



IMPLEMENTATION GUIDE

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Foreword

You are about to implement one of the world's premier electronic health records systems – the Composite Health Care System II (CHCS II). CHCS II brings to life the comprehensive, life-long record of care for beneficiaries of the Military Health System (MHS) that was directed by Presidential Executive Order and Congressional mandate. Retrieval of patient information from over 600 MHS treatment facilities around the globe will soon become a reality. Implementing this remarkably advanced system requires leadership presence, support and perseverance. Over time, the electronic health record will fundamentally change many business processes within MHS medical and dental treatment facilities (MTF). The recall of information on previous patient encounters will become nearly instantaneous. Automated coding of encounters will reduce provider labor involved in billing processes, increase collections, and ensure compliance with the Center for Medicare and Medicaid Services billing standards. Soon, the necessity for a paper health record will be diminished.

The Implementation Guide provides a high-level summary of activities each facility's CHCS II Project Officer will be engaged in prior to and during implementation. This guide was written specifically for MTF Project Officers and their implementation teams by the Clinical Information Technology Program Office (CITPO) Deployment Operations Center. The CITPO, which serves as the program office for CHCS II, established the Deployment Operations Center to provide a central point of contact to assist Service Medical Chief Information Officers (CIOs), their CHCS II deployment teams and MTFs with deployment, training, and activation issues. The Deployment Operations Center staffs a toll-free line (866-837-1924) with automated directory assistance to ensure that any facility with a question or issue can obtain help quickly and easily. Questions can also be addressed to CITPO-OPSCTR@ha.osd.mil.

This Implementation Guide is just one of the documents that have been created to support you and your implementation team. Additional guidance documents and templates for use in developing your customized, site-specific plans will be provided to you and your implementation team. You also may access these materials online. The Deployment Operations Center maintains an electronic library of all implementation-related documents. (Log on to the CITPO Intranet at www.citpo.org. Click on the yellow *Register* bar in the upper right corner of the site to register for access to the Deployment Operations Center content.) You may have received a copy of the Commander's Guide from your facility's leadership. It outlines CHCS II implementation from a Commander's perspective. If you have not had the opportunity to review the Commander's Guide, please refer to the electronic copy available online.

It is our mission to support you throughout this implementation. We look forward to a collaborative working relationship resulting in the successful implementation of CHCS II at your facility. —*The CITPO Deployment Operations Center*

Prepared By:

The CITPO Deployment Operations Center
Skyline 2, 5203 Leesburg Pike, Suite 907
Falls Church, Virginia 22041
(703) 284-7400 or (866) 837-1924
CITPO-OPSCTR@ha.osd.mil

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1.0 Introduction

CHCS II is a single, standard solution for managing beneficiary medical and dental health care in all DoD treatment facilities. CHCS II provides real-time, around-the-clock access to legible medical and dental records, facilitating the delivery of timely and appropriate treatment. CHCS II will be used in the delivery of health care in all Army, Navy and Air Force fixed medical facilities and in deployed medical facilities, ensuring that all active duty and retired Service members and their family members will have a comprehensive, legible, secure medical record that is standardized across the Services.

CHCS II enhances the information workflow of MHS health care providers and supports collaborative care by tracking all health care activities. All data is documented electronically, from the patient check-in to the completion of the health care encounter. An electronically accessible and comparable health record is generated and maintained by CHCS II, allowing for quality measurement and utilization management. At the close of the encounter, coding is accomplished electronically as a byproduct of documenting the clinical care given to the patient.

CHCS II establishes the means to gather health data, assess medical and dental history, and determine the health status of an individual or a population. Furthermore, the system provides data for the health care providers to make informed, definitive decisions on the health care of members of the Armed Forces assigned worldwide, as well as those members deployed as part of contingency operations at home or abroad. The system provides the capability to document present health care and to retrieve the life long record of medical and dental care as well as data on immunization status.

The system will include documented records of all health care services rendered, including medical examinations, individual encounters, and episodes of care; changes in individual health status; pre-deployment and post-deployment medical exams and assessments, including dental and mental health; and proactive demand management for health care services. Additionally, the CHCS II will be the source for data on an individual's exposure to different environmental and occupational hazards. These electronic records will allow for surveillance, which will help prevent illness and identify illnesses that occur.

CHCS II accomplishes four fundamental goals:

- 1) Documentation of outpatient encounter for all MHS beneficiaries at any treatment facility:
 - Graphical user interface designed by military providers
 - Structured document maintains integrity of patient data and standardization
 - Templates simplify workflow
- 2) Access to ancillary data (Radiology/Pharmacy/Orders/Lab):
 - Currently presented through a graphical user interface
 - Future blocks of CHCS II will integrate new commercial-off-the-shelf products, replacing current functionality with more advanced capabilities.

- 3) Longitudinal storage of all patient data for the enterprise in a central location:
 - Provides 24 x 7 access to complete and legible health and dental patient records
 - Enables population health reporting
- 4) Provides clinical functionality for the Theater Medical Information Program (TMIP)
 - Use of same basic system in garrison and theater supports uniformity of records and the records requirement for available health care data at the point of care (available in future blocks)
 - There are many drivers for the development and fielding of CHCS II. A complete description of these drivers is available at Appendix A.

1.1 CHCS II System Description

CHCS II builds on to the capabilities of existing systems, subsuming their functionality over time, while adding new functions to meet mission requirements. With Block 1, the CHCS II initially provides support capabilities in the ambulatory settings while the mature system extends those capabilities into the inpatient arena.

The first blocks of CHCS II will be dependent upon Legacy CHCS for laboratory, radiology, and pharmacy order entry and results retrieval.

Future blocks of the CHCS II will integrate state of the art laboratory, radiology, and pharmacy order entry systems, enabling the replacement of the functionality of Legacy CHCS within the CHCS II. The ultimate goal is to migrate all Legacy CHCS functionality, as well as functionality of other clinical applications, into the CHCS II. Under the principles of evolutionary acquisition, the system is designed to accommodate changes and to facilitate the integration of future systems and technology as they evolve.

