in a networked environment using industry standard networking protocols such as Transmission Control Protocol/Internet Protocol (TCP/IP). Provision of the applicable DICOM SOP Classes is ultimately required for integration with a PACS.

c. Two sets of specifications follow: a subset of the DICOM standard that is required to provide basic functionality and a set of specifications that is not required but highly recommended to accommodate workflow and data integrity.

8-2. REQUIRED SERVICE OBJECT PAIRS FROM THE DICOM STANDARD

a. The DICOM Standard relates an Object (image) to a Service (action) to be performed on that Object. These relationships are defined within the DICOM Standard as Service Object Pairs (SOP). To exchange image data, each modality should support the DICOM 3.0 Image Storage SOP Class for that modality as shown in Table 8-1, e.g., a CT should comply with the CT image Storage SOP Class, ultrasound with the ultrasound SOP Class, etc. To send or receive DICOM objects such as images, support to a DICOM SOP Class can be as a Service Class User (SCU), a Service Class Provider (SCP), or both. At a minimum, the modality must support the Image Storage SOP Class as an SCU.

b. Besides conforming to the individual modality Image Storage SOP Classes, all acquisition devices should support the DICOM 3.0 Verification, Query/Retrieve, Modality Performed Procedure Step, Modality Worklist Management, and Print Management SOP classes (Table 8-1).

c. DICOM Verification allows one DICOM-conformant system to “ping” another DICOM-conformant system and verify that the systems can talk to each other.

d. DICOM Query/Retrieve conformance allows the modality to interactively retrieve images from other acquisition or storage devices, soft-copy display workstations, teleradiology spokes/hubs, and other PACS.

e. The Modality Performed Procedure Step SOP Class allows a modality to inform the PACS and the Modality Worklist Manager that an exam has been completed.

f. Conformance to the Modality Worklist Information Model Find SOP Class as an SCU allows patient demographic and scheduling data from the RIS/HIS to be retrieved from an acquisition modality console and also allows the technologist to select the patient information from a “pick list” or using an Accession Number or Patient ID, rather than retyping the patient information. This capability enhances the efficiency and overall productivity of the technologist and reduces errors in patient demographic data that might result in exams that cannot be matched with the original order or other study components. The result should improve workflow and efficiency because data errors typically have to be corrected by a PACS system administrator.

g. DICOM Print Management conformance facilitates networking of image printers using standardized protocols. This should eliminate the added expense of procuring individual interfaces for each acquisition device and printer.

8-3. RECOMMENDED SERVICE OBJECT PAIRS FROM THE DICOM STANDARD

a. It is desirable that, in addition to the requirements listed in Table 8-1, the modality provides conformance to other DICOM 3.0 SOP classes.

b. The Storage Commitment Push Model SOP class ensures safe storage of the image data by the PACS before the data is deleted from local storage at the acquisition device (modality). This ability is important when sending images to a remote location, because the sender can rely on the receiver to take responsibility for the data.

c. Grayscale Softcopy Presentation State SOP class allows a modality to specify the intended image presentation state of the exam.

d. Grayscale display and print SOP classes will allow all display stations and all printers that support the associated SOP class to reproduce that image with uniform grayscale. Thus, all images will look that same regardless of where they are reproduced.

e. The Basic Annotation Box and Image Overlay Box SOP classes allow text and graphic annotations to be appended to the image data set without permanently overwriting the original image data. These SOP classes also provide a mechanism to output pertinent demographic, management, and graphic information to hard copy print devices without overwriting the original image data.

f. Other available SOP Classes, such as Structured Reporting, facilitate wide area interoperability/teleradiology between sites by linking demographic data and reports to the image object, but are more relevant to PACS than modalities and are, therefore, beyond the scope of this discussion.

g. It is also highly desirable that the acquisition devices provide removable media, conforming to the DICOM media exchange application profiles as specified for that modality (e.g., CT or MR, x-ray angiography, ultrasound, or general purpose radiography) using CD-R or magneto-optical disk to allow file exchange between workstations/facilities and to support failover operations in the event the network or PACS is down.

Table 8-1. REQUIRED MODALITY DICOM SERVICE OBJECT PAIR CLASSES

SOP Class Name	SOP Class UID	Role
MR Image Storage	1.2.840.10008.5.1.4.1.1.4	SCU
CT Image Storage	1.2.840.10008.5.1.4.1.1.2	SCU
Computed Radiography Image Storage	1.2.840.10008.5.1.4.1.1.1	SCU
Nuclear Medicine Image Storage	1.2.840.10008.5.1.4.1.1.20	SCU
Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7	SCU
Ultrasound Multiframe Image Storage	1.2.840.10008.5.1.4.1.1.3.1	SCU
Ultrasound Image Storage	1.2.840.10008.5.1.4.1.1.6.1	SCU
X-Ray Angiography Image Storage	1.2.840.10008.5.1.4.1.1.12.1	SCU
X-Ray Radiofluoroscopic Image Storage	1.2.840.10008.5.1.4.1.1.12.2	SCU
Digital X-Ray Image Storage - For Presentation (DR)	1.2.840.10008.5.1.4.1.1.1.1	SCU
Digital X-Ray Image Storage - For Processing (DR)	1.2.840.10008.5.1.4.1.1.1.1.1	SCU
Positron Emission Tomography Image Storage	1.2.840.10008.5.1.4.1.1.128	SCU
Verification	1.2.840.10008.1.1	SCU/SCP
Patient Root Query/Retrieve Information model-FIND	1.2.840.10008.5.1.4.1.2.1.1	SCU/SCP
Patient Root Query/Retrieve Information model-MOVE	1.2.840.10008.5.1.4.1.2.1.2	SCU/SCP
Study Root Query/Retrieve Information model-FIND	1.2.840.10008.5.1.4.1.2.2.1	SCU/SCP
Study Root Query/Retrieve Information model-MOVE	1.2.840.10008.5.1.4.1.2.2.2	SCU/SCP
Modality Performed Procedure Step	1.2.840.10008.3.1.2.3.3	SCU
Modality Worklist Information Model-FIND	1.2.840.10008.5.1.4.31	SCU
Print Management	1.2.840.10008.5.1.1.9	SCU

8-4. OBJECT IS IMPROVED ACCESS TO RADIOLOGY

The object is to support business process changes throughout the MHS, especially within the practice of military radiology. The vision for radiology is to create a seamless radiology department by eliminating the constraints that may be created by having multiple places where diagnostic imaging is conducted within and between Army and other DOD MTFs.

CHAPTER 9. SAMPLE DATA COLLECTION PROGRAM

9-1. INTRODUCTION

a. The USAMMA developed and implemented a sample data collection program for targeted medical devices. This program is a comprehensive and cohesive data collection and analysis program. The Medical Engineering and Operations Directorate (MEOD) and MMT-S are supplied with scheduled reports and have the ability to create ad hoc reports that will enable them to both respond to changes in medical technology in a timely manner and help identify significant trends in the maintenance of medical equipment. The overall focus of this program is to assist the USAMMA in supplying medical field equipment to the DEPMEDS and other deployable facilities with current and sustainable medical technology in a fiscally efficient manner.

b. A part of the USAMMA's strategic mission is to support all the equipment required for deployable facilities. One of the largest users of medical devices is the combat support hospital (CSH). To maintain the sustainability and readiness of the CSH, the USAMMA monitors technology and maintenance trends for medical equipment. In addition, medical devices for forward surgical teams (FST) and air and ground medical evacuation (MEDEVAC) transport units will be incorporated into this sample data. Obtaining sample data from these groups provides an accurate analysis of medical equipment from the battlefield (level I treatment) through the CSH (level III treatment) environment.

9-2. SAMPLE DATA COLLECTION PROGRAM MANAGEMENT POLICY

a. To ensure the success of the sample data collection project, the following project management process is used during the creation and management of the project (see Figure 9-1).

b. The sample data collection project is controlled and monitored by the sample data collection team that consists of a clinical engineer and biomedical technician and management representatives from the MMT-S and MEOD. The quality control (QC) process provides internal (through audits) and external (customer survey) feedback to fine-tune the data collection, reporting, compilation, procedures, and policies. This allows divergent thinking from the sample data collection team and allows the program the flexibility to quickly respond to changes in customer needs.

9-3. SAMPLE DATA COLLECTION GUIDELINE AND SAMPLE SECTORS

a. To obtain a cross-sectional data sample and use the expertise and functionality of existing staff, data inputs from the sources shown in Figure 9-2 are used to populate the sample data collection database.

b. Data from the CSEA, Strategic Capabilities and Materiel Directorate (SCMD) visits, TARA, and logistic assistance visits (LAV) is captured from the final written reports of these groups. Relevant data from these reports is then manually entered into the sample data collection database.

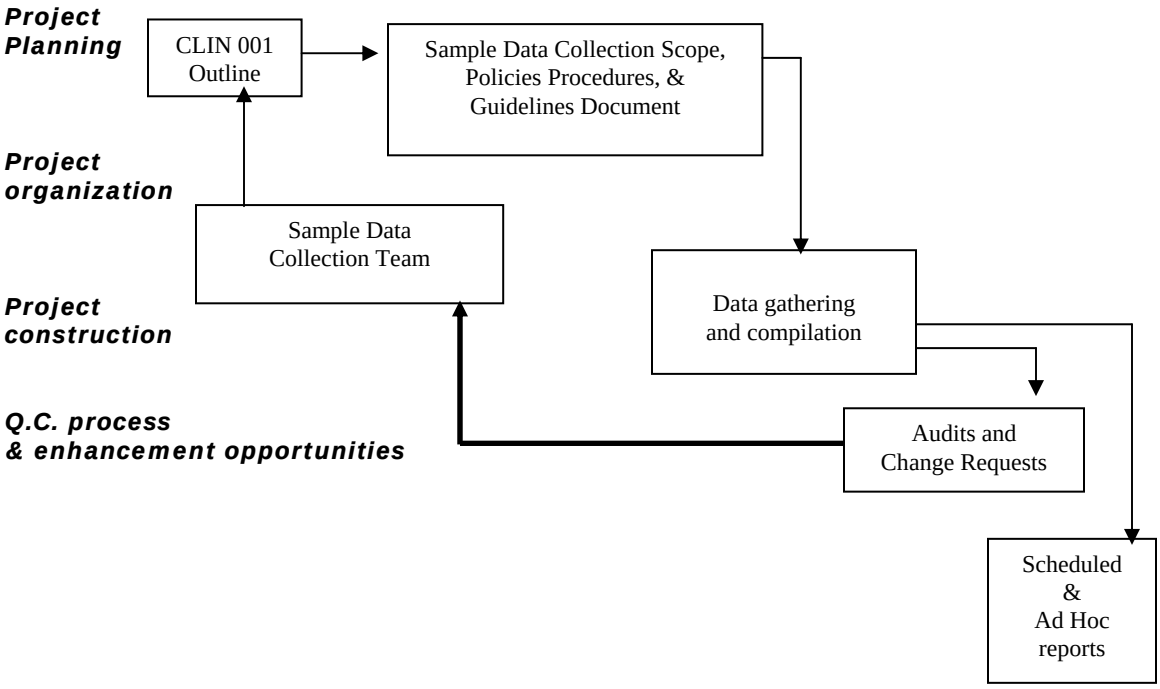

Figure 9-1. Sample data collection project

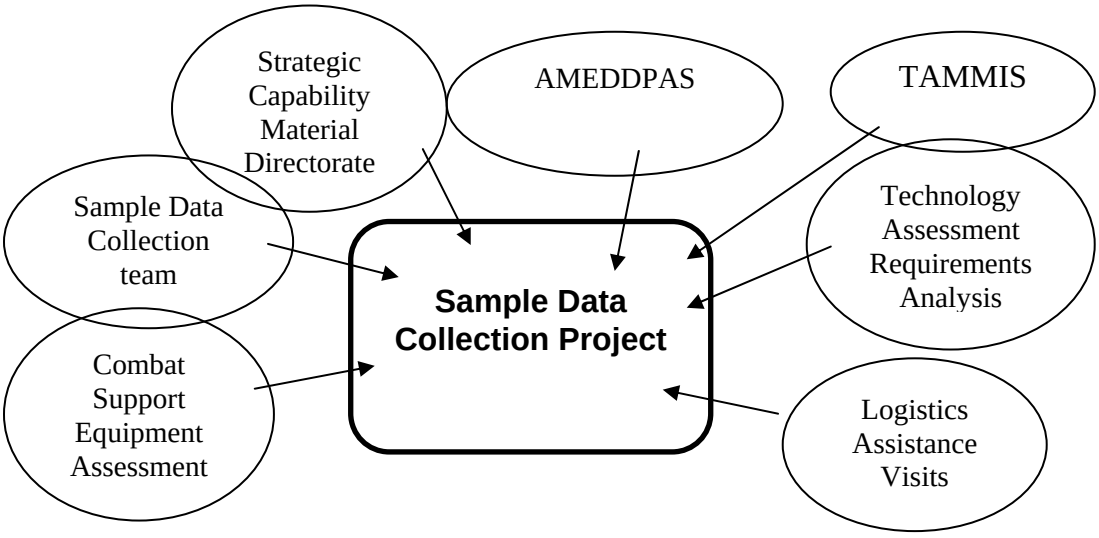

Figure 9-2. Sources of the data for the sample data collection project

c. Electronic data is imported from the AMEDDPAS and Theatre Area Maintenance Management Information System (TAMMIS).

d. Scheduled reports list data sources to ensure each source is credited for work.

9-4. SAMPLE DATA COLLECTION ASSISTANCE VISIT POLICY

a. The sample data collection team conducts sample data collection assistance visits of the following facilities.

(1) A Regional Training Site-Medical (RTS-MED) selected from one of the following sites:

(a) Fort McCoy
(b) Fort Gordon
(c) Parks Reserve Forces Training Area

(2) CONUS CSH units not visited by LAV and CSEA teams

(3) OCONUS CHS units not visited by LAV and CSEA teams

b. These visits request the following information one month before the team deploys

(1) Written permission for the sample data collection team by the commanding officer.

(2) An electronic copy of the sites maintenance records from the previous calendar year (TAMMIS).

(3) A point of contact for the sample data collection team, along with the assignment of the technical representative from the base to be visited.

c. The sample data collection assistance visit team consists minimally of the following members:

(1) Member of MMT-S

(2) One or more technical representative from base being audited (personnel should be assigned by Chief of Medical Maintenance from site being sampled).

d. The team for the sample data collection assistance visit views the available inventory of major medical devices and note any problem areas. The sample data collection assistance visits also captures any data available from the FST and any supporting medical companies that are based out of the site being visited. The sample data collection assistance visits team collects a variety of data elements enabling them to produce a comprehensive final report and also populate the database for future analysis.

e. The report for the sample data collection assistance visit is completed within 30 days after the site visit. The report consists of a list the findings, an Microsoft Excel spreadsheet listing the data collected, and a review of the visit. The sample data collection assistance visit report is disseminated to the entire sample data collection team, the Commanding Officer, and Chief of Medical Maintenance of the CSH visited.