CHCS II supports the following capabilities:

Table 1: CHCS II Capabilities

<i>CHCS II Capabilities</i>	
<i>CHCS II Block 1 Clinical Capabilities</i>	
Graphical Interface For Encounter Documentation	
Universal Retrieval of Medical Records	
Unique Provider ID	
Patient Health History	
<input type="checkbox"/>	Problem List
<input type="checkbox"/>	Medication List
<input type="checkbox"/>	Allergy List
<input type="checkbox"/>	Family History
<input type="checkbox"/>	Wellness Reminders
<input type="checkbox"/>	Immunization Tracking
<input type="checkbox"/>	Readiness

CHCS II Capabilities
Patient Alerts
<input type="checkbox"/> New Results <input type="checkbox"/> Cosign Orders/Encounters <input type="checkbox"/> New Telephone Consults
Order Entry (Provider and Non-Provider)
<input type="checkbox"/> Laboratory, Radiology, and Pharmacy <input type="checkbox"/> Consultations <input type="checkbox"/> Drug and Allergy Interaction Checks
Results Retrieval
<input type="checkbox"/> Laboratory, Radiology, and Pathology Results
Standard Reports
Role-based Security
Encounter Coding
<input type="checkbox"/> Automatic calculation of E&M codes <input type="checkbox"/> CPT & ICD-9 codes
Health Data Dictionary
Master Patient Index
Appointment List
Telephone Consult List and Consult Tracking
Unscheduled Visit Creation
Questionnaires (e.g., HEAR)
Problem Knowledge Couplers
CHCS II Block 2 Clinical Capabilities
Spiral 1
Dental Charting and Documentation
<input type="checkbox"/> Dental Notes for General Dentistry <input type="checkbox"/> Emergency Triage <input type="checkbox"/> Periodic Exam <input type="checkbox"/> Multiple Data Views <input type="checkbox"/> Full Mouth – Diagnostic & immediate treatment views <input type="checkbox"/> Individual Tooth Charting
Spectacle Request Transmission System II
<input type="checkbox"/> Prescription Eyewear Order Tracking
Spiral 2
Automated Clinical Practice Guidelines
Ad Hoc Reporting
Common Access Card (CAC) Integration – Patient Identification
CHCS II Block 3
Replacement of Legacy CHCS Ancillary Functionality (Includes Order Entry, Results Retrieval, and Alerts)
<input type="checkbox"/> Laboratory <input type="checkbox"/> Anatomic Pathology <input type="checkbox"/> Pharmacy <input type="checkbox"/> Radiology
Enhanced Dental Functionality

A commercial Clinical Patient Record (CPR) product – the 3M Care Innovation Suite – is the basis of CHCS II. This product provides three core elements of CHCS II, including the Health Data Dictionary, the Clinical Data Repository, and the Master Patient Index.

The Health Data Dictionary is the foundation for the CPR. It functions as a lexicon, cross-referencing all data concepts with other internationally accepted coding schemata to eliminate vocabulary and synonym problems, supports data exchange between independent computer programs, and supports the encoding of data to remove the ambiguities that may exist in natural language.

The Clinical Data Repository integrates patient data into a central database of individual lifetime records for access and clinical analysis, provides efficient, centralized access to a patient’s lifetime medical record at the point of care, and preserves investment in legacy systems by exchanging data through open system architecture and standards compliance.

The Master Patient Index links an individual’s health information across all MHS points of care regardless of geographic location. This includes matching the patient’s data from multiple CHCS host sites.

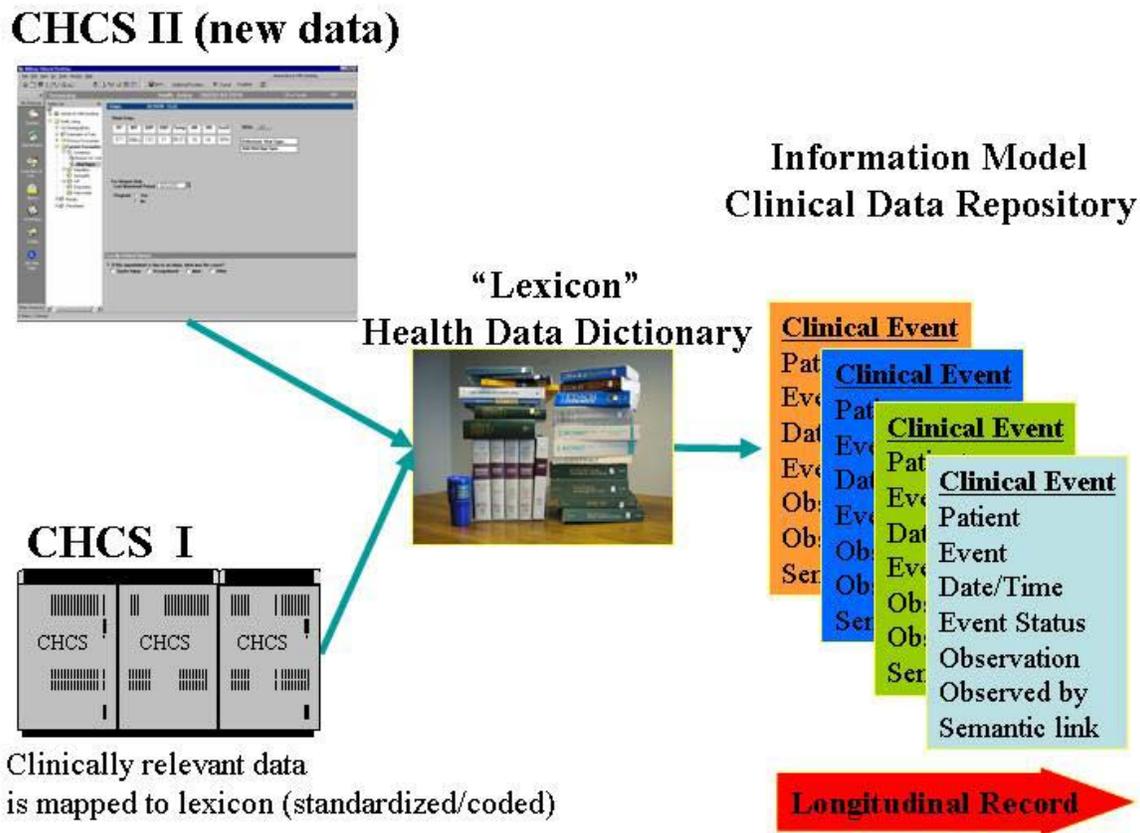


Figure 1: CHCS II Data Flow

1.2 Costs

Costs for the design, development, and testing of CHCS II software are centrally funded at the MHS level. The application's implementation and initial training at treatment facilities worldwide also are centrally funded. End user devices, servers, and other associated hardware and software are provided by the central program. This hardware and software will be upgraded on a periodic basis.

The treatment facility will incur operating costs for paper, toner, power, and heating, ventilation, and air conditioning. Additional costs may arise on a site-to-site basis. Such costs may be associated with:

- New construction (i.e., communications closets)
- Initial supplies, furniture, etc. (i.e., supporting placement of end user devices)
- Communications Local Area Network support and/or upgrade (i.e., beyond that required to specifically support the clinical encounter)
- Modifications of local business and clinical processes to maximize the capabilities of the technology
- Sustainment training

2.0 CHCS II Implementation Roles and Responsibilities

The implementation of CHCS II requires the dedicated effort of many organizations. These organizations include, but are not limited to, MTF implementation teams, CITPO, the Tri-Service Infrastructure Management Program Office (TIMPO), Service medical CIO Representatives, treatment facilities, support and integration contractors, and CHCS II users at the MTF level. The roles of each of these organizations are addressed in the following paragraphs (2.1 – 2.5).

2.1 Service Medical CIO Representatives

Each Service has a Medical CIO responsible for oversight of information management and communications operations. Each Medical CIO has designated a representative to assist and coordinate Service-specific issues and facilitate CHCS II implementation at the treatment facilities. These representatives serve as team leaders for the Service-specific implementation team, and act as a primary interface between the CITPO, TIMPO, military departments, and the treatment facilities.

2.2 CITPO Team

The CITPO interfaces with the Service Medical CIO Representatives and with the implementation team at each site. The CITPO team includes:

2.2.1 CHCS II Project Officer

The CHCS II Project Officer is responsible for the overall design, development, testing, and performance of CHCS II. He or she coordinates directly with the Service Medical CIO Representatives and their staff. The CHCS II Project Officer also is responsible for managing Tier 3 vendor support. Tier 3 support is required when the MHS Help Desk is unable to resolve a trouble ticket or if a request for software enhancement or capability is generated. (See section 6.2 for phone numbers and additional information on the MHS Help Desk.)

2.2.2 CITPO Director of Logistics

The CITPO Director of Logistics is responsible for overall implementation, training, and sustainment activities for the CHCS II. The Director of Logistics maintains implementation and sustainment budgets. As the CHCS II Implementation and Training Task Manager, the he or she provides the services necessary to introduce and fully activate MHS clinical applications in health care facilities. The scope of activities includes implementation planning, site survey, facility preparation, demonstrations, training, and user implementation assistance support.

2.2.3 CITPO Deputy Director of Logistics (Implementation)

The Deputy Director of Logistics (Implementation) is responsible for the planning and execution of all CITPO systems' Implementation and Training programs. He or she also serves as the acting Officer in Charge of the Deployment Operations Center.

The Deployment Operations Center coordinates and integrates all daily activities required to implement CHCS II in treatment facilities worldwide. The Deployment Operations Center is staffed with military personnel and civilians from several key program offices and the Services. Their mission is to provide a centralized point of contact for assisting the Service Medical CIOs and treatment facilities with deployment, training and implementation activities. Facilities can contact the Deployment Operations Center using the local number for calls within the Washington, DC metropolitan area (703-284-7400) or the toll-free number (866-837-1924) for all other areas.

2.2.3.1 CITPO Deputy Director of Logistics (Sustainment)

The Deputy Director of Logistics (Sustainment) is responsible for coordinating all systems' sustainment activities for the CITPO. For CHCS II, this includes coordination with the Tri-Service Infrastructure Management Program Office (TIMPO) for support services. Specifically, this includes management of network communications including Wide Area and Campus Area networks, application performance monitoring, and downtime notification procedures.

2.2.4 CHCS II Implementation and Training (I&T) Vendor

The CITPO Director of Logistics is the government task manager for the CHCS II I&T contract. In coordination with the Director of Logistics and the CITPO Service I&T liaisons, the vendor interfaces with the Service Medical CIO Representatives for the CHCS II Implementation and Training effort. The I & T vendor is responsible for the following tasks:

- Pre-implementation planning
- Implementation activities
- Initial client configuration activities
- Initial training and implementation assistance (over-the-shoulder)
- Supports constant 2-way communications between the Services' planning and execution activities and the CITPO Implementation staff.

2.3 *Tri-Service Infrastructure Management Program Office (TIMPO)*

The TIMPO provides a broad spectrum of information technology services in the areas of implementation, sustainment, and outsourcing for all MHS automated information technology systems to include CHCS II.

2.3.1 TIMPO CHCS II Implementation Activities

Specifically, in support of CHCS II, TIMPO facilitates technical surveys to determine Wide Area and Campus Area network support requirements, conduct network readiness assessments after circuit installation, and provide End User Devices (EUDs) in support of the CHCS II program.

2.3.2 TIMPO CHCS II Sustainment Activities

TIMPO sustainment activities in support of CHCS II include application performance monitoring, network monitoring, and EUD life cycle management.