9-5. SAMPLE DATA COLLECTION QUALITY CONTROL PROCESS AND DATA VERIFICATION POLICY

a. To continuously monitor the sample data collection procedure, the following QC and data verification process are used.

(1) Monthly scheduled meetings between the assistance visit team and representatives of the MMT-S and MEOD are held. As the sample data collection program progresses, the monthly meetings will provide feedback to improve the program and increase customer satisfaction.

(2) Data verification from the sample data collection assistance visit is accomplished using feedback provided by the submission to the completed report sent to the site. The data from the LAVs, CSEA, and Medical Reengineering Initiative data is verified through the internal QC programs of those programs. During the sample data collection assistance visit, the Chief of Medical Maintenance verifies data verification from TAMMIS.

9-6. IDENTIFICATION OF KEY ELEMENTS TO BE MONITORED

a. To monitor the efficacy of the sample data collection program, several indicators have been identified to track the affects of the program. Four parameters are tracked and analyzed on an ongoing basis.

(1) Cost, including purchase price, repair costs and consumable consumption;

(2) Major weight, cubic volume, power, and water use requirements and environmental deviations from equipment recommendations;

(3) Technological capabilities; and

(4) Required consumables.

b. Changes are made based on customer needs.

CHAPTER 10. PICTURE ARCHIVING AND COMMUNICATION SYSTEM (PACS) AND TELERADIOLOGY SYSTEMS

10-1. INTRODUCTION

a. The APPMO was chartered within the Medical Research and Materiel Command (MRMC) at Fort Detrick, Maryland, effective 19 March 2001. The APPMO is a corporate level coordination, execution and policy-making body that crosses functional elements of the Army AMEDD.

b. The creation of this Program Office reflects OTSG direction to ensure the AMEDD PACS program is effectively managed and that PACS requirements are appropriately defined against the clinical need and supporting business case, prioritized and embedded throughout the AMEDD. A continuous assessment by this office will also identify improvement opportunities in support of AMEDD PACS initiatives.

c. The APPMO mission is to develop the Army's strategic vision for PACS and other medical imaging information systems as they evolve. The APPMO is responsible for executing the Army's PACS and teleradiology program to ensure successful and coherent planning, deployment, integration, sustainment and life cycle management to the Army's greatest clinical and financial benefits.

10-2. APPMO RESPONSIBILITIES

a. Conduct program and acquisition management responsibilities to plan, organize, direct and control the proliferation and life cycle management of the Army's Medical PACS and teleradiology systems.

b. Develop and sustain a business plan for AMEDD PACS with applicable consultants, AMEDDC&S and the USAMEDCOM. Build and manage Program Objective Memorandum (POM) for AMEDD PACS and Teleradiology.

c. Continuously assess the state of fielded PACS systems within the AMEDD.

d. Manage pre-deployment project management, implementation, and acceptance testing activities with sites for newly procured PACS and major PACS upgrades.

e. Manage configuration control, ensure successful integration and interoperability, and champion life-cycle management of PACS by building Integrated Product Team (IPT) partnerships with other AMEDD organizations.

f. Coordinate with AMEDDC&S and the USAMEDCOM to ensure PACS and Teleradiology acquisitions are synchronized for TDA and Modified Table of Organization and Equipment (MTOE) and applications.

g. Coordinate with USAMEDCOM ACSFM and ACSIM to identify site preparation and network augmentation requirements.

h. Coordinate with the Tri-Service Infrastructure Management Program Office (TIMPO) to identify MTF network infrastructure requirements in support of PACS and teleradiology

j. Work closely with USAMMA to ensure PACS and PACS-related systems are included in the TARA processes.

10-3. PROGRAMMING AND FUNDING

a. Each year the APPMO develops an annual straw man PACS/Teleradiology plan and system-wide budget estimate following the TSG guidance. The OTSG Radiology Consultant will review and offer advice toward this final plan/requirement.

(1) In August of each year, following TSG guidance, the APPMO will a draft the annual PACS/Teleradiology plan for next fiscal year funding.

(2) The APPMO will distribute the draft to the OTSG Radiology Consultant for his input and concurrence of an agreed-upon plan/requirement (45-60 day suspense for final agreement).

b. The APPMO will prepare a briefing of the finalized plan and present to CDR, MRMC, STCPC, and the OTSG Radiology Consultant. The STCPC will review the plan and recommend the appropriate level of funding for PACS and Teleradiology in the current year's MEDCASE program. APPMO will participate in senior executive briefings as necessary to support the STCPC approval process, or if requested by DSG or TSG, APPMO will brief the senior executives on the status of the program and related funding levels. The consultant is a part of this briefing team or available to the brief as necessary to demonstrate functional Radiology Consultant and programmatic concurrence to the decision makers.

(1) In October of each year, The APPMO will prepare the briefing and provide to the OTSG Radiology Consultant for review and concurrence/changes.

(2) In November/December of each year, the APPMO-Consultant briefing team will brief the STCPC on the agreed-upon annual PACS/Teleradiology plan, negotiating the annual MEDCASE funding recommendation to go forward to the decision makers.

(3) STCPC will brief the Technology Insertion General Officer Steering Committee (TIGOSC) and the TSG on the funding recommendation. APPMO and the OTSG Radiology Consultant will be available during the briefings to answer questions on the negotiated plan.

c. Once senior executives grant approval, USAMEDCOM will provide funding to the APPMO for the program. Regional/site project requirements for the approved and funded plan are prepared at the facility level by the APPMO and entered into the MRE system. The USAMMA gains approval of the requirements by the consultant via transmittal. The APPMO assists the USAMMA in obtaining document numbers from sites targeted in the funded plan and the USAMMA submits requisitions to the DSCP; at this time funds are obligated.

(1) On approval of the APPMO-STCPC plan by the OTSG, the APPMO will prepare regional/site project requirements and USAMMA will enter them into the system. They will be entered into the system designated as 4P.

(2) The USAMMA will prepare transmittals for the requirements and send to the OTSG Radiology Consultant for approval. The OTSG Consultant approves the requirements and returns the signed transmittal forms to the USAMMA MEDCASE Manager, at which time the MEDCASE Manager will change the designation of the entries in the system from 4P to a 1A status. Document numbers will be obtained, and the USAMMA will build the requisitions and send to the DSCP, or other contracting agencies as appropriate, and inform the APPMO of this change in status. At this time, the funds are obligated.

d. APPMO plans Clinical/Network Assessment Site Visits with the Regions and provides the schedule to the OTSG Radiology Consultant for either his participation during the site visits or the opportunity for the consultant to discuss the visit with the applicable Regional Radiology chiefs. The site visits are conducted with extensive regional involvement and eventually an assessment report/design packet (requirements document) is completed for each facility or region.

e. This design packet (facility requirements document) will summarize the functional requirement in more detail for each regional system. The Regional Radiology Consultant will review their respective regional packet and reach agreement with the APPMO on the content as balanced against available funding. This document or major portions of this document will become significant components of acquisition documents such as Requests for Information (RFI) and Requests for Quotation (RFQ) or simple best-price contracts where applicable.

f. The APPMO works with the DSCP, or other contracting agencies as appropriate to negotiate best pricing and ultimately reach contract award with the most appropriate vendors, monitors contract execution, and eventually fields and accepts the systems.

10-4. PLANNING AND ASSESSMENTS

a. Planning and assessments begin once funds are obtained by the APPMO through the STCPC.

b. PACS are systems that cut across an MTF's enterprise both clinically and physically. These are complex systems that in some larger sites are composed of hundreds of devices that must be placed on the site's property book. Establishing a site cross-functional project team to organize and focus the efforts onsite is essential to the successful implementation and/or modernization of PACS in a facility. The site project team assists in all aspects of system rollout, including planning, implementation, government testing, and training. Establishing an Executive Project Team at the MEDCEN or RMC level prior to a new installation or a major system upgrade has proven to be an effective tool in facilitating the project planning process.

c. APPMO will assign a Regional Project Manager to advise the region and sites in getting organized into project teams of the proper functional types, and preparing for the clinical and network assessments to follow.

d. Initial site visits will be conducted by APPMO as part of the planning phase to educate as well as to gain a greater understanding of the environment and requirement. These site visits are focused in the following two areas:

(1) The clinical assessment is mainly focused on analyzing the workflow and identifying the clinical requirements (e.g., number, types and proposed locations of workstations, specific imaging modalities and their locations, and assessing the current print backup capability). This assessment is performed by the clinical component of the APPMO office, the APPMO network engineer, and the appropriate site project team personnel.

(2) The network assessment is mainly focused on the data transfer aspects of either installing a new system or modernizing an existing system. Parameters that are assessed are the capacity of the current network infrastructure to support the proposed PACS components in the required locations; existing cabling and what if any additional cabling would be required; existing Uninterruptible Power Supply (UPS) capacity, emergency generator power capability, and space in the data center for the core PACS hardware. The Team will also document existing networking hardware, perform an assessment of network security and document the existing capacity all pertinent wide area network connections. The network assessment is performed by the network engineering component of the APPMO and the appropriate site project team personnel.

e. The clinical/network assessment will result in a detailed report that includes or identifies the following:

(1) A list of existing equipment to be integrated, including locations and status
(2) Proposed locations for new equipment

(3) Identification of workflow issues or problems that may be helped by the implementation of PACS (or possibly reengineer one or more workflow issues for more efficient operations)

(4) Critical networking, security, or bandwidth issues that should be addressed with recommendations for resolution, and

(5) Any high-level site preparation or cabling required for the project

10-5. SITE/REGIONAL PROJECT TEAM ACTIVITIES — ASSESSMENTS AND IMPLEMENTATIONS

a. For each site survey and implementation a site project team consisting of the APPMO Project Manager assigned to the region, the Regional Project Manager, Site Project Manager, and site participation from the diagnostic imaging, Information Management Division (IMD), medical maintenance, logistics, and facilities sections is essential for the smooth and efficient implementation of PACS. The project team is responsible for the following tasks:

(1) Identifying all imaging modalities and printers to be integrated into the PACS

(2) Identifying the number, type and location of workstations to be installed or upgraded, as balanced against available funding. What is minimally required?

(3) Reviewing alternative timelines for implementation and training and ensuring that timelines for installations/upgrades do not interfere with MTF clinical operations

(4) Identifying and developing an approach for information assurance documentation, required facility renovations, and training schedules.

b. Typically the USAMEDCOM and the TIMPO will be responsible for all network infrastructures at MTFs in support of PACS and teleradiology. However, when the PACS network assessment is conducted, if there are significant PACS-focused networking and security issues that cannot be resolved quickly through the USAMEDCOM, the APPMO will seek additional funding to augment the infrastructure for optimum performance of PACS. This may be done at the expense of the regional PACS budget, so all efforts will be made to have the USAMEDCOM more appropriately support through their information management/information technology (IM/IT) budgets.

c. Site preparation requirements for PACS implementation will be jointly developed by the site and the APPMO clinical survey team. While the APPMO can help identify the requirements, the site is ultimately responsible for programming/requesting site preparation funds as discussed in Chapter 3 of this Supply Bulletin.

d. Specific requirements

(1) Computed radiography (CR) installation—reconfigure existing wet-chemistry processing areas to support CR equipment. Demolish existing spillage baths and plumbing; add network drops and power to accommodate CRs.

(2) Computer room/data center—many computer rooms do not have adequate space for the placement of PACS storage devices and associated PACS equipment.

(3) Radiologist viewing/reading rooms—inadequate viewing areas; transitioning from film viewing to soft-copy displays require physical changes to the viewing environment, i.e., heating, ventilation, and air conditioning (HVAC), UPS, ambient light reduction, light diffusers, anti-reflective surfaces, and anti-reflective walls (paint).

e. The APPMO will identify requirements for modality integration—seamless modality integration using standard DICOM protocols. The cost of upgrading modalities to provide the

minimum-required DICOM functionality for interoperability will be borne by the MTF/region as an operating expense unless the upgrade qualifies for MEDCASE funding.

f. A CHCS interface is required to promulgate patient demographic information to the PACS. The CHCS interface is currently unidirectional; however future requirements call for a bidirectional interface.

10-6. VENDOR SELECTION

a. For large new regional system procurements or major modernization projects (typically greater than $1 million), the APPMO, in conjunction with the regional project team, will develop a RFI/RFP on a regional basis. The intent is to optimize sustainment and minimize cost through regional standardization of PACS configurations. The RFI/RFP will clearly define regional PACS requirements within the system lifecycle (presently eight years) and "lock in" acquisition and sustainment costs for that region over the eight-year period.

b. The APPMO, with participation and assistance by the regional project team, will select a vendor for the region. Vendor selection is based on clinical preference and overall cost of ownership for the life of the product.

(1) The APPMO project manager and selected APPMO staff, along with selected members of the regional project team, will comprise the evaluation panel. The evaluation panel will review the vendor technical proposals and evaluate clinical fit, past performance, lifecycle cost, and delivery. The panel will summarize their findings and render a recommendation of the optimal solution to the APPMO project manager.

(2) The APPMO project manager will consider the evaluation panel's recommendation and may either approve as-is or request further due diligence and supporting rationale for the vendor selection. The APPMO project manager will make the final award decision. If the site disagrees with the selection, the Commanding General, USAMRMC, is the final authority for award.

c. After a vendor has been selected, the APPMO will work with the DSCP to issue a delivery order against the DIN-PACS II contract.

d. For smaller system procurements such as the addition of a hub or spoke teleradiology node to an existing teleradiology system, or minor site level upgrades or enhancements to existing systems (typically valued at less than $1,000,000), the APPMO will work directly with the regional project team to fine tune the requirement and then negotiate with vendors to get best pricing before directing DSCP (or other contracting agencies) to cut contracts for equipment.

10-7. ACCEPTANCE TESTING

a. USAMMA is responsible for managing the acceptance test program for PACS throughout the AMEDD and has matrixed personnel within the APPMO for this purpose. Final acceptance of the installation shall be made by DSCP based on the results of acceptance testing, which is coordinated through APPMO as the central decision authority for PACS and teleradiology programs.

b. System acceptance inspection testing shall include complete inspection and verification of functional operation of the DIN-PACS, including all ancillary components and turnkey installation. The acceptance test will verify that the system and the turnkey installation complies with the DIN-PACS II contract requirements as well as the Contractor's published specifications. If the Contractor's specifications furnished with his technical proposal exceed the Government's requirements, the Government will test and base acceptance of the system on the Contractor's specifications. In all other cases, in the event of any other conflict

between the Contractor's published literature and the requirements of the specification, the requirements of the specification shall take precedence. Noncompliance with any specified requirements or presence of one or more defects may constitute cause for rejection.

c. On completion of installation of all equipment and systems software comprising the system as defined in the site specific delivery order (and turnkey installation), the Contractor will furnish a written notice of readiness for inspection of the system (and turnkey installation) to DSCP. With this notice, the Contractor will certify in writing that:

(1) The particular system is installed

(2) The system is ready for acceptance testing

(3) The system complies with the manufacturer's specifications AND with all the requirements of the DIN-PACS II contract specification

d. The Contractor is expected will make its best effort to provide an estimate of expected date of readiness to DSCP roughly two to three weeks in advance (the Contractor will not be bound by this estimate) to allow both the Government and Contractor additional time to plan personnel schedules.

e. The acceptance inspection test shall be conducted only on a complete, integrated system. The acceptance inspection test consists of a series of validation steps for each requirement in the DIN-PACS II contract and will include tests to validate both component performance and system integration performance.

(1) Testing will be conducted in accordance with the most current version of the Government's Clinical Use Determination (CUD)/Acceptance Testing (AT) Protocol available at the time of acceptance testing.

(2) The Government will first conduct a basic level of testing as defined in the CUD/AT Protocol to make a CUD. The CUD/AT inspection will normally be conducted during a single, continuous testing period. The vendor is responsible for connecting test equipment and operating the system during inspection testing. Minor discrepancies that may be corrected during the inspection shall not be cause for rejection.

(3) If acceptance inspection testing has not commenced within 30 calendar days from date of receipt of the Contractor's notice of readiness for inspection, the Government shall accept the system, and subsequently set final acceptance of the system as the date of notice of readiness for inspection.

(4) If the system is rejected as a result of the CUD/AT inspection, the contractor shall be advised via letter from DSCP as to deficiencies which were cause for rejection. It is the contractor's responsibility to correct reported deficiencies and to advise DSCP in writing when all corrections have been made and equipment is ready for reinspection. Reinspection shall be performed by the Government with all costs incurred chargeable to the PACS vendor.

(5) If deficiencies found at the time of CUD/AT inspection are corrected within 30 calendar days after receipt of the deficiency letter from the Contracting Officer, final acceptance will be issued on validation of deficiency correction by the Government, and the start date for the warranty shall be backdated to the date of CUD.

f. Other systems or equipment items purchased with the PACS, and not covered under the DIN-PACS II CUD/AT protocol (e.g., CR or film digitizers) may also be tested during the system acceptance test. Systems will be tested per the manufacturer's protocols for commercial testing unless an appropriate Government testing protocol is available.

10-8. SUSTAINMENT

a. The APPMO is the corporate champion for the PACS maintenance and sustainment IPT. The team has a multi-functional mix of clinical, medical maintenance, IM/IT, and project management personnel with a primary focus on the product as it supports the medical mission, and the overall costs of its sustainment. The IPT is responsible for recommending ways to minimize the sustainment costs for PACS while at the same time balancing cost reductions with maximizing the clinical availability of this mission-critical medical system.

b. The approach the IPT includes the following:

(1) Define the requirements for maintenance by identifying maintenance intensive items

(2) Measure/assess operational and clinical availability in terms of up-time performance

(3) Analyze the derived benefit gained through contracted service programs

(4) Improve/increase maintenance efficacy through training and modified service contracts

(5) Control the maintenance program by continuously evaluating organizational needs – clinical and operational

c. With the emergence of new technologies such as PACS and teleradiology comes the requirement for identifying ownership and management of these medical systems. Medical device tracking and management is paramount to successful Joint Commission on Accreditation of Healthcare Organizations (JCAHO) inspections. However, many AMEDD MTFs erroneously consider these systems to be IT systems which do not require the same level of accountability and management as medical devices. This places the AMEDD at risk, due to lack of historical documentation and understanding. All FDA-approved medical devices and systems/subsystems must be listed in the site's property book, and all maintenance and changes to the product tracked in the appropriate device history record.

d. In addition to the asset management requirements to support these systems, facilities must recognize that local support resources must be trained and made available across a number of functional areas within each facility to realize the clinical efficiencies associated with these systems. The functional areas impacted most heavily by the installation of PACS are the following:

(1) Radiology department. Provides clinical systems administration support.

(2) IM/IT department. Provides technical systems support for distributed devices, networks, and core PACS equipment located within the facility data center and protects all medical devices from attack or non-vendor modification through the use of firewalls and network security policies. Details of how the corporate IM/IT community will conduct its efforts and the policies to protect all medical devices are still being considered at the time of the writing of this publication. Questions concerning information assurance and network security should be addressed to the local, regional, and corporate chief information officers (CIOs) for the latest policies and procedures.

(3) Logistics/clinical engineering division. The Property Accountability Branch manages device history records and performs scheduled and unscheduled services on distributed medical devices/systems, as well as managing service contracts on the systems. Whether medical maintenance or IM/IT will provide support for medical workstations also is still being decided at the time of the writing of this publication. Monitor calibration falls under the medical maintenance purview, and networking falls under IM/IT. Most likely, the vendor will maintain the clinical application software for workstations and servers.

10-9. PROPERTY ACCOUNTABILITY AND MAINTENANCE MANAGEMENT OF DIN-PACS

a. USAMECOM maintenance activities with DIN-PACS will ensure the system and all components are properly accounted for in the AMEDDPAS or DMLSS. Device tracking is a requirement of JCAHO. Appendices A and B contain detailed procedures.

b. Documentation of scheduled and unscheduled maintenance within the maintenance module of AMEDPAS or DMLSS is key for proper accountability and provides data necessary to categorize cost drivers and identify tasks performed as part of a comprehensive government program to reduce costs associated with DIN-PACS. Accurate property accountability also assists activities when making corporate decisions regarding requisite skills or training to sustain DIN-PACS.

10-10. TELERADIOLOGY FUNCTIONALITY

a. Ideally, teleradiology is essentially distributed PACS and a means of electronically transmitting radiographic patient images and consultative text from one location to another. The original purpose of this capability was to provide primary interpretation capability for radiology exams acquired at MTFs without assigned radiologists and to provide additional radiologist support for those sites that are understaffed on a temporary or permanent basis. Current planning includes the exporting of radiological exams to remote sites for interpretation by underused radiologists, expanding the options for achieving maximum use of radiology personnel resources. For the purpose of image acquisition, specially configured teleradiology equipment may be used for this function or the same equipment at primary PACS sites may be used. The concept allows for central-reading MTFs (hubs) staffed by radiologists to read digital images transmitted via communications links from satellite MTFs, or when radiologists are deployed and the operations tempo is slow, transmitting home site workload to them on a global basis to keep their skills up and continue to provide support to their home MTFs.

b. Either commercial or government-provided communications links can be used for teleradiology as long as they are secure and available for clinical use. Sites can use a variety of secure communications links including dedicated terrestrial or satellite-based T-1, Integrated Services Digital Network (ISDN) circuits, fractional T-1 (dial-up switched-56K service), Digital Subscriber Line (DSL), Asynchronous Digital Subscriber Line (ADSL), or cable modems where available. Worldwide electronic transmission, using lossless data compression and encryption, can be real time or scheduled for after normal working hours as needed to help get better utilization of limited communications circuits. The transmission method chosen and the bandwidth of the transmission path affect the throughput from the hub to the spoke. This must be understood in the planning of the teleradiology operational concept. Factors such as image size, volume, and acceptable turnaround time will help determine the bandwidth requirement of communications links chosen for support of teleradiology. Full bit depth of the original acquired image data set will be transmitted to permit full diagnostic capability at the receiving site. Thus, while transmission compression is permitted, it must be bit preserving (lossless) and fully reversible. Transmission of teleradiology images must be able to be performed in both real time and scheduled batch mode. Unattended batch-mode transmission would normally be used for routine clinical workload, and real-time immediate mode would be used to support the fast turnaround time requirements of emergency medicine. Teleradiology projects are already implemented in Europe, Korea, the Pacific Basin, Southwest Asia, the Balkans, Alaska, and the Regional Medical Commands in CONUS. These projects use various Army and Air Force MTFs as the hubs.

c. An additional goal of the APPMO is to provide at-home, secure teleradiology capability, extending the radiologists' office into their home when they are on call. This will be accomplished using a personal computer (PC)-based workstation that is either transportable to the physician's home or via a modular upgrade that can be applied to an existing home PC. The at-home PC would typically receive radiological exams via a high-speed commercial

Internet Service Provider (ISP) using DSL, ADSL, or cable modem communications technology. The radiologist would report findings back to the hospital CHCS directly or by an e-mail type program.

10-11. INFORMATION ASSURANCE

a. As the program management organization responsible for the acquisition and fielding of Radiology PACS for the Army, the APPMO has been tasked with developing an effective Information Assurance (IA) program for PACS and teleradiology systems. A key component of this program is the institution of new processes to report and respond to Information Assurance Vulnerability Alerts (IAVAs), as well as other threats to Army Health Care systems. Because most information assets covered under this program are classified as medical devices, and are, therefore, subject to regulation by the FDA, full participation and support by industry and the clinical users is required for the successful execution of the Army's radiology mission.

b. The PM, APPMO has been assigned Delegated Approval Authority (DAA) by the Commanding General, USAMRMC for information assurance and security for centrally deployed PACS and teleradiology systems. The APPMO will work with the OTSG, USAMEDCOM, ISEC, and MHS to help design and implement defense-in-depth, protected-enclave, network segment architectures to protect vulnerable FDA-approved medical devices and systems.

c. The APPMO will assist in the coordination and compliance with PACS and related devices used for digital imaging in the Army MTF environment. With the recent commitment to security improvements and compliance on PACS and related devices, the APPMO will act as a liaison for incorporating these needs into improved processes. This will allow the Army Healthcare System to continue to provide mission critical patient care needs in a responsive and secure way.

d. As of the date of this text, there are no PACS or related radiology devices that have completed the Defense Information Technology Security Certification and Accreditation Process (DITSCAP). The DITSCAP process has been in progress and will require another 18 to 24 months for completion on some systems. The required IAVAs and the USAMEDCOM Guidance Directives have not yet addressed the FDA issues for medical devices, which require vendor authorization prior to installing and applying any necessary patches, updates, or changes to these medical systems.

e. The APPMO mission is to provide PACS technology to all MTFs across the AMEDD by FY 2007. As sites are completed, their POC will be added to the APPMO list for correspondence. The APPMO, with assistance from the USAMMA, will complete and maintain a database of all the PACS and related medical devices, along with vendor contact information and status of compliance. This inventory is essential for ensuring compliance with all PACS equipment across the AMEDD.

f. The APPMO information assurance manager will be a central POC for PACS vendors and work with the Regional information assurance manager or designated POCs to facilitate vendor-product-site IAVA issue resolutions. The APPMO will advise the regions on the status of updates and monitor vendor compliance schedules to encourage them to resolve IAVA non-compliance issues as quickly as possible. Regions will request extensions or waivers or both as necessary and the APPMO will also keep the USAMEDCOM information assurance program manager apprised of all security related issues with respect to IAVA and PACS/Teleradiology security matters.

CHAPTER 11. CLINICAL SUPPORT DIVISION

11-1. INTRODUCTION

The CSD is a new division within the USAMMA Materiel Acquisition Directorate. Created during the past year, it is the result of the commitment of the USAMMA to providing quality responsiveness in the area of medical logistics to our healthcare providers on the battlefield. The CSD consists of six military and civilian personnel. The division chief is an Army Nurse Corps lieutenant colonel. Other military personnel include a pharmacist and a laboratory officer. The civilian personnel include two registered nurses and one physician assistant.

11-2. AREAS OF RESPONSIBILITY FOR CLINICAL SUPPORT DIVISION

The primary responsibility of the CSD is clinical oversight and guidance to the maintenance of the medical assemblages. The CSD coordinates actions and reviews with clinicians in other Army and DOD agencies and translates concepts and comments from doctrine and after-action reports into practical applications, enhancing providers' capabilities to save lives. The division is also available to provide direct consultation with MTOE units, both CONUS and OCONUS.

11-3. POINT OF CONTACT FOR CLINICAL SUPPORT DIVISION

Commander
U.S. Army Medical Materiel Agency
ATTN: MCMR-MMT-A
1423 Sultan Dr., Suite 100
Fort Detrick MD 21702-5001
Telephone DSN 343-4305/301-619-4305

CHAPTER 12. UNIT ASSEMBLAGE INFORMATION

12-1. UPDATING OF UNIT ASSEMBLAGES

a. Unit Assemblages (UAs) (known as medical sets, kits, and outfits) are revised as the AMEDD Combat Developer, AMEDD Center and School, Fort Sam Houston, TX, clinically reviews them. These revised updates are published after the new components identified in the new versions have been reviewed and approved for procurement and fielding purposes.

b. Once the new versions for the non-hospital sets are approved, they are published on the USAMMA web pages (**http: www.usamma.army.mil**). UA information can be obtained by accessing the index on the left side of the homepage under the "DOD Unit Assemblage" option. The set component data contains the most current catalog data for each material component of the sets as well as any maintenance changes to the set, such as deleted or replacement NSNs.

c. Activities will note the new versions are unique to the year they are approved and the year is identified in the set nomenclature. Although the Line Item Number (LIN) for a particular set may remain the same from year to year, the NSN of the set will change each time the UA is updated. For the most accurate UA results, search for the UA listing using the NSN listed on your unit's property book listing.

d. The hospital sets (DEPMEDS sets) are not published on the web, and the units are to maintain these sets based on the documentation they are provided when the USAMMA Fielding Office delivers the hospital sets (see *AR 40-61*, Chapter 5). The units are not required to update their hospital sets until USAMMA upgrades a unit with the new version based on a USAMMA-established fielding schedule.

e. Activities without web access can request electronic copies of their UA listings for the approved versions of their sets. A request should be submitted in writing identifying the set NSN and the LIN to the address shown below. Phone requests may also be made to the USAMMA Data Management Division at DSN 343-4312/4315 or 301-619-4312/4315.