2.3.3 TIMPO CHCS II Outsourcing Activities

The TIMPO routinely outsources a number of activities that are outside the core competencies or business functions of the MHS. TIMPO outsourcing activities in support of CHCS II include the Defense Information Systems Agency (DISA), the Space and Naval Warfare Systems (SPAWARS) as well as commercial vendors including Planet Gov -- the vendor supporting the MHS EUD program.

2.4 *Defense Information Systems Agency (DISA)*

DISA is the DOD's preferred provider for Net-centric computing support. In support of these DoD objectives, DISA has developed a robust group of Defense Enterprise Computing Centers (DECC) that are located in secure facilities on military installations to ensure exceptional physical security of CHCS II records.

In addition to DISA's secure computing centers, the DISA also manages a secure DoD communications network known as the Defense Information System Network (DISN). In support of CHCS II, the DISA is continually expanding the DISN Wide Area Network (WAN) to ensure that each legacy CHCS host site has redundant WAN circuits to support CHCS II communications with the CHCS II Clinical Data Repository (CDR) in Montgomery, Alabama.

Even though the DISN is the network designed principally for the exclusive use of the DoD, DISA also ensures that all DISN circuits between the CDR and each legacy CHCS host site are secured via a state of the art Virtual Private Network (VPN). Full VPN coverage of the portion of the DISN that the MHS utilizes provides a high-level of encryption that protects sensitive medical information and helps to ensure MHS compliance with the Health Insurance Portability and Accountability Act (HIPAA).

DISA services are procured by the CITPO through the TIMPO.

2.5 MTF Project Team

Facility leadership and commitment are vital to the success of this endeavor. The appointment of experienced, empowered, and motivated personnel to serve in the key leadership positions is highly recommended. The team should include medical and dental (for sites deploying Block 2) staff and satellite site representatives, as outlined in sections 2.5.1 through 2.5.7.

2.5.1 MTF Project Officer

The MTF Project Officer's primary duties are the management and oversight of all CHCS II related activities at the facility and the provision of direction to the MTF's Project Team. This individual is the Commander's personal representative for this project and must have sufficient experience, seniority, and commitment to interact with the MTF Command groups, their Service Implementation Office, the CITPO and TIMPO staff, and to successfully orchestrate myriad tasks at the local level. The MTF Project Officer is the primary point of contact for the Service Medical CIO Representative for all matters regarding CHCS II deployment at the site.

The person selected for the role of Project Officer should possess an in-depth knowledge of the facility's clinical operations. The Project Officer leads the site's project team and requires the authority to coordinate the selection of the local implementation team members, to conduct local project team meetings, and to participate in meetings with the CITPO.

2.5.2 MTF Clinical Champion

Because of the clinical focus of CHCS II, the CITPO recommends that a physician or dentist (for Block 2 sites) with strong leadership abilities be identified as the MTF Clinical Champion to work with the Project Officer. Next to the Commander and Project Officer, the CHCS II Clinical Champion may prove to be the most important member of the MTF Project Team. Health care providers will naturally look to a fellow physician for support, guidance, and feedback on CHCS II during the deployment. A senior, well-respected physician who is knowledgeable of CHCS II and its potential to enhance health care delivery can provide the clinical perspective and leadership needed to ensure provider adaptation. The clinical champion also provides valuable insight into template management and mechanisms to optimize integration of CHCS II into the clinical environment.

2.5.3 MTF Systems Administrator(s)

CHCS II introduces a client/server architecture to the MHS suite of clinical systems. While DISA provides operations and support for CHCS II servers, there are some touch labor requirements at the local level. For CHCS Host Sites, the system administrator requirements include this touch labor along with CHCS II user account creation responsibilities and coordination with CITPO, TIMPO, Services, and contractors during installation activities.

Overall responsibilities for host site system administrators include the following:

- Monitor the Snareworks security product
- Perform daily morning checks on CHCS II Legacy Gateway Server (LGS)
- Coordinate problem resolution with DISA along with trouble ticket documentation
- Provide network access and computer room access
- Provide internet protocol addresses
- Ghost LGS prior to any new CHCS II software release
- Follow standard reporting procedures for scheduled and unscheduled downtimes
- Create CHCS II user access/passwords (Host sites only until March 2004)

Satellite MTFs should identify a system administrator to create and manage CHCS II user accounts after March 2004. At that time CHCS II software will allow all MTFs to create and manage their own CHCS II user accounts.

2.5.4 Client Administrator(s)

The role of the MTF Client Administrator(s) may vary from site to site. Some MTFs may dual hat this role with Tier 0 Help Desk personnel or with other systems personnel responsibilities. Overall responsibilities for the client administrator include the following:

- Ensures installed equipment is managed in accordance with DoD and Service directives
- Troubleshoot workstation-related problems
- Assist with auto-update of CHCS II (according to MTF plan for release management procedures)

2.5.5 MTF Facility Training Coordinator

The MTF Facility Training Coordinator works with the CITPO Logistics team, the Implementation and Training vendor, local staff, and satellite/remote clinics to ensure that users, operators, and system administrators are scheduled for and complete initial training in accordance with the training resources programmed for the MTF. It is imperative that the MTF Facility Training Coordinator, in coordination with CITPO Logistics and their Service's CHCS II training point of contact (POC) translate the training model into an efficient site-specific execution product. Each site has a pre-determined number of instructor and implementation assistant hours allocated based upon each Service's specific training strategy. Exceeding these training resource hours could jeopardize the resources available to subsequent training sites within their respective Service.

Activation is generally defined as when the first trained user begins using CHCS II. Activities include identifying users for training, scheduling training room(s), coordinating closely with clinical representatives to schedule users into training slots, disseminating the training schedule throughout the facility, ensuring users are instructed with role-appropriate CHCS training as a prerequisite to CHCS II training, and assisting the Implementation and Training personnel in preparing for training activities. For CHCS I users who have used only VT 100 terminals, training on Windows and use of the mouse is strongly recommended as a pre-requisite to CHCS II training.