Commander
U.S. Army Medical Materiel Agency
ATTN: MCMR-MMT-D
1423 Slultan Drive, Suite 100
Fort Detrick MD 21702-5001

12-2. INSTRUCTIONS FOR OBTAINING SUPPLY CATALOGS (SCs) AND SUPPLY BULLETINS (SBs)

a. Requests for printed medical SCs 5180-8 and 6545-8 Series and SBs (SB 8-75 Series) are not to be filled from or by the USAMMA.

b. If your activity has a need for medical SCs or SBs, you will need to contact the U.S. Army Publishing Directorate (USAPD). Effective July 1997, hardcopy requests were no longer accepted through the Department of Army (DA) Pamphlet Series. You must have a valid account number and use the website to order publications. Your requirements must be submitted through the electronic method by accessing the USAPD website: **www.apd.army.mil**.

c. For further assistance in using the system or services contact USAPA Customer Service at the Distribution Operations Facility, St. Louis MO; telephone 314-592-0900, extension 4, or DSN 892-0900, extension 4.

d. If you need to check the status of your order or are having problems with pending orders, contact USAPD Customer Service personnel at the telephone number in paragraph c.

12-3. MAJOR MEDICAL ASSEMBLAGES/SC NUMBER CROSS REFERENCE LISTING

As of 25 January 1995, the article in AR 40-61 entitled "Major Medical Assemblages" (alphabetical listing) is no longer published. A listing of the current Army assemblages is provided as Appendix C in this SB. The title of the listing is "Major Medical Assemblages in National Stock Number (NSN) Sequence" and will be updated as new listings are published in this SB.

12-4. MEDICAL EQUIPMENT/INSTRUMENT ILLUSTRATED CATALOG ON CD

a. The UA Branch is responsible for identifying illustrations for newly developed medical items that are included in medical sets, kits, and outfits. These illustrations will help the AMEDD community to identify Medical Instrument/Equipment components within their unit's UA inventories.

b. The illustration library of the UA section is also reflected on the DLSC UDR CD-ROM. The illustrations are also uploaded to the USAMMA DOD MEDSILS website (see the USAMMA Homepage **www.usamma.army.mil**). Illustrated items on MEDSILS are available to view when an icon appears next to the NSN on the screen. Simply click on the icon to view the image.

c. Available illustrations are also accessible on the homepage through the UA component query. For any UA query that results in a component list, a yellow legend button appears beside any illustrated component. The illustration will open just by clicking the yellow legend button.

d. The illustrations are captured in a variety of forms including:

(1) Sketch/Line drawing
(2) Black and White photos
(3) Color photos

12-5. NEW ON-LINE CAPABILITY TO REQUEST NSN ASSIGNMENT

a. The request for NSN assignment is now an on-line form entitled Submit Request For New Joint Control Number (JCN) for use by UA Developers or Product Managers. This capability is available to submit an item for assignment of an NSN for inclusion in an Army set or an Associated Support Item of Equipment. On submission of the completed form, a Request Number will be assigned to your request; use this number to reference your request until a JCN is assigned. A JCN will then be assigned to the item when the Army Standardization Manager (ASM) has validated it. It is then added to the set by the set developer. The JCN will be the reference number for the item until the NSN is assigned.

b. Before an item is submitted for NSN assignment, it must be researched in one or more of the following: UDR on CD-ROM; FED LOG on CD-ROM; and DLIS on-line.

c. Provide all information you have on the item in the appropriate sections of the form. Please reference the assigned request number on the literature that you send. Mandatory information is:

- Item Name
- Item Description
- Source Of Supply - Name, Address, and Phone Number
- Part Number, National Drug Code (NDC), Trade Name, or Universal Product Number (UPN)
- Unit of Issue
- Weight and Cube
- Product Literature or Supporting Documentation (How It Will Be Sent)

- A Vendor's Website Is Preferred — Provide the URL on the Form
- You May Also Send Literature By:

E-MAIL TO: APPROPRIATE ASM
FAX TO: 301-619-2938, DSN 343-2938
MAIL TO: USAMMA, ATTN: MCMR-MMT-D
1423 Sultan Dr., Suite 100
Fort Detrick MD 21702-5001

Preferred but not mandatory information is:

- Unit Price
- Common Name
- UA (Unit Assemblage that the item will be a component of or associated with)

d. The on-line form is available over the USAMMA Internet by accessing the following link:
http://www.usamma.army.mil/

Click on "DOD Std Item Request." Click on the link at the bottom of the page and that will take you to the JCN requester login screen. If you have previously registered, you can select your name from the drop down select box. Please check your address and phone number and update if necessary.

e. If you are a new requester, you can self-register by clicking on the "Register New Requester" link and filling out the Requester Information Form. When you return to the login page, select your name from the drop down select box.

f. If you have any questions or problems in submitting your request, contact an ASM at 301-619-4312/4426 or DSN 343-4312/4426.

12-6. RECOMMENDING IMPROVEMENTS AND REPORTING ERRORS FOR MEDICAL SETS, KITS, AND OUTFITS

a. The AMEDD Combat Developer of the AMEDDC&S is responsible for the design, development, and composition of medical sets. They are also responsible for the clinical review and update of these medical UAs.

b. As stated in AR 40-61, the USAMMA is responsible for the maintenance and management of the logistical UA data, as well as responsible for the distribution and publication of this data. One of the USAMMA UA publications for medical sets as they are approved, is the official DA *SC 6545-8 Series, Components List/Hand Receipt*. As stated in the SC, any recommendations or suggestions for improvement to the components of sets should be provided in writing on DA Form 2028, *Recommended Changes to Publications and Blank Forms*.

c. To make suggestions or report problems, the DA Form 2028 should be completed and mailed to:

Commandant
AMEDD Center & School
Directorate of Combat Doctrine Development
ATTN: HSMC-FCM-M
Fort Sam Houston TX 78234-6100

12-7. WEB-ACCESSIBLE UA PRODUCTS

a. The UA products listed below are available on the USAMMA website at:
www.usamma.army.mil

b. Select "DOD UA" on the USAMMA homepage sidebar, and then select the "DOD UA" button that appears underneath. To connect to the UA website select the "Click Here" link. Only Army sets are currently available through our website. For DEPMEDS, contact us via e-mail. On the initial screen for UAs, there are three search options available to obtain information:

(1) UAs – Searches the UAs (sets). After the UA is found, it can be exploded to view components. The menu option for UAs contains six search criteria unique to the set:

- UA Code – Searches UA Code.
- NSN – Searches NSN of the set
- LIN – Searches LIN of the set
- SUPPLY CATALOG CODE (SCC) – Searches SCC
- NOMENCLATURE – Searches the specific name of the set

(2) Components – Searches for all sets that contain this component. You may then navigate to the UA, which may then be selected and exploded, into all its components. The menu options for "Components" contains six search criteria:

- NSN – Searches the NSN to find a list of all UAs that contain the specific component
- Therapeutic Index Number (TIN) – Searches TIN to find a list of all components with the specific TIN
- LIN – Searches LIN to find a list of all components with specific LIN
- Commercial and Government Entity (CAGE) Code Number – Searches to find a list of all components with the specific CAGE code/manufacturer number
- NDC – Searches to find a list of all components with the specific NDC
- NOMENCLATURE – Searches to find a list of all components with specific nomenclature

(3) Relationships – Searches for "W" to "J" or "J" to "W" relationships. If you enter a "W" NSN, all of the associated "Js" will be returned. Search options for "Relationships" identifies the AAC "W" & "J" NSNs.

Enter a search by an AAC "W" NSN to view "J" NSN (associated with "W" NSN).
Enter a search by an AAC "J" NSN to view "W" NSN (associated with "J" NSN).

c. Additional detailed UA background and instructions are provided for your guidance in the "Help" link under the following paragraphs:

- Web System Tutorial/Query Instructions
- Medical Service Unique UAs Changed in 2000
- Medical Unit Assemblage Listings as of 2000
- Download UA Information to PC
- Shelf Life Codes
- Instructions for Obtaining SCs and SBs
- Phrase Code Information
- Therapeutic Classification – American Hospital Formulary Service
- Read-me Instructional File Distributed with UAs on Diskette

d. The e-mail link will address us with your feedback or any assistance you may need.

12-8. NEW SECTION IV IN THE PUBLISHED UA LISTINGS PROVIDING CONSUMABLE/SUPPORT ITEMS FOR MEDICAL EQUIPMENT

a. Medical equipment items that may be a component of a medical set, kit, or outfit or may be separately authorized for use with sets may require consumable/ support items to keep the equipment operational. Examples of consumable items include paper, fluid, or tubing.

b. The USAMMA has developed a database to maintain these items as they are identified through researching provisioning contracts. This database is continually being updated based on research and communication with the manufacturers, as consumable/support items are manufacturer specific.

c. A new section, Section IV, has been added to the UA reports; the section is available on the USAMMA webpage. Currently, Section IV is provided when a UA is downloaded from the webpage to either the PC hard drive or to a diskette. The report can either be printed or opened onto the screen via “NOTEPAD” or “WORDPAD”. Only UA reports for non-hospital sets are available on the USAMMA webpage.

d. The consumable/support items are also available on a dropdown view on the “DOD MEDSILS” portion of the USAMMA webpage when the medical equipment NSN is queried. The key MEDSILS data element that links the equipment to the consumables is the “Maintenance Repair Code” (MRC). If the MRC is highlighted in the MEDSILS display for the equipment National Item Identification Number (NIIN), just single click on this code and the consumables and their authorized quantities will be provided. The NIIN is the last nine digits of the NSN.

CHAPTER 13. DATA MANAGEMENT — INFORMATION AND PRODUCTS

13-1. AAC "W" AND "J" RELATIONSHIPS

a. NSNs and Acquisition Advice Codes (AAC) "W" are assigned to generic end-items of equipment that are initially identified for use. This process provides a method to develop authorization documents, e.g., MTOE and UAs, and for procurement planning (development of essential characteristics). **On-hand stocks should never be recorded against AAC "W" NSNs.**

b. As manufacturers are identified, contracts awarded, and items developed, each item is assigned a new NSN with AAC "J." Data plates and container markings reflect the specific NSN for that manufacturer.

c. DOD Army Logistics Systems/Publications further identify AAC "W/J" relationships through the use of Phrase Codes "3" and "S":

The Phrase Code "3" is assigned to the actual item manufactured (AAC "J");
The Phrase Code "S" is assigned to the generic NSN (AAC "W").

d. *AR 40-61*, paragraph 3-63, provides additional requisitioning instructions and information on provisioned medical equipment. Regular updates to *SB 700-20* and the Army Master Data File (AMDF) reflect specific and current items of production data (AAC "J") as authorized substitutes for the generic end-item (AAC "W") reflected on the requisitioner's authorization document.

e. AAC "W&J" listings are available via the Internet in the Medical Services Information Logistics System (MEDSILS) database, located and accessible via using the address:
http://www.usamma.army.mil/apps/qbca_medsils/index.htm

f. For additional information on AAC "W" and "J" relationships, please contact the USAMMA, ATTN: MCMR-MMT-D, DSN 343-4308/301-619-4308.

13-2. CONTROLLED SUBSTANCES - NSNs

a. The list of NSNs shown in Appendix D are considered to be Controlled Substances as defined by the Administrator DEA, Department of Justice, as defined in the Controlled Substance Act of 1970. These NSNs also appear on the Defense Logistics Agency (DLA) Controlled Substances Table.

b. NSNs containing the Controlled Inventory Item Code (CIIC) of "Q" (to include notes Code of "Q") are determined to be a drug or other substance designated as a schedule III, IV, or V item, in accordance with the Controlled Substance Act of 1970, and includes other sensitive items requiring limited access storage.

c. Those NSNs with CIIC "R" (to include notes Code of "R") have been determined to be a precious metal, a drug, or other controlled substance designated as a Schedule II or III item, in accordance with the Controlled Substance Act of 1970, and includes other selected sensitive items requiring storage in a vault or safe.

d. For additional information on controlled substances, please contact the

USAMMA
ATTN: MCMR-MMT-D
1423 Sultan Dr., Suite 100
Fort Detrick MD 21702-5001
Telephone DSN 343-4323/301-619-4323

13-3. FED LOG ON CD

a. The FED LOG system is menu-driven and capable of operating on a local area network (LAN). There are three levels of help available to the user:

(1) System help,
(2) Screen level help, and
(3) Coded data help.

It is produced by the Defense Logistics Information Services (DLIS) from data resident in the Federal Logistics Information System (FLIS). FED LOG contains management, reference, descriptive, freight, and manufacturer supply data for all U.S.-assigned NSNs.

b. FED LOG has a user's manual with help features on the disk. A startup guide is distributed with your first copy of FED LOG to help with installation, troubleshooting, and includes customer support information.

c. FLIS is searched by entering one or a combination of the following:

(1) Part Number
(2) CAGE Code
(3) National Item Identification Number (NIIN)
(4) NSN
(5) Permanent System Control Number
(6) Supplier Name, or
(7) Item Name.

d. The Army system can be searched by any combination of the FLIS and/or Management Control Number (MCN) and/or LIN. The following list shows the options.

- You can search by characteristics data with the Characteristics Search Disk.
- A wildcard search is available on most of the above searches with the first three characters and an asterisk (*).

e. The Logistics Data Management Center in Huntsville, AL, maintains the distribution list for all of Army. To obtain disks 1 through 4, please contact:

Commander
USAMC Logistics Support Activity
ATTN: AMXLS-MLA
Building 3623
Redstone Arsenal AL 35898-7466
DSN 645-0594/256-955-0594

f. Disk 5 (Characteristics Search), Disk 6 (Drawings), and Director Vendor Delivery (DVD) may be obtained from DLIS at DSN 932-4459/616-961-4459.

13-4. MEDICAL SERVICES INFORMATION LOGISTICS SYSTEM (MEDSILS)

a. MEDSILS is an integrated logistics database that supports the medical logistics function of the Air Force, Army, Navy, and the Defense Medical Standardization Board (DMSB). It supports the Secondary Inventory Control Activity (SICA) function through the generation, receipt, transmission, validation, storage, control, and dissemination of logistics data. MEDSILS is a central source for medical and non-medical logistics data required to support the Services' health care missions.

b. The USAMMA is the Executive Agent for MEDSILS, which is used by all Services at Fort Detrick. MEDSILS data is distributed daily to the FLIS and is disseminated worldwide. MEDSILS is also available on the web for cataloging queries. The web address is:

http://www.usamma.army.mil/apps/qbca_medsils/index.htm

13-5. MILITARY ITEM DISPOSAL INSTRUCTIONS (MIDI)/MILITARY ENVIRONMENTAL INFORMATION SOURCE (MEIS)

a. The MIDI/MEIS CD-ROM is provided to aid in the disposal of outdated and excess items used within DOD. The CD-ROM replaces the *U.S. Army Center For Health Promotion and Preventive Medicine (USACHPPM) Technical Guide No. 126, Waste Disposal Instructions*.

b. In addition to the MIDI database, which provides the method of destruction, the CD-ROM also contains:

- An Online Help
- USACHPPM Information Papers and Fact Sheets
- TG146 (*Pentachlorophenol-Treated Materials*)
- Pertinent Regulations (40 and 49 Code of Federal Regulations)
- P2 Initiatives
- Proact Fact Sheets

c. Disposal information may also be accessed through the internet at:

http://chppm-www.apgea.army.mil/newmidi/

You may query the live database by noun, synonym, or NSN.

d. To request disposal guidance on items not yet in MIDI, or to be added to distribution for the MIDI, use the appropriate contacts listed below.

FOR GUIDANCE:	**FOR DISTRIBUTION**:
MIDI PROJECT OFFICER U.S. Army Center for Health Promotion & Prevention Medicine Aberdeen Proving Ground MD 21010-5422 DSN 584-3652/410-436-3652 or 1-800-276-MIDI FAX 410-436-5237	Spawar System Center, Charleston, Norfolk Office (SSC CHAS NORF OFC) DSN 565-9191/Comm: 757-445-9191 FAX 757-444-2835

e. This CD-ROM product is provided on an annual basis. There is no charge for this service to DOD agencies.

13-6. SB 700-20 LINs

a. The *SB 700-20* (*Army Adopted Items of Materiel and List of Reportable Items)* is a system that reflects LIN assignments of items that are required in authorization documents. The MMT-D has the responsibility for obtaining LIN assignments for medical equipment that is authorized in the TOE. Normally, these items have high-visibility, high-dollar value, and must be accounted for on the property book. The *SB 700-20 Records Listing* may be viewed on the web at the address:

http://www.usamma.army.mil/apps/nam_sb70020_listings/nam_index.cfm

b. The information provided consists of the current file of medical and non-medical LINs listed in MEDSILS. Search methods consist of viewing by NIIN, LIN, Routing Identifier Code (RIC), view all *SB 700-20* records listing by LIN, and view all *SB 700-20* records by NIIN. By clicking on the associated LIN NSN highlighted in blue, it will take you into the MEDSILS.

c. The *SB 700-20 Records Listing* is updated twice a year in June and December.

13-7. UNIVERSAL DATA REPOSITORY (UDR)

a. The UDR is a Triservice CD product that is updated monthly by DLIS and distributed to recipients requiring use of the date. UDR data updates the Army TAMMIS, the Navy Authorized Medical Allowance List/Authorized Dental Allowance, Medical Logistics, and the Air Force Master Data List.

b. The UDR provides the user with a choice of search options to include Pharmaceutical, Medical, D-Day searches, Services, Defense Blanket Purchase Agreements (DBPAs), DEPMEDS, AMDF, Quality Assurance, Download and Images, Clinical Guidelines and Treatment Briefs, DSCP's Prime Vendor Distribution and Pricing Agreements.

c. The UDR will operate using a Windows application and consists of three basic functions:

(1) The UA data for Army,
(2) Requisitioning capability, and
(3) CD-ROM downloading capability for update of TAMMIS and Medical Assemblages Management (MEDASM).

d. Contact the appropriate Army component listed below for additional information. This includes notifications of additions, changes, or deletions to your UDR distribution requirements.

Active Army	Army Reserves	National Guard
USAMMA ATTN: MCMR-MMT-D 1423 Sultan Dr, Suite 100 Fort Detrick MD 21702-5001 Telephone: DSN 343-4311 or 301-619-4311 Telefax: DSN 343-2938 or 301-619-2938	Office of the Chief, Army Reserve ATTN: DAAR-DF-FI 1815 N. Fort Meyer Dr Arlington VA 22209-3808 Telephone: DSN 329-0629 or 703-601-0629	Army National Guard, Readiness Center 111 S. George Mason Dr ATTN: NGB-ARP-H Arlington VA 22204-1382 Telephone: DSN 327-7146 or 703-607-7146 Telefax: DSN 327-7187/7183 703-607-7187/7183

APPENDIX A. INSTRUCTIONS FOR RECORDING DIGITAL IMAGING NETWORK-PICTURE ARCHIVING AND COMMUNICATION SYSTEM (DIN-PACS) MEDICAL SYSTEMS ON ACTIVITY PROPERTY BOOKS FOR SITES USING AMEDDPAS

1. List the Digital Imaging Network-Picture Archiving and Communications System on the AA line of your property record.

a. The local NSN should start with FSC 6525.
b. List the system line as a Subsystem B item.
c. The cost listed should be the total cost of the entire system.
d. The ECRI Class Code for the Radiology PACS System is 16247

2. List system components as shown in Table A-1.

Table A-1. COMPONENT LISTING EXAMPLE

Line	Nomenclature	Cost
AB	Diagnostic Work Stations (4 monitor)	$.01 SYS A
AC	Diagnostic Work Stations (2 monitor)	$.01 SYS A
AD	Review Workstations	$.01 SYS A
AE	Review Workstations (1 monitor)	$.01 SYS A
AF	Quality Control Workstations (2 monitor)	$.01 SYS A
AG	Quality Control Workstations (1 monitor)	$.01 SYS A
AH	Color QC Lite Workstations	$.01 SYS A
AI	RIS Terminals	$.01 SYS A
AJ	Network Printer	$.01 SYS A
AK	Web Server	$.01 SYS A
AL	Teleradiology Gateway	$.01 SYS A
AM	NT Domain Controller	$.01 SYS A
AN	Archive	$.01 SYS A
AO	H70 (AIX) Server	$.01 SYS A
AP	H50 Server	$.01 SYS A
AQ	RIS NT Server	$.01 SYS A
AR	RIS NT Server	$.01 SYS A
AS	C68 Archive	$.01 SYS A
AT	C66 Archive	$.01 SYS A
AU	Telemaintenance Server	$.01 SYS A
AV	Color Review Workstations (2 monitor)	$.01 SYS A
AW	DICOM IT (at sites that capture ultrasound images)	$.01 SYS A

3. List CR readers as a separate System AA Line.

a. List the system line as a Subsystem B item.
b. The cost listed should be the total cost of the entire system.

4. List system components as follows:

   a. AB Line CR reader
   b. CR Workstation

5. List film digitizers as separate items. Even though these items may have been procured as part of the DIN-PACS package, they are stand-alone items.

6. The requirement to list these items on your property records in this manner is an attempt to satisfy CFO requirements as well as have a “mirrored” database for audit purposes. When listing workstations, use the serial number of the CPU for the workstation serial number. Using this serial number eliminates the necessity to place monitors on your property account as they (e.g., an x-ray tube head) are replaced as repair parts.

7. CFO requirements mandate all costs as well as the equipment acquisition cost be listed in the AMEDDPAS system. This is to enable the system to reflect and depreciate the true cost of these systems over a specific time period.

8. The suffixes AB – AX can be used as necessary and are listed above only as an example.

APPENDIX B. INSTRUCTIONS FOR RECORDING DIN-PACS MEDICAL SYSTEMS ON ACTIVITY PROPERTY BOOKS FOR SITES USING DMLSS

DMLSS users will adhere to the following procedures to establish DIN-PACS as a system on the property book.

1. Establish a due in for the item in accordance with DMLSS procedures.

2. Receive the system in accordance with DMLSS and local procedures. Identify this as a system item (System ECN). This is an actual item and should be the major item of the system. For DIN-PACS, this item will be one of the main servers as identified by the Army PACS Program Management Office (APPMO), phone 301-619-3322.

3. Gain the other components of the system using the DMLSS ETM Gain module with the reason "Component Gain" with the actual price of the component. Ensure the components are associated with the system ECN. The device nomenclatures for the components are listed in Table B-1.

Table B-1. DEVICE NOMENCLATURES

Nomenclatures	Guideline (if any)
Diagnostic Work Stations (4 monitor)	Account for using the CPU serial number
Diagnostic Work Stations (2 monitor)	Account for using the CPU serial number
Review Workstations (2 monitor)	Account for using the CPU serial number
Review Workstations (1 monitor)	Account for using the CPU serial number
Quality Control Workstations (2 monitor)	Account for using the CPU serial number
Quality Control Workstations (1 monitor)	Account for using the CPU serial number
Color QC Lite Workstations	None
RIS Terminals	None
Network Printer	None
Web Server	None
Teleradiology Gateway	None
NT Domain Controller	None
Archive	None
H70 (AIX) Server	None
H50 Server	None
RIS NT Server	None
RIS NT Server	None
C68 Archive	None
C66 Archive	None
Telemaintenance Server	None
Color Review Workstations (2 monitor	Account for using the CPU serial number
DICOM IT (at sites that capture ultrasound images)	

4. Return to the system record and select the Acquisition Cost icon and adjust the purchase price to reflect the cost of the major item recorded there. Refer to paragraph 2 above.

5. Select the System ECN record in the Equipment Search screen. Selecting the Print icon and then the Detail button generates a report for the ECN. This report lists the system and components for the selected system record and displays the Total System Acquisition Cost. The Systems and Components report, in the Standard Inquiry portion of the Reports module, also shows this information. The Components tab of the System ECN tab will show the total system acquisition cost.

6. Ensure components requiring medical maintenance services have a Maintenance Requirement Indicator of “Yes” and appropriate services are scheduled.

7. If the DIN-PACS system is already on the property book, the following is required:

a. Ensure the system ECN is the major item of the system For DIN-PACS, this item will be one of the main servers as identified by the APPMO. If necessary, change the Equipment Type of the identified major end item by opening the appropriate equipment record and selecting "System" in the Equipment Type drop down window found on the main tab.

b. Ensure the total system acquisition cost, including all P ACS components, is reflected on the system ECN. To accomplish this, simply open the equipment record for the system ECN and select the Acquisition Cost vertical tool bar button.

c. Ensure all component equipment records have an Equipment Type of "Component," the appropriate System ECN and an acquisition cost of $0.00. In addition, ensure components requiring medical maintenance services have a Maintenance Requirement Indicator of "Yes" and appropriate services scheduled.

APPENDIX C. MAJOR MEDICAL ASSEMBLAGES IN NATIONAL STOCK NUMBER SEQUENCE

NATIONAL STOCK NUMBER	NOMENCLATURE	SUPPLY CATALOG NUMBER	LINE ITEM NUMBER	UNIT ASSEMBLAGE CODE
5180006117923	TOOL KT MED EQ REPRM	SC 5180-8-A14	W45334	8001
5180006117924	TOOL KT MED EQ MAINT	SC 5180-8-A10	W45197	8002
5180014831431	TOOL KT MEDEQ UNITLE	SC 5180-8-A11	W45197	8004
6545001407826	MES WTR QUAL/1999	SC 6545-8-D46	Y36849	1107
6545001450095	MES VET LG AN FLD199	SC 6545-8-V08	M30067	1921
6545001521578	GEN PACKET SURVIV KI	SC 6545-8-M56		0307
6545002319421	MEDICAL PACK AIRMANS	SC 6545-8-M57		0313
6545002929683	OPTIC FAB UNIT FLD 1	SC 6545-8-P01	N22210	3004
6545002929696	OPTIC FAB UNIT FLD 2	SC 6545-8-P02	N22347	3005
6545005434111	MED EQ SE ARMY MED L	SC 6545-8-L08	M23012	1205
6545005946455	SHOP SET BN MED MAIN	SC 6545-8-A15	T24386	8003
6545007534875	DSS EMERGDEN REPR199	SC 6545-8-D51	F95778	1729
6545009112450	MES BLD PROCESS/1999	SC 6545-8-D31	M23423	0504
6545009315130	OPT FAB UNIT PTFL199	SC 6545-8-P03	N22073	3003
6545009355881	MED IND HYG SURV FLD	SC 6545-8-S02	M28909	1109
6545009359881	VES SVC FIELD/1999	SC 6545-8-V06	M30340	1901
6545009359882	MED EQ SE EPIDEM SER	SC 6545-8-E09	M24993	1207
6545009494000	MED INST SUP SET 199	SC 6545-8-D32	M31506	1106
6545009494100	MEDICAL INSTR PREVEN	SC 6545-8-D33	M31369	1108
6545009596240	DENT EQ SE PROST TEA	SC 6545-8-T09	F95093	1711
6545011026789	DES DENT HYG FL-1999	SC 6545-8-D18	D39228	1719
6545011312633	OPTOMETRY EQ SE-1999	SC 6545-8-P07	N23712	1324
6545011417452	VES EGG INSP/1999	SC 6545-8-V15	G96668	1908
6545011417453	VES FOOD INDIV/1999	SC 6545-8-V18	H84228	1911
6545011417454	VET EQ SET/1999	SC 6545-8-V16	V01813	1909
6545011417461	VES SURG INST/1999	SC 6545-8-V19	U65754	1912
6545011419469	MES CHEM ACT PAT TR	SC 6545-8-M29	M23673	0249
6545011419470	SUR INSTR&SUP SE IND	SC 6545-8-M37	U65480	0246
6545011419471	VET EQUIP SET/1999	SC 6545-8-V17	V02063	1910
6545011419472	DES DENT XRAY FLD199	SC 6545-8-D08	D39478	1720
6545011419476	MES GROUND AMBULANCE	SC 6545-8-M35	M26413	0256
6545011419477	MES AIR AMBULANCE	SC 6545-8-M36	M29213	0257
6545011419478	DES DENTAL SPT - 199	SC 6545-8-D42	D95343	1724
6545011419480	VES DET 50PAT SM/199	SC 6545-8-V12	M30136	1905
6545011419481	VES BIO COLLECT/1999	SC 6545-8-V07	V02346	1920
6545011419482	DES PROSTHETICS/1999	SC 6545-8-D19	D95617	1721
6545011419484	VET EQUIPMT SET/1999	SC 6545-8-V14	V01563	1907