Classes need to be filled to capacity with little or no downtime between classes in order to assure that the MTF user training is completed within the scheduled time frame. The MTF FTC must monitor no-shows and ensure that training schedules are communicated to all clinics well in advance of their designated training dates. He or she may also need to assist the I&T vendor with coordination of over-the-shoulder training once use of CHCS II begins at the clinics.

The MTF Facility Training Coordinator works with the education and training staff at the facility to establish a program of ongoing/sustainment training after implementation is completed. (See section 5.3.4 for more on the Train the Trainer program designed to support development of a sustainment training cadre.)

2.5.6 MTF Data Mapping Liaison

The Site Data Mapping Liaison assists with data mapping activities. Activities include reconciling treatment facility data as it is mapped to the CHCS II Health Data Dictionary, coordinating throughout the facility to identify personnel with appropriate expertise, and assisting with facility data clean up and conversion activities. The liaison is responsible for identifying and coordinating with the appropriate site-level functional subject matter expert personnel (i.e., Pharmacy, Laboratory, Radiology, Patient Administration) to assist with reconciliation activities.

2.5.7 MTF Clinic Representatives

MTF Clinic Representatives assist with obtaining access to the clinics for installing hardware and software, work with the Facility Training Coordinator to identify and schedule training for staff, provide regular feedback to the facility's Project Officer, and coordinate implementation activities between clinic personnel and the facility's Project Team. Each clinic should have its own representative to ensure that clinic users are kept well-informed of CHCS II activities.

It is strongly recommended that these Clinic Representatives accompany vendors during functional site surveys to ensure that clinic workflow is considered in relation to CHCS II device placement (see para 3.4.).

3.0 Pre-Implementation Activities

During the pre-implementation phase (the period preceding the MTF's first CHCS II training day (T-Day)), the facility's Project Team collaborates with the other project management entities to prepare the site to receive CHCS II. Initial contact with the facility generally begins approximately 6 to 12 months prior to the start of CHCS II training.

The MTF Project Team needs to be involved with information-gathering activities including site surveys, site-specific implementation and training schedule development, and participation in regular project management collaboration meetings.

3.1 Pre-Implementation Coordination

The Service Medical CIO Representatives coordinate with the CHCS II MTF Project Team to arrange the following on-site visits:

- Technical site surveys
- Functional site surveys
- Briefings and orientations
- Delivery and installation of hardware and software

3.2 Data Mapping

As part of the CHCS II pre-deployment effort, the CITPO is required to map the specific data between CHCS host sites and the CHCS II Clinical Data Repository into the Health Data Dictionary. The CHCS host site's data is reconciled as it is mapped to the CHCS II Health Data Dictionary. Activities include the initial mapping and standardization, sustainment activities and data mapping verification post CHCS II server installation.

3.2.1 Data Mapping and Standardization

CHCS II Clinical Data Standardization (data mapping) is comprised of data extraction of CHCS site images, data preparation, data cleansing, data mapping and validation through the treatment facility's Subject Matter Experts. The data-mapping contractor coordinates this through the Service Medical CIO Representative. It is critical that the facility participates in this activity. Data is mapped completely and then verified as accurate.

3.2.2 Data Mapping Sustainment

Data Mapping Sustainment is the process for managing changes to CHCS and mapping these changes to CHCS II. The two systems must be synchronized as data items are added or modified in CHCS. This process begins immediately following the completion of initial data mapping verification. It includes the daily programmatic extraction of changes made in certain CHCS files for cleansing and mapping to CHCS II. The extracted data is reviewed and mapped to the Healthcare Data Dictionary (HDD). The data mapping vendor sustains the data mapping process to ensure the continuing high levels of data quality supported by the CHCS II Health Data Dictionary (HDD).

The following Standardized Areas are maintained:

- Laboratory
- Pharmacy Orders
- Radiology
- Microbiology
- Schedule
- Transcription
- Anatomical Pathology
- Blood Bank

Subject matter experts (SMEs) for laboratory, radiology, pharmacy, insurance, admissions, dispositions, and transfers are needed at times to resolve questions regarding modifications to site data. SMEs should be designated to facilitate question resolution.

Data mapping verification post server installation is further addressed in para 4.2.2.

3.3 Site Surveys

The CHCS II Implementation and Training vendor, TIMPO, and DISA in coordination with the appropriate Service Medical CIO Representative, conduct technical and functional site surveys at each facility approximately six to nine months prior to scheduled activation. The technical survey takes approximately five working days. The functional survey takes between five to fifteen working days depending on the size of the facility and the number of satellites.

The MTF Project Officer is a key part of each site survey team. This individual assists the TIMPO, CITPO, and DISA Representatives to ensure each site is ready for CHCS II hardware and software installation, provides the necessary access for these individuals and coordinates visits with other site personnel, such as the civil engineer, the CHCS system administrator, local area network maintenance personnel, clinic representatives, and base communications personnel.

3.3.1 Technical Site Survey Activities (TIMPO and DISA)

The Technical Site Survey focuses on Community of Interest network, Last Mile network connectivity and the host's computer room.

3.3.1.1 Community of Interest (COI) Network

DISA is responsible for implementing a quality of service wide area network transport solution, which is optimized and designed for real-time, transaction processing of the CHCS II client-server application. The Community of Interest is a redundant, diversely routed asynchronous transfer mode permanent virtual circuit for larger facilities and dedicated point-to-point circuits (e.g. T1s) for smaller facilities such as clinics. DISA surveys locations on the base, post, camp, or station where the wide area network circuit terminates (service delivery points). Information gathered during the survey supports the development of a detailed Community of Interest design.

3.3.1.2 Last Mile

TIMPO surveys the communications connectivity from the defined Community of Interest Service Delivery Point to the facility's perimeter. As illustrated in Figure 2 below, the "Last Mile" generally refers to the communications extension from the Service Delivery Point to the facility's exterior router for medical buildings located on a military installation or campus. Off-Base facilities, such as those on a stand-alone medical campus also may have a Last Mile from the long-haul demarcation point to the facility's exterior router at each building. Information gathered during the survey supports the development of a detailed Last Mile design.