(continued) APPENDIX C. MAJOR MEDICAL ASSEMBLAGES
IN NATIONAL STOCK NUMBER SEQUENCE

NATIONAL STOCK NUMBER	NOMENCLATURE	SUPPLY CATALOG NUMBER	LINE ITEM NUMBER	UNIT ASSEMBLAGE CODE
6545011419485	MES GEN CLIN COMZ TY	SC 6545-8-M31		0269
6545011419487	MES CLIN PSYCHOL FLD	SC 6545-8-M32	E37001	0253
6545011425590	DES MAINTNG CARE1999	SC 6545-8-D41	D95867	1723
6545011764612	MES CHEM AG PAT DECO	SC 6545-8-M38	M25865	0258
6545011918970	MES LAB FLD LIGHTWT	SC 6545-8-M43	M29159	0263
6545011918971	MES X-RAY FLD LID	SC 6545-8-M42	M45613	0262
6545011918972	MES TRAU FLD (1)	SC 6545-8-M39	M30249	0259
6545011918974	MES SICK CALL FLD (1	SC 6545-8-M40	M29906	0260
6545011921900	MES PAT HOLD SQUAD L	SC 6545-8-M41	M29633	0261
6545012281886	MES SICK CALL FLD (2	SC 6545-8-M47	M30156	0265
6545012281887	MES TRAUMA FIELD (2)	SC 6545-8-M46	M30499	0264
6545012544119	MEDICAL RESUPPLY SE	SC 6545-8-R16		1325
6545012544120	MEDICAL RESUPPLY SET	SC 6545-8-R17		1326
6545012544121	MED RESUP X-RAY FLD	SC 6545-8-R21		1330
6545012544122	DEN RESUP FLD 1999	SC 6545-8-R23		1332
6545012544124	MRS TRAU FLD PREPG(2	SC 6545-8-R18		1327
6545012544125	MED RESUP PAT HLD199	SC 6545-8-R20		1329
6545012544128	MED RESUP LAB FLD LT	SC 6545-8-R22		1331
6545012544129	MRS SICK FLD PREPG 2	SC 6545-8-R19		1328
6545012549551	MES COMBAT LIFESAVER	SC 6545-8-R09		0245
6545013030264	MMS BLOOD RECOV-DELI	SC 6545-8-MT6		M343
6545013301867	MMS PHARMACY M	SC 6545-8-ML7	M73118	M306
6545013320133	MMS OP ROOM DEPMEDS/	SC 6545-8-ML8	M72936	M301
6545013320134	MMS CENTRAL MAT SER/	SC 6545-8-ML9	M08417	M302
6545013320135	MMS LAB GEN MF2K/M	SC 6545-8-MP1	M73425	M303
6545013320136	MMS LAB LIQ BLD BANK	SC 6545-8-MP2	M09166	M304
6545013320137	MMS XRAY DEPMED/M	SC 6545-8-MP3	M86675	M305
6545013320138	MMS XRAY RADFLU DEP/	SC 6545-8-MP4	M72300	M307
6545013320139	MMS INTMDCARE WDDEP/	SC 6545-8-MP7	M08599	M310
6545013320140	MMS MINIMAL CARE WD/	SC 6545-8-MP8	M48055	M311
6545013320141	MMS MEDSVC CLIN DEP/	SC 6545-8-MQ1	M72428	M313
6545013320142	MMS ORTHCAST CL DEP/	SC 6545-8-MQ2	M72868	M314
6545013320143	MMS EYE EXAM CL DEP/	SC 6545-8-MQ3	M08667	M315
6545013320144	MMS NEUROSR AUG DEP/	SC 6545-8-MQ5	M48305	M318
6545013320145	MMS MAXO-FACIAL HEAD	SC 6545-8-MQ7	M09098	M320
6545013320146	MMS OPHTHAL AUG DEP/	SC 6545-8-MQ6	M47737	M319
6545013320147	MMS MED MAINT DEP/M	SC 6545-8-MQ8	M47987	M321

(continued) APPENDIX C. MAJOR MEDICAL ASSEMBLAGES
IN NATIONAL STOCK NUMBER SEQUENCE

NATIONAL STOCK NUMBER	NOMENCLATURE	SUPPLY CATALOG NUMBER	LINE ITEM NUMBER	UNIT ASSEMBLAGE CODE
6545013320149	MMS MED MNT AU ARMY/	SC 6545-8-MQ9	M09349	M324
6545013320150	MMS XRAY LOWCAP DEP/	SC 6545-8-MR2	M73175	M334
6545013320151	MMS CENTRAL MATL SVC	SC 6545-8-MR3	M08485	M342
6545013320155	MMS LAB (MICROBIOL)	SC 6545-8-MR8	M48987	M403
6545013320157	MMS MEDSVC COMMZAUG/	SC 6545-8-MS2	M09099	M413
6545013320158	MMS ORTHO SURG AUG/M	SC 6545-8-MS3	M32074	M417
6545013320159	MMS ANA PATH AUG/M	SC 6545-8-MS4	M08451	M436
6545013322090	MMS TRIEMT PREOPDEP/	SC 6545-8-MP5	M73050	M308
6545013322091	MMS POST-OP ICU DEP/	SC 6545-8-MP6	M09576	M309
6545013322092	MMS PHYSICAL-THER/M	SC 6545-8-MP9	M72050	M312
6545013322093	MMS OB/GYN CLIN DEP/	SC 6545-8-MQ4	M31824	M316
6545013322094	MMS PHYSTHR AUG DEP/	SC 6545-8-MS1	M72800	M412
6545013464823	MMS MEDSUP CBT MF2K/	SC 6545-8-MT3	M09018	M383
6545013464824	MMS MEDSUP FLD MF2K/	SC 6545-8-MT4	M73178	M480
6545013464825	MMS MEDSUP GEN MF2K/	SC 6545-8-MT5	M08916	M481
6545013479099	MMS HEMODIALYSIS AUG	SC 6545-8-MT7	M86493	M437
6545014131322	MES FORWARD SURG TEA	SC 6545-8-M49	M45375	0267
6545014349624	WASTE WATR MGT SE HO	SC 6545-8-W02	W33068	1223
6545014356013	WASTE WATR AUG SE HO	SC 6545-8-W03	W49603	1224
6545014356014	WATER DISTRIBUTION S	SC 6545-8-W01	W53055	1222
6545014495115	MMS CENT MAT CSH 84B	SC 6545-8-MT8		M502
6545014495119	MMS LAB (GEN) 84 BED	SC 6545-8-MT9	M73482	M503
6545014495133	MMS LAB (LIQ BLD) 84	SC 6545-8-MU1	M73732	M504
6545014495134	MMS PHARMACY 84 BED	SC 6545-8-MU2	M73254	M506
6545014495139	MMS PHY-OCCUP THER 8	SC 6545-8-MU3		M512
6545014495141	MMS MED SVC CLIN 84B	SC 6545-8-MU4	M72423	M513
6545014495143	MMS MED MNT 84 BED C	SC 6545-8-MV1	M72084	M523
6545014495145	MMS CMS SP AUG 84 BE	SC 6545-8-MU5	M13428	M542
6545014495182	MMS MED SUP 84 BED C	SC 6545-8-MU6	M14517	M583
6545014495565	MMS MED MAINT 164 BE	SC 6545-8-MV3	M72152	M725
6545014495570	MMS CENT MAT SVC164B	SC 6545-8-MV4		M702
6545014495574	MMS LAB GEN 164BED C	SC 6545-8-MR7	M13275	M703
6545014495575	MMS LAB LIQ BLD 164C	SC 6545-8-MV6	M08849	M704
6545014495589	MMS PHARM 164BED CO	SC 6545-8-MV7	M73186	M706
6545014495592	MMS PHYS-OCCUP 164BE	SC 6545-8-MV8		M712
6545014495594	MMS MED SVC CL 164BE	SC 6545-8-MV9	M72355	M713

(continued) APPENDIX C. MAJOR MEDICAL ASSEMBLAGES
IN NATIONAL STOCK NUMBER SEQUENCE

NATIONAL STOCK NUMBER	NOMENCLATURE	SUPPLY CATALOG NUMBER	LINE ITEM NUMBER	UNIT ASSEMBLAGE CODE
6545014495596	MMS CMS SP AUG164 BE	SC 6545-8-MX1	M08951	M742
6545014495624	MMS MED SUP 164BED C	SC 6545-8-MX2	M14585	M783
6545014495644	MMS MED SVC CLIN 164	SC 6545-8-MX5		M717
6545014497010	MES ENDEM DISEASE	SC 6545-8-L24	M22214	1211
6545014497013	MES ENDEM DISEASE VE	SC 6545-8-L22	M37839	1212
6545014497014	MES LAB GEN FLD AREA	SC 6545-8-L23	M43740	1213
6545014497015	MES ANIMAL PATHOLOGY	SC 6545-8-L14	M33322	1214
6545014497016	MES ENTOMOLOGIC LAB	SC 6545-8-L15	M37771	1215
6545014497018	MES AREA MED LAB IND	SC 6545-8-L16	M22714	1216
6545014497023	MES ENVIRONMENT LAB	SC 6545-8-L17	M25430	1217
6545014497026	MES ENVIRONMEN HEALT	SC 6545-8-L18	M25180	1218
6545014497028	MES LAB RADIOLOGICAL	SC 6545-8-L19	M29659	1219
6545014497058	MES BIOLOGCL WARFARE	SC 6545-8-L20	M23718	1220
6545014497061	MES BIOCHEM&CHEM WAR	SC 6545-8-L21	M23468	1221
6545014535658	MES HUMANITARIAN AUG	SC 6545-8-R50		1623
6545014586617	MMS ORTH SUR AUG M41	SC 6545-8-MX8	M86425	M419
6545014591766	MMS RAD COMP M432	SC 6545-8-MX7	M09826	M432
6545014616437	DES COMP DEN FL2001	SC 6545-8-D48	D43802	1714
6545014617027	MES PRIM GYN CARE AU	SC 6545-8-M54	M29701	0301
6545014630947	DES ENDODONTICS	SC 6545-8-D50	D43641	1728
6545014633605	VES FOOD TESTING 200	SC 6545-8-V24		1914
6545014633623	VES FLD MICROBIO-200	SC 6545-8-V23		1913
6545014712857	MES SP FORCES TACTIC	SC 6545-8-M50	M29999	0268
6545014801237	MES TELEMEDICINE DET	SC 6545-8-M51	Z99945	0270
6545014806913	WATER DIST & WASTE S	SC 6545-8-W04	W53373	1225
6545014822907	SHOP SET MED GS LEVE	SC 6545-8-A16	T24386	8005
6545014914698	WDWWMS MAINT SET HOS	SC 6545-8-W07	W42371	M586
6545014914728	WASTE WATER MGT SET	SC 6545-8-W06		M585
6545014914732	WATER DISTRIB SET HO	SC 6545-8-W05	Z46694	M584
6545014917274	OES MULTIVIS AUG/199	SC 6545-8-P08	P47705	3006
6545014921739	RODENT SURV ST 1 200	SC 6545-8-M52		3300
6545014964819	MES PATIENT HOLD/200	SC 6545-8-M67	M29633	2261
6545014964828	MES X-RAYFLD LTWT200	SC 6545-8-M68		0262
6545014964834	MES FWD SUR TEAM 200	SC 6545-8-M69	M45375	2267
6545014964835	MES TRAUMA FLD 1-200	SC 6545-8-M65		2259
6545014964850	MES SICK CALL FIELD	SC 6545-8-M66		2260
6545014964855	MES AIR AMBULAN-2000	SC 6545-8-M63	M29213	2257

(continued) APPENDIX C. MAJOR MEDICAL ASSEMBLAGES
IN NATIONAL STOCK NUMBER SEQUENCE

NATIONAL STOCK NUMBER	NOMENCLATURE	SUPPLY CATALOG NUMBER	LINE ITEM NUMBER	UNIT ASSEMBLAGE CODE
6545014992306	MES SISS/2002	SC 6545-8-M71	U65480	3246
6545014992308	MES GROUND AMBULAN	SC 6545-8-M72	M26413	3256
6545014992329	MES LAB FLD LTWT/200	SC 6545-8-M75	M29159	3263
6545014992338	MES TRAUMA FL(2)2003	SC 6545-8-M73	M30499	3264
6545014992340	MES SICK CALL FLD 2-	SC 6545-8-M74	M30156	3265
6545015001703	DSS EMERGDEN REPR200	SC 6545-8-D66	F95778	3729
6545015001705	DES PROSTHETICS/2002	SC 6545-8-D63	D95617	3721
6545015001707	DES MAINTNG CARE2002	SC 6545-8-D64	D95867	3723
6545015001709	DES DENTAL SPT - 200	SC 6545-8-D65	D95343	3724
6545015001710	DES DENT HYGIENST200	SC 6545-8-D61	D39228	3719
6545015001712	DES DENT XRAY FLD200	SC 6545-8-D62	D39478	3720
6545015001713	DES COMPREHNS DEN200	SC 6545-8-D60	D43802	3714
6545015023316	MES FST 2003	SC 6545-8-M89	M45375	3267
6545015052340	OES MULTIVIS AUG/200	SC 6545-8-P09	P47705	2006
6545015072140	WATER DIST CONNECTIO	SC 6545-8-W08		1226
6545015074313	MES WATER QUAL ANALY	SC 6545-8-D56		3107
6545015182964	MES BLD PROC DET-200	SC 6545-8-D67	M23423	3504
6545015187565	MES CHEM AG TRMT-200	SC 6545-8-M79	M23673	3249
6545015187568	MES CHEM AGT PA- 200	SC 6545-8-M78	M25865	3258
6545015211797	MES PATIENT HOLD-200	SC 6545-8-M80	M29633	3261
6545015216670	MES EPIDEM SVC-2004	SC 6545-8-E07	M24993	3207
6545015229735	OES FIELD COMBAT 200	SC 6545-8-P10		3324
6545015244460	MMS OPER RM DEPMEDS\	SC 6545-8-NL8	M72936	N301
6545015244464	MMS CEN MAT DEPMEDS\	SC 6545-8-NL9	M08417	N302
6545015246153	MMS LAB GEN 164 2005	SC 6545-8-MR5		N703
6545015246157	MMS LAB GEN 84BED200	SC 6545-8-NT9		N503
6545015246167	MMS LAB GEN 248 2005	SC 6545-8-NP1		N303

E N D O F R E P O R T

APPENDIX D. LISTING OF CONTROLLED SUBSTANCES WITH ASSIGNED NATIONAL STOCK NUMBER

NSN	NOMENCLATURE	CIIC
6505000599017	CHLORDI HCL CAP 500S	Q
6505000599019	CHLORDIAZEPOXIDE 500S	Q
6505000674551	CHLORAL HYD SYRP473ML	Q
6505000744702	DIPHENOXYLATE TAB500S	Q
6505001049000	ALCOHOL USP 5 GAL	R
6505001050000	ALCOHOL DEHYDRATED1PT	R
6505001068715	DEXTROAMPHET TAB 100S	R
6505001118359	PROPOXYPHENE NAPSYLAT	Q
6505001118373	PROPOXYPHENE NAPSYLAT	Q
6505001118383	PROPOXYPHENE NAPSYLAT	Q
6505001175526	CHLORDIAZEPOX HCL100S	Q
6505001179171	THIOPENTAL SOD F/INJ	Q
6505001181096	THIAMYLAL SOD INJ 5GM	Q
6505001181099	KETAMINE HCL INJ 10ML	Q
6505001181914	DIPHENOXYLATE HCL100S	Q
6505001182132	CODEINE SULF TAB 100S	R
6505001269360	MEPERIDINE HCL 30 ML	R
6505001269375	MEPERIDINE HCL 100S	R
6505001320318	DIAZEPAM TAB 2 MG100S	Q
6505001323030	PAREGORIC USP 1 PT	Q
6505001403050	SECOBARB SOD CAP 100S	R
6505001490113	MORPHINE 10MG 1ML 10S	R
6505001711398	OXAZEPAM CAPS15MG100S	Q
6505001747116	PHENOBARBITAL ELIXIR	Q
6505001756057	FLURAZEPAM HCL CAPS	Q
6505001806030	PENTAZOCINE&NALOXONE	Q
6505001978396	MEPHOBARBITAL TABS	Q
6505001979201	PROPOXYPHENE NAPSYLAT	Q
6505002077718	MEPHOBARBITAL TABS	Q
6505002077742	MEPHOBARBITAL TABS250	Q
6505002695837	METHYLPHENIDATE TABS	R
6505003574684	HYDROMORPHONE HCL 25S	R
6505003723032	CODEINE PHOS&ACETA TA	Q
6505004002054	CODEINE PHOS&ACETA TA	Q
6505004007294	FLURAZEPAM HCL CAPS	Q
6505004544811	MEPERIDINE HCL 1ML25S	R
6505005508464	MEPROBAMATE TAB 500S	Q
6505005594819	PHENOBARB20MG/5ML 1PT	Q
6505005825357	PENTOBARBITAL SOD INJ	R