3.3.1.3 MTF Host Computer Room

TIMPO assesses:

- Adequacy of floor space and the location for the legacy gateway servers
- Adequacy of electrical, environmental control, security, and communications systems
- The physical connections of wiring and circuitry

At the end of the technical survey, the site survey team provides a brief overview of the initial site survey results and findings, including a copy of the out-brief delivered to the facility on the last day of the survey. Any deployment critical issues and long lead items, such as problems with rack space and power, significant environmental concerns, lack of connectivity or fiber with select facilities or between the DISA Service Delivery Point and the facility, should be identified.

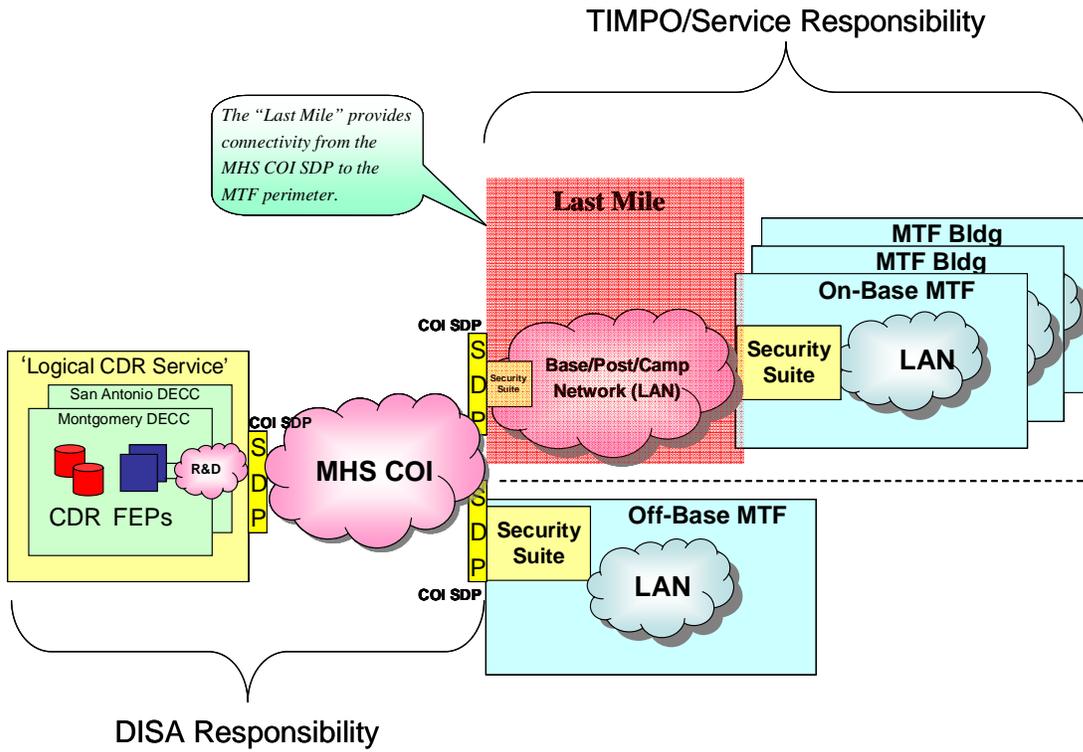


Figure 2 – Communication and Computing Infrastructure

3.4 Functional Site Survey Activities (CITPO)

The Functional Site Survey uses the Device Placement Criteria to identify end user devices needing replacement and to determine if existing end user devices and printers are compatible with CHCS II based on their current configuration and suitability after upgrades within all patient care areas (including Dental facilities). Training room requirements are identified; space for training is identified; facilities are evaluated and the number of users by category is reported. During the Functional Site Survey, the surveyors will inquire if there are any VA providers who provide care to both DoD and VA patients in your MTF. It is important for the site to identify these providers so that they will be included in the total numbers of users to be trained on CHCS II. In addition, the survey identifies any additional local area network drops the site needs.

In order to prepare for the survey, a teleconference is conducted with the Service Medical CIO representative, facility Project Team, the Implementation and Training vendor and a representative of CITPO. The purpose of the teleconference is to introduce team members, discuss the necessary logistics for base and clinic access, outline survey team objectives, identify who is responsible for populating the Functional Pre-Site Survey Questionnaire, and review schedule.

The facility is responsible for providing an escort to the Site Survey Team. It is recommended that this person be knowledgeable of clinic operations and be able to discuss clinic workflow. It is recommended that the facility schedule specific times for a Site Survey Team to be at each clinic. The Site Survey Team requires 10 to 60 minutes per clinic depending on size.

At the conclusion of the survey, an out-brief is provided to the MTF Project Team and a draft or initial site survey report of key findings is left with the facility. The Implementation and Training vendor delivers a site survey report to the CITPO within 15 calendar days post survey completion. A copy of this deliverable is also provided to the appropriate Service Medical CIO representative. CITPO and the Service Medical CIO Representative have 15 days to provide any report clarification or changes to the Implementation and Training vendor.

3.5 Communications and Computing Infrastructure Pre-Implementation Requirements

The information gathered during the Technical Site Survey is used to develop the Community of Interest Last Mile Installation Plan and Schedule, the Site Concurrence Letter, the Ports and Protocols Sign-off Sheet, and the Server Installation Checklist.

3.5.1 Community of Interest Last Mile Installation Plan and Schedule

This plan and schedule lists the tasks, sequence of events, dependencies, required downtime, and responsibilities of all parties, for implementation of the approved Last Mile design for each CHCS Host Site, Parent DMIS Site, and related Satellites. The Plan references the Ports and Protocols Sign-off Sheet for information relevant to Last Mile routing and security policy implementation to support CHCS II/Community of Interest data flow. The Community of Interest Last Mile Installation Plan and Schedule is due 10 days after approval of the Last Mile Design.

3.5.2 Site Concurrence Letter

The Site Concurrence Letter is an agreement between the Base, Post, or Camp NCC (Network Control Center), the Information Technology Business Center or the Information Management Division, the Service Military Department Representative, DISA, TIMPO (to include its contractors), and the local facility's CIO, to implement the approved Community of Interest and the Last Mile solution per the implementation plan agreed to by all parties during the design review and Last Mile negotiation process.

3.5.3 Ports and Protocols Sign-Off Sheet

The Ports and Protocols Sign-Off Sheet documents requirements for Internet Protocol addresses, access list, and other configuration changes necessary to permit the proper routing and flow of data between local facility networks (CHCS Host Sites, Parent DMIS, and related Satellites) and the CHCS II Host application located at DISA-Defense Enterprise Computing Center Montgomery, Alabama, via the negotiated Last Mile design. The Sign-Off Sheet must be tailored to support changes at all levels along the Last Mile path regardless of the party who controls that element of the infrastructure.

During the site survey, the Sign-Off Sheet is reviewed with the facility (including the Network Control Center or the Directorate of Information Management). The Sign-Off Sheet will be revisited throughout the Last Mile design process to ensure that design supports the routing of required traffic to each facility and its network.

3.5.4 Server Installation Checklist

This checklist is used to ensure the facility is ready for the installation of its CHCS II servers. This includes validating ports and Internet Protocol addresses for both CHCS and CHCS II, ensuring that e*Ways have been developed/tested, CHCS software has been downloaded and installed (Enosis, transmitter, MObjects), servers procured and shipped and ports are open between the facility and the Clinical Data Repository.

The checklist is reviewed 30 days prior to the Server Team arriving and again two days prior to the Server Team arriving.

3.6 Site Preparation

This activity prepares the facility and CHCS I for the scheduled installation of CHCS II hardware and software. The site preparation activities, guided by the results of the site surveys, may include both facility modification/upgrades and Communications and Computing Infrastructure upgrades. CHCS I preparation activities insure complete and accurate legacy baseline data prior to the loading of CHCS II at each MTF host site.

The MTF Project Officer must coordinate site preparation efforts very closely. The site deliverables provide the basic hardware and software Bills of Materials, the hardware footprint, standard server rack configuration, hardware power requirements, and an estimated timeline. The MTF Project Officer can help expedite the process by establishing lines of communication and effective working relationships with base communications personnel, base facilities managers, local contractors, and suppliers, as required.

3.6.1 Facility Modifications

The facility's Project Officer is responsible for ensuring completion of any facility modifications that may be required prior to hardware installation. Expected completion date is one month prior to server installation.

Typical site preparation may include wiring the computer room and/or facilities with additional electrical power outlets, installing or removing walls, reconfiguring environmental control systems, and reconfiguring/relocating existing computer and communications equipment.

3.6.2 Other Communications/Infrastructure Upgrades

Local Area Network: Most local area network infrastructure upgrades are completed well before implementation of CHCS II. The TIMPO or a designated Service Representative executes the local area network upgrades as detailed by the Services, within the Information Management Proponent Committee's guidance.

Many activities require base-level assistance and approval. It is the site's responsibility to obtain that approval and cooperation. These activities include ordering the required materials, installing communications equipment, and testing the networks as appropriate to ensure the upgrade is functioning properly. The TIMPO or the designated representative ensures that facility's satellites and outlying clinics have the required infrastructure in place.

Network Protection: At a minimum all CHCS II data is encrypted while in transit. A NetScreen virtual private network appliance is used to encrypt data from the facility to the Clinical Data Repository. These applications are put in place prior to connection of the Community of Interest wide area network.

3.6.3 Legacy (CHCS I) Preparation Activities

Lessons learned during CHCS II Operational Test and Evaluation (OT&E) and Limited Deployed phases indicate that every effort should be made to ensure an optimal CHCS I baseline prior to the activation of CHCS II at each site. Legacy preparation activities include the following:

- Elimination of duplicate patient records
- Elimination of duplicate provider files
- Addition of social security number, gender, and date of birth to all user profiles
- Review of all clinic and provider profiles for accuracy of count and noncount appointment types

- Loading of specified change packages prior to the arrival of the server installation team
- Executing an ad hoc report for active clinics for the host and satellite MTFs

These activities are managed by site sustainment personnel in coordination with the SAIC Field Operations Manager.

3.7 Identify Clinic Activation Sequence

Each facility determines the sequence in which its clinics will be activated. This includes the clinics at the host facility and any satellite facilities. The sequence is identified in coordination with the MTF Project Officer, the Service CIO Representative, and the Implementation and Training vendor. The sequence is then documented in the Site-Specific Implementation and Training Plan. In addition, each facility is required to provide its activation sequence in writing to the Deployment Operations Center approximately 90 days before the CHCS II user training is slated to occur.

3.8 Site-Specific Implementation and Training Plan (SSITP)

After completing the functional site surveys, the Implementation and Training vendor provides a Site-Specific Implementation and Training Plan for CHCS II related activities to occur at the facility. An initial draft of the plan will be delivered no later than 60 days prior to activation. The final draft is to be completed no later than 30 days prior to activation. Each site's SSITP must be approved by the CITPO to assure required resources are available to execute the plan.

The Implementation and Training vendor works with the facility's Project Officer and any other interested parties to populate the plan template by addressing:

- Physical space and equipment storage requirements
- Site preparation activities/schedule
- Communications and Computing Infrastructure activities/schedule
- Equipment delivery and installation schedule
- Clinical documentation activities
- Training activities/schedule
- Site-specific requirements
- Clinic activation sequence/schedule

3.9 Periodic Status Reporting

It is important that the facilities participate in reporting the status of site implementation and training activities to the Service Medical CIO Representatives and the Deployment Operations Center staff on a routine basis. The status should include input from all team members, including all satellites and outlying facilities/clinics.