(continued) APPENDIX D. LISTING OF CONTROLLED SUBSTANCES WITH ASSIGNED NATIONAL STOCK NUMBER

NSN	NOMENCLATURE	CIIC
6505005843174	METHYLPHENIDATE5MG100	R
6505005843179	METHYLPHENIDATE HCL	R
6505005843626	TESTOSTERONE CYPIONAT	Q
6505006168979	CODEINE PHOSPHATE 1OZ	R
6505006198867	PHENOBARBITAL TABS	Q
6505006555699	LEVORPHANOL TAB2MG100	R
6505006600107	ETHCHLORVYNOL CAPS100	Q
6505006873620	MORPHINE SULF TAB100S	R
6505006874035	HYDROMORPHONE HCL TAB	R
6505006895513	PENTAZOCINE LACTA INJ	Q
6505007837218	DIAZEPAM TAB 5MG 500S	Q
6505008122596	MORPH SULF INJ10MG25S	R
6505008516589	MEPERIDINE 50 MG 25S	R
6505008556982	MEPERIDINE 75 MG 10S	R
6505009000900	DIAZEPAM TABS 2MG500S	Q
6505009053408	DIAZEPAM TABLETS 500S	Q
6505009268843	CHLORDIAZEPOXIDE 10S	Q
6505009424560	LEVORPHANOL TARTRAT10	Q
6505009491405	PARALDEHYDE USP 30 ML	Q
6505009582364	PROPOXY HCL 65MG 500S	Q
6505009586587	DIPHENOXYLATE HCL&ATR	Q
6505009589186	TESTOSTERONE CYPIONAT	Q
6505009617455	OXAZEPAM CAPS 500S	Q
6505009617460	OXAZEPAM CAPS 500S	Q
6505009617513	OXAZEPAM CAPS30MG500S	Q
6505010035343	THIOPNTL SOD INJ5GM25	Q
6505010058496	CHLORDIAZEPOXIDE 100S	Q
6505010104169	FENTANYL CITRATE&DROP	R
6505010104170	FENTANYL CIT INJ2ML10	R
6505010242626	PENTAZOCINE INJ1ML25S	Q
6505010282086	TESTOSTERONE CYPIONAT	Q
6505010309493	OXYCODONE&ASPIRIN TAB	R
6505010351963	ACETAMINOPH&CODEI PHO	Q
6505010410558	THIOPENTAL SOD F/INJ	Q
6505010417281	FLUOXYMESTERONE TABS	Q
6505010418165	FLUOXYMESTERONE TABS	Q
6505010429261	DIPHENOXYLATE HCL1000	Q
6505010451298	PHENOBARBITAL ELIXIR	Q

(continued) APPENDIX D. LISTING OF CONTROLLED SUBSTANCES WITH ASSIGNED NATIONAL STOCK NUMBER

NSN	NOMENCLATURE	CIIC
6505010473873	METHADONE HCL TABS100	R
6505010496735	CLONAZEPAM TABS 100S	Q
6505010555070	CLONAZEPAM TAB2MG100S	Q
6505010555071	CLONAZEPAM TAB1MG100S	Q
6505010555248	PHENOBARBITAL TAB100S	Q
6505010555249	PHENOBARBITAL TAB100S	Q
6505010579846	LORAZEPAM TABS1MG100S	Q
6505010628008	LORAZEPAM TABS2MG100S	Q
6505010687663	LORAZEPAM TABS1MG500S	Q
6505010719112	ISOMETHEPTENE MUCATE	Q
6505010731316	FENTANYL CITRATE INJ	R
6505010825509	OXYCODONE&ACETAMIN TA	R
6505010946143	PEMOLINE TABLETS 100S	Q
6505010980221	GUAIFENESIN&CODEINE	Q
6505010985801	CHLORDIAZEPOXIDE CAPS	Q
6505010985802	DIAZEPAM TAB5MG 100S	Q
6505010985803	DIAZEPAM TAB10MG 100S	Q
6505010994064	CHLORD HCL CAP10MG100	Q
6505011107196	MORPHINE SULF10MG/5ML	R
6505011155262	HYDROMORPHONE HCL TAB	R
6505011160481	TEMAZEPAM CAP15MG 500	Q
6505011160482	TEMAZEPAM CAPS30MG500	Q
6505011189920	HYDROMORPHONE HCL TAB	R
6505011210704	FENTANYL CITRATE INJ	R
6505011210705	FENTANYL CITRATE INJ	R
6505011282441	METHADONE HCL TABS100	R
6505011403199	ALPRAZOLAM TABS 100S	Q
6505011403200	ALPRAZOLAM 1MG 100S	Q
6505011403201	ALPRAZOLAM TABS 100S	Q
6505011403202	ALPRAZOLAM TABS IS100	Q
6505011439269	ALPRAZOLAM TAB 100S	Q
6505011461137	OXAZEPAM CAPS10MG100S	Q
6505011468044	BUTALBITAL TAB 1000S	Q
6505011479462	TEMAZEPAM CAPS 100S	Q
6505011479463	TEMAZEPAM CAPS30MG100	Q
6505011479537	CODEINE PHOS SYR 4 OZ	Q
6505011487011	PEMOLINE TABS 100S	Q
6505011494122	OXYCODONE&ACETAMIN TA	R

(continued) APPENDIX D. LISTING OF CONTROLLED SUBSTANCES WITH ASSIGNED NATIONAL STOCK NUMBER

NSN	NOMENCLATURE	CIIC
6505011494123	HYDROMORPHONE HCL TAB	R
6505011532985	METHYLPHENIDATE HCL	R
6505011533183	OXYMETHOLONE TABS100S	Q
6505011533187	NANDROLONE DECANOATE	Q
6505011533284	MORPHINE SULF INJ20ML	R
6505011533300	METHOHEX SOD INJ 50ML	Q
6505011533448	MEPERIDINE HCL50MG1PT	R
6505011533733	KETAMINE HCL INJ5ML10	Q
6505011534199	METHYLPHENIDATE HCL	R
6505011534318	HYDROMORPHONE HCL SUP	R
6505011534373	PHENOBARBITAL INJ 25S	Q
6505011534377	CHLORAZEPATE TABS100S	Q
6505011541741	ALCOHOL DEHYD 1ML 100	R
6505011561588	OPIUM PWD&BELLAD SUPP	R
6505011561604	FLURAZEPAM HCL CAPS	Q
6505011561606	LURAZEPAM HCL CAPS100	Q
6505011575987	TEMAZEPAM CAPS 100S	Q
6505011583628	PHENOBARBITAL TABS100	Q
6505011604201	METHYLPHENIDATE TABS	R
6505011638089	ACTAMINOPH&CODEI PHOS	Q
6505011640583	METHADONE HCL SOL	R
6505011682607	CODEINE PHOSPHATE16OZ	Q
6505011690283	CHLORDIAZEPOX CAP 100	Q
6505011695936	OPIUM PWDRD&BELLA SUP	R
6505011737038	COCAINE HCL 5 GM	R
6505011764621	MORPHINE SULF TABS100	R
6505011787736	PROPOXYPHENE NAPSYLAT	Q
6505011787737	BUTALBITAL ASP&CAF100	Q
6505011794968	TRIAZOLAM TABS IS 100	Q
6505011811409	PROMETHAZINE HCL&CODE	Q
6505011858835	TESTOSTERONE PROPIONA	Q
6505011899903	HYDROCODONE BITAR100S	Q
6505011932690	SUFENTANIL CITRATE IN	R
6505011938484	MORPHINE SUL SOL120ML	R
6505011947256	SUFENTANIL CITRATE IN	R
6505011969501	ALPRAZOLAM TABS 500S	Q
6505011973966	ALPRAZLM TAB.25MG500S	Q
6505011979003	ALPRAZOLAM TAB1MG500S	Q
6505012005793	SUFENTANIL CITRATE IN	R

(continued) APPENDIX D. LISTING OF CONTROLLED SUBSTANCES WITH ASSIGNED NATIONAL STOCK NUMBER

NSN	NOMENCLATURE	CIIC
6505012017011	MORPHINE SUL SUPPOS12	R
6505012017012	MORPHINE SUL SUPPOS12	R
6505012041859	MORPHINE SUL INJ 10S	R
6505012045419	MORPHINE SULF INJ 10S	R
6505012090723	LORAZEPAM INJ 1 ML	Q
6505012091206	MORPHINE SUL EX-RE TA	R
6505012104450	OXYCODONE HCL&ACETAMI	R
6505012123014	MORPHINE SULF TAB300S	R
6505012131145	MORPHINE SULF SOL30ML	R
6505012150945	CODEI SULF TABS 100S	R
6505012196333	PEMOLINE TABS 100S	Q
6505012198564	BUTALBI ASP CAF&CO100	Q
6505012226566	THIOPENTAL SOD F/INJ	Q
6505012303125	AMOBARBITAL SOD 10S	R
6505012303129	DIAZEPAM TAB2MG100USP	Q
6505012303130	DIAZEPAM TABS 5MG100S	Q
6505012303131	DIAZEPAM TABS 10MG100	Q
6505012349586	DIETHYLPROPION HCL100	Q
6505012394704	MORPHINE SULF TAB250S	R
6505012395492	MIDAZOLAM HCL INJ 10S	Q
6505012413591	TRIAZOLAM TABS 100S	Q
6505012415747	MIDAZOLAM HCL INJ 10S	Q
6505012444736	MIDAZOLAM HCL INJ 10S	Q
6505012448014	MIDAZOLAM HCL INJ 10S	Q
6505012511850	CLORAZEPATE DIPOT TAB	Q
6505012520802	CLORAZEPATE DIPOTA TA	Q
6505012520803	MORPHINE SULFATE SOL	R
6505012554420	MORPHINE SULF TAB100S	R
6505012600904	TRIAZOLAM TABS 500S	Q
6505012601236	METHYLPHENIDATEHCL100	R
6505012622177	TRIAZOLAM TABLETS100S	Q
6505012624974	CLORAZEPATE DIPOTA TA	Q
6505012650009	ALFENTANIL HCL INJ10S	R
6505012671440	METHYLTESTOSTERONE	Q
6505012672514	CHLORAL HYDRATE SUP12	Q
6505012679637	CHLORPH MALEA COD 4OZ	Q
6505012691767	SODIUM BARBITAL 100GM	Q
6505012691771	CHLORDIAZEPOX HCL100S	Q

(continued) APPENDIX D. LISTING OF CONTROLLED SUBSTANCES WITH ASSIGNED NATIONAL STOCK NUMBER

NSN	NOMENCLATURE	CIIC
6505012696054	OXAZEPAM CAPS I.S.100	Q
6505012721975	MIDAZOLAM HCL INJ 10S	Q
6505012722037	ALFENTANIL HCL INJ10S	R
6505012732401	DRONABINOL CAPS5MG25S	Q
6505012740951	DIAZEPAM INJ 2ML UNIT	Q
6505012747178	ALFENTANIL HCL INJ 5S	R
6505012775327	HYDROCODONE BITAR TAB	Q
6505012801074	MIDAZOLAM HCL INJ 2ML	Q
6505012833664	MORPHINE SULF TABS100	R
6505012870624	HYDROCODONE BITAR&ACE	Q
6505012879652	ACETAMINOPHEN&COD100S	Q
6505012899827	CHLORDIAZEPOX HCL100S	Q
6505012921048	HYDROCODONE&CHLO473ML	Q
6505013012299	BUTORPHANOL TARTRA10S	Q
6505013025530	MORPHINE SULF INJ10MG	R
6505013059159	OXYCODONE HCL SOL	R
6505013120914	LORAZEPAM TABS1MG100S	Q
6505013121241	OXYCODONE HCL&AC500ML	R
6505013142734	METHAMPHETA HCL 500S	R
6505013162774	MEPERIDINE HCL TABS	R
6505013171125	MORPHINE SULF 1.5ML25	R
6505013174959	MORPHINE SULF INJ60ML	R
6505013198227	HYDROCODONE BITAR 100	Q
6505013201320	HYDROCODONE BITAR 100	Q
6505013201709	HYDROCODONE BITAR100S	Q
6505013201710	HYDROCODONE BITAR500S	Q
6505013201711	HYDROCODONE BITAR TAB	Q
6505013217751	QUAZEPAM TABLETS 100S	Q
6505013217752	QUAZEPAM TABLETS 100S	Q
6505013225891	MORPHINE SULFATE EX	R
6505013232648	MORPHINE SULF SUPP12S	R
6505013232650	MORPHINE SULF SUPP12S	R
6505013235259	DRONABINOL CAPS 25S	R
6505013235260	DRONABINOL CAPS10MG25	Q
6505013306281	COCAINE HCL SOL 10ML	R
6505013309382	MORPHINE SULF INJ 10S	R
6505013309387	MORPHINE SULF SO100ML	R
6505013359388	FENTANYL TRANSDERMAL5	R

(continued) APPENDIX D. LISTING OF CONTROLLED SUBSTANCES WITH ASSIGNED NATIONAL STOCK NUMBER

NSN	NOMENCLATURE	CIIC
6505013359389	FENTANYL TRANSDERMAL5	R
6505013359390	FENTANYL TRANSDERMAL5	R
6505013359391	FENTANYL TRANSDERMAL5	R
6505013366197	ALPRAZOLAM TABS 100S	Q
6505013366198	ALPRAZOLAM TABS 500S	Q
6505013391909	KETAMINE HCL INJ 10S	Q
6505013401509	CLONAZEPAM TABLETS100	Q
6505013404829	CLONAZEPAM TABLETS100	Q
6505013460174	FLURAZEPAM HCL CAP100	Q
6505013462060	CLONAZEPAM TABS 100S	Q
6505013479104	LORAZEPAM INJ 10ML	Q
6505013488197	DIAZEPAM F/ORAL SOL	Q
6505013488202	MORPHINE SULF ORAL SO	R
6505013537718	DIAZEPAM CONCENTRATE	Q
6505013539851	MORPHINE SULFATE INJ	R
6505013539856	MEPERIDINE HCL INJ10S	R
6505013559806	TRIAZOLAM TABLETS 500	Q
6505013560253	METHYLPHENIDATE HCL	R
6505013563869	CHLORAL HYDRATE SYRUP	Q
6505013591863	DIPHENOXYLATE HCL TAB	Q
6505013595148	LORAZEPAM TABLETS100S	Q
6505013625340	OXYCODONE&ACETAMIN TA	R
6505013652072	LORAZEPAM TABS 100S	Q
6505013664754	BUPRENORPHINE HCL INJ	Q
6505013675261	KETAMINE HCL INJ 10S	Q
6505013679542	TEMAZEPAM CAPS 100S	Q
6505013718384	BUTORPHANOL TARTRATE	Q
6505013734322	ALPRAZOLAM TABS 100S	Q
6505013741407	MORPHINE EX-REL TABS	R
6505013755685	TEMAZEPAM CAPS 100S	Q
6505013758517	ISOMETHEPTENE MUCATE	Q
6505013771441	MORPHINE SULF EX TABS	R
6505013780251	MORPHINE SULF TABS	R
6505013876305	MORPHINE SULFATE INJ	R
6505013876353	MEPERIDINE HCL INJ10S	R
6505013876401	MEPERIDINE HCL INJ10S	R
6505013882488	TESTOSTERONE TRAN SYS	Q
6505013883743	HYDROCODONE BITARTRAT	Q
6505013896009	MORPHINE SULFATE INJ	R

(continued) APPENDIX D. LISTING OF CONTROLLED SUBSTANCES WITH ASSIGNED NATIONAL STOCK NUMBER

NSN	NOMENCLATURE	CIIC
6505013939835	HYDROCODONE BITARTRAT	Q
6505013942765	HYDROCODONE BITARTRAT	Q
6505013946503	HYDROCODONE BITARTRAT	Q
6505013952173	MORPHINE SULF EX-REL	R
6505013952174	MORPHINE SULF EX-REL	R
6505013952611	GUAIFENESIN&CODEINE	Q
6505014112723	LORAZEPAM INJ 1ML 25S	Q
6505014112724	LORAZEPAM INJ 1ML 25S	Q
6505014112726	LORAZEPAM INJ 2ML 25S	Q
6505014234981	TESTOSTERONE TRANSDER	Q
6505014328996	TRIAZOLAM TABS 100S	Q
6505014354310	ZOLPIDEM TARTRATE TAB	Q
6505014354311	ZOLPIDEM TARTRATE TAB	Q
6505014354312	ZOLPIDEM TARTRATE TAB	Q
6505014354313	ZOLPIDEM TARTRATE TAB	Q
6505014368108	DEXFENFLURAMINE HCL60	Q
6505014368781	MORPHINE SULFATE INJ	R
6505014368927	MORPHINE SULFATE INJ	R
6505014369546	HYDROMORPHONE HCL INJ	R
6505014420346	REMIFENTANIL HCL INJ	R
6505014420348	REMIFENTANIL HCL INJ	R
6505014420350	REMIFENTANIL HCL INJ	R
6505014437061	CHLORDIAZEPOXIDE HCL	Q
6505014503031	MORPHINE SULFATE INJ	R
6505014636039	DEXTROAMPHETAMINE S	R
6505014636040	DEXTROAMPHETAMINE S	R
6505014723415	METHYLPHENIDATE HCL	R
6505014830274	MORPHINE SULFATE INJ	R
6505014856206	SOLUTION EUTHANASIA	R
6505014860173	METHYLPHENIDATE HYD	R
6505014860228	METHYLPHENIDATE HCL	R
6505014862796	TILETAMINE HCL 100MG	Q
6505014925905	METHYLPHENIDATE HYD	R
6505014993495	MEPERIDINE HCL INJ	R
6505015011389	LORAZEPAM INJ USP	Q
6505015038935	HYDROCODONE BITARTRAT	Q
6505015053476	DIAZEPAM INJ 2ML 10S	Q
6505015054693	MEPERIDINE HCL INJ10S	R

(continued) APPENDIX D. LISTING OF CONTROLLED SUBSTANCES WITH ASSIGNED NATIONAL STOCK NUMBER

NSN	NOMENCLATURE	CIIC
6505015055812	MEPERIDINE HCL INJ10S	R
6505015055813	MORPHINE SULFATE INJ	R
6505015056025	LORAZEPAM INJ 1ML 10S	Q
6505015064143	MORPHINE SULFATE INJ	R
6505015065867	MEPERIDINE HCL INJ10S	R
6505015084409	PHENOBARBITAL SOD INJ	Q
6505015131952	MORPHINE SULFATE INJ	R
6505015138434	DIAZEPAM INJ 10ML 5S	Q
6505015145731	DIAZEPAM INJECTION	Q
6505015189609	LORAZEPAM INJ USP 10S	Q
6505015189650	LORAZEPAM INJ 10S	Q
6505015194255	ZOLPIDEM TARTRATE TAB	Q
6505015194260	ZOLPIDEM TARTRATE TAB	Q
6505015195278	ZOLPIDEM TARTRATE 30S	Q
6505015230306	HYDROCODONE BITARTRAT	Q
6505015274077	CODEINE PHOS/ACETAMIN	Q
6505015284033	MIDAZOLAM HCL INJ 25S	Q
6515003184910	ELECTRODE CAUTERY D4	R
6515012078257	RETRACTOR BRAIN DAVIS	R
6520001450176	GOLD ALLOY CAST 2 PWT	R
6520001450349	GOLD ALLOY CAST XHARD	R
6520001450350	GOLD ALLOY CAST SOFT	R
6520005802550	PLATINUM FOIL 1 PWT	R
6520005805650	BRAZING ALLOY 730 FIN	R
6520008172517	GOLD FOIL CYL SZ 1/64	R
6520008172518	GOLD FOIL CYL SZ 1/16	R
6520008902170	GOLD PWDR FOIL 2 PWT	R
6520010628207	SOLDER GOLD DEN 1 DWT	R
6520011541726	GOLD ALLOY CAST 2 PWT	R
6520011541728	GOLD ALLOY CAST 2 PWT	R
6520011541729	GOLD ALLOY CAST DEN	R
6520011541730	GOLD ALLOY CAST DEN	R
6520011541733	GOLD ALLOY CAST 2PWT	R
6520011622002	GOLD UTK CER ALLY 1OZ	R
6520011622077	BRAZING ALLOY SILVER	R
6520011742449	GOLD ALLOY CASTING1DW	R
6520011771993	GOLD ALLOY CAST FINE	R
6520011790045	SOLDER GOLD DEN WHITE	R

(continued) APPENDIX D. LISTING OF CONTROLLED SUBSTANCES WITH ASSIGNED NATIONAL STOCK NUMBER

NSN	NOMENCLATURE	CIIC
6520011885347	PRESOLDER THIN STRIP	R
6520012100148	POST SOLDER DEN THIN	R
6520012132653	SOLDER GOLD DEN 2IN	R
6520012132654	SOLDER GOLD DEN STRIP	R
6520012933360	SCREW IMPLANT PROSTHE	R
6520012933746	SCREW IMPLANT PROSTHE	R
6520012944805	GOLD CYLINDER PROSTHO	R
6520012944806	GOLD CYLINDER PROSTHO	R
6520013969807	SILVER ALLOY PWDR MER	R
6520014407806	SILVER ALLOY POWDER	Q
6640010253176	LOOP INOCULATING.01ML	R
6640011179692	LOOP INOCULAT 0.41 MM	R
6810014723872	ETHANOL ALC ABS200PRF	R
9545004489010	WIRE NONELECTRICAL D7	R
9545004489110	WIRE NONELECTRICAL D7	R

E N D O F R E P O R T

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Subject Page

2005 GLOSSARY FOR SB 8-75-S5

AAC	Acquisition Advice Codes
ACN	Acquisition Control Number
ACR	American College of Radiology
ACSIE&FM	Acting Chief of Staff for Installations, Environment, and Facility Management
ACSLOG	Acting Chief of Staff for Logistics
ADSL	Asynchronous Digital Subscriber Line
AFIP	Armed Forces Institute of Pathology
ALSI	AMEDD Limited Support Item
AMC	Army Medical Center
AMDF	Army Master Data File
AMEDD	Army Medical Department
AMEDDC&S	Army Medical Department Center and School
AMEDDPAS	Army Medical Department Property Accounting System
AML	area medical laboratory
APPMO	Army Picture Archiving and Communication System (PACS) Program Management Office
AR	Army Regulation
ASM	Army Standardization Manager
AT	acceptance training
BLIC	Budget Line Item Code
BPR	business process review, business process reengineering
BRI	basic rate interface
CAGE	Commercial and Government Entity
CD	compact disc
CEEP	Capital Equipment Expenditure Program
CHCS	Composite Health Care System
CIIC	Controlled Inventory Item Code
CIO	Chief Information Officer`
CUD	clinical use determination
CONUS	Continental United States
COTS	commercial-off-the-shelf
CPT	current procedural terminology
CR	computed radiography
CSD	Clinical Support Division
CSEA	Combat Support Equipment Assessment
CSH	Combat Support Hospital
DA	Department of the Army
DAA	Delegated Approval Authority
DBPA	Defense Blanket Purchase Agreement
DCA	Deputy Commander for Administration
DCSIE&FM	Deputy Chief of Staff for Installations, Environment, and Facility Management
DCSLOG	Deputy Chief of Staff for Logistics
DEPMEDS	Deployable Medical Systems
DHP	Defense Health Program
DICOM	Digital Imaging and Communication in Medicine
DIN-PACS	Digital Imaging Network-Picture Archiving and Communication System
DIRS	Diagnostic Imaging and Radiotherapy Subcommittee
DLIS	Defense Logistics Information System
DMIS	Defense Medical Information System
DMIS-SS	Defense Medical Information System-Summary System

(con't) GLOSSARY FOR SB 8-75-S5 - 2005

DMLSS	Defense Medical Logistics Support System
DMSB	Defense Medical Standardization Board
DOD	Department of Defense
DPW	Department of Public Works
DSCP	Defense Supply Center Philadelphia
DSL	digital subscriber line
DVD	Director Vendor Delivery
FEA	Military Radiology Functional Economic Analysis
FIB	facility information bulletin
FLIS	Federal Logistics Information System
FST	Forward Surgical Team
FTE	full-time equivalent
FY	fiscal year
GME	graduate medical education
GSA	General Services Administration
HFPA	Health Facility Planning Agency (U.S. Army)
HIS	hospital information system
HVAC	heating, ventilation, and air conditioning
IA	information assurance
IAVA	information assurance vulnerabilities assessments
IM/IT	information management/information technology
IMD	Information Management Division
ISDN	Integrated Services Digital Network
IT	information technology
IPT	integrated process team
ISP	Internet service provider
JCN	Joint Control Number
JHMET	Joint Healthcare Management Engineering Team
LAN	local area network
LAP	Logistics Assistance Program
LAV	logistics assistance visit
LIN	line item number
MC4	Medical Communications for Combat Casualty Care
MDIS	Medical Diagnostic Imaging Support
MEDASM	Medical Assemblages Management
MEDCASE	Medical Care Support Equipment
MEDCEN	medical center
MEDDAC	medical department activity
MEDEVAC	medical evacuations
MEDNET	Medical Network
MEDSILS	Medical Information Logistics System
MEIS	Military Environmental Information Source
MEOD	Medical Engineering and Operations Directorate
MEPRS	Medical Expense and Performance Reporting System
MEQS	MEPRS Executive Query System
MHS	Military Health System
MIDI	Military Items Disposal Instructions
MMT	Materiel Acquisition Directorate

(con't) GLOSSARY FOR SB 8-75-S5 - 2005

MMT-C	Materiel Acquisition Directorate, Contract Integration Division
MMT-D	Materiel Acquisition Directorate, Data Management Directorate
MMT-S	Materiel Acquisition Directorate, Technology Support Division
MPR	MEDCASE Program Requirement
MR	magnetic resonance
MRC	Materiel Repair Code
MRE	MEDCASE requirement and execution
MRMC	Medical Research and Materiel Command
MRI	magnetic resonance imaging
MTF	medical treatment facility
MTOE	Modified Table of Organization and Equipment
NDC	National Drug Code
NEMA	National Electrical Manufacturers Association
NIIN	National Item Identification Number
NMP	National Maintenance Point
NNI	Nonsupportable, Nonsustainable, and Obsolete Items (of equipment)
NSN	National Stock Number
OCONUS	outside the Continental United States
OTSG	Office of The Surgeon General
PACS	Picture Archiving and Communication System
PBAC	Program and Budget and Advisory Committee
PC	personal computer
POC	point of contact
POM	program objective memorandum
QC	quality control
R/F	radiographic/fluoroscopic
RFI	request for information
RFQ	request for quotation
RIC	Routing Identifier Code
RIS	radiology information system
RMC	Regional Medical Command
RTS-MED	Regional Training Sites-Medical
RVU	relative value unit
SB	Supply Bulletin
SC	Supply Catalog
SCC	Supply Catalog Code
SCMD	Strategic Capabilities and Materiel Directorate
SCP	service class provider
SCU	service class user
SOP	service-object pair
STCPC	Strategic Technology and Clinical Policies Council
TAMMIS	Theater Area Maintenance Management Information System
TARA	Technology Assessment and Requirements Analysis
TCP/IP	Transmission Control Protocol/Internet Protocol

(con't) GLOSSARY FOR SB 8-75-S5 - 2005

TDA	Tables of Distribution and Allowances
TIMPO	Tri-Service Infrastructure Management Program Office
TIN	Therapeutic Index Number
TOE	Table of Organization and Equipment
UA	Unit Assemblages
UCAPERS	Uniform Chart of Accounts Personnel System
UDR	Universal Data Repository
UIC	Unit Identification Code
UPS	uninterruptible power supply
USAMEDCOM	U.S. Army Medical Command
USAMMA	U.S. Army Medical Materiel Agency
USAMRMC	U.S. Army Medical Research Materiel Command
WAN	wide area network

By Order of the Secretary of the Army:

PETER J. SCHOOMAKER
General, United States Army
Chief of Staff

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Secretary of the Army

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