Forums for status reporting may include the following:

3.9.1 Facility-Level Planning Meetings

A regularly scheduled facility-level planning meeting is recommended to allow all team members to identify and resolve site-specific issues at the lowest level. Issues may include: training schedules, power requirements, space, hospital policy issues and end-user device requirements. The meeting should be chaired by the MTF Project Officer and include facility and satellite/clinic implementation team members and other participants as needed. Additional participants could include the hospital administration personnel, data quality personnel, clinicians, other health care providers, medical and dental (for Block 2 sites) technicians, information management personnel, and base communication personnel. Tight coordination across a multidisciplinary team is critical to the successful implementation of CHCS II in each facility.

3.9.2 Pre-Implementation Meetings

Pre-Implementation Meetings are held prior to system activation to review implementation and training tasks. Participants include the MTF Project Team Members and Service Medical CIO Representatives. The Deployment Operations Center hosts Pre-Implementation Meetings at 90 days, 60 days and 30 days prior to the first training date, using a checklist to certify readiness of the site to proceed. These meetings ensure that all logistics and training activities are on schedule and help to resolve any issues that could adversely affect the activation schedule. Any problems or issues that arise during these meetings are addressed through the collaborative CHCS II Integrated Product Team structure.

The major topics of discussion for the Pre-Implementation Meetings are:

- Pre-implementation activities
- Surveys
- End user devices
- Circuit network protection
- Server installation and integration testing
- Functionality testing
- Training schedules

- Over-the-shoulder implementation assistance
- Transition planning and sustainment activities

4.0 Implementation and Training Activities

This phase encompasses execution of activities outlined in this Implementation Guide and the Site-Specific Implementation and Training Plan. During this phase hardware and software is procurement, delivered, installed and tested, and training for systems personnel, facility trainers, and end users commences.

4.1 Hardware/Software Procurement, Delivery, and Receipt

4.1.1 Procurement

The DISA acquires the server hardware and software, while the TIMPO and/or the Services acquire and maintain end user devices. The hardware and software is configured by the end user device vendor to ensure compatibility with CHCS II and is shipped to the respective treatment facility site. In the event that your treatment facility wants to use existing workstations, the end user device vendor exercises a contract line item for on-site installation of CHCS II software.

Site and/or user licenses, if required by the vendors, are provided to the treatment facility when the hardware is fielded. The CITPO, regardless of the procurement source, provides configuration management of CHCS II commercial- and government-off-the-shelf software products. The CITPO provides copies of all software to be pre-loaded on the end user devices approximately 165 days prior to the activation date.

The Service Medical CIO Representatives must identify the total number of end user devices per parent DMIS ID site approximately 180 days prior to the activation date.

4.1.2 Delivery

Server hardware arrives at the facility no later than 75 days prior to the specific facility's activation date. The treatment facility must identify personnel to be responsible for the receipt and inventory of hardware and software until installation. The treatment facility is responsible for configuring any other software loaded on the end user device.

4.1.3 Receipt

The MTF Project Officer is responsible for identifying to the CITPO a complete shipping address for the treatment facility and the individual(s) authorized to receive the shipment. Procurement and delivery of end user devices (including PCs/workstations and printers) at the treatment facility is planned to coincide with the procurement and delivery of server hardware. Plans for receipt, property book management and securing the hardware is the responsibility of the MTF Project Officer or his or her designee. The MTF will be asked to sign for the server hardware and to sign a Property Acceptance Sheet for the EUDs.

The vendor responsible for installing the EUDs will look to the MTF for guidance and a plan for installing the EUDs in a manner that minimizes disruption to clinic activities.

4.1.4 Hardware Storage Requirements

Each facility must provide secure storage for end user devices and servers as they arrive from the vendors and before they are installed in the computer room or clinics. The MTF Project Officer or his or her designee is responsible for ensuring that the vendors responsible for server installation and end user device installation have access and may retrieve any or all of these devices from storage on an as-needed basis.

4.1.5 Hardware Configuration Space Requirements

Each facility must provide a minimum of 250 square feet of space for the installation team to stage and configure end user devices earmarked for clinic installation.

4.1.6 Disposal of Packing Materials

Unpacking of end user devices and disposal of packing materials may be done by the TIMPO and/or the Service end user device vendor, depending on the service procurement strategy of the treatment facility.

4.2 Hardware and Software Installation

4.2.1 Server Installation and Integration Testing

Server installation should start 75 days prior to activation. The hardware will come pre-loaded with base (or core) software such as the operating system, standard software applications and tools, etc. Any software, including CHCS II, which was not pre-loaded, will be loaded at the time the hardware is installed. Towards the conclusion of server integration testing, final data mapping verification (DMV) testing will be conducted. (See para 4.2.2 below.)

The CITPO and TIMPO teams coordinate with the facility's Project Officer to ensure that:

- A daily installation schedule is designed to minimize disruption of treatment facility workflow
- Access to the computer room and facility for installation and diagnostic testing is granted
- All equipment is connected to power sources, communication cables are attached, and connections to other units are carried out as specified in the cabling plans
- Software is loaded and diagnostic tests performed to ensure that the system performs to original equipment manufacturer's specifications
- System burn-in and diagnostic tests are initiated
- Equipment inventories are updated and provided to the CITPO
- System integration tests are conducted
- Non-performance reports are prepared

4.2.2 Data Mapping Verification Testing

Final Data Mapping Verification (DMV) is the testing of all mapped data prior to CHCS II activation. Verification is required for each CHCS Host Facility because specific data is mapped to a specific site.

Testing is accomplished remotely after the CHCS II server is connected and tested. All data elements must be tested after the CHCS II server has been installed to ensure that the concept of the data item and the display are correct in CHCS II. DMV is performed remotely by a data mapping verification team under the auspices of the CITPO. The MTF Data Mapping Liaison will be contacted through the appropriate Service Medical CIO representative to coordinate the following for the Data Mapping Verification Testing Team:

- On-site resources needed
- Roles and responsibilities
- Set up of CHCS II user accounts (to be used exclusively by the team)

At the conclusion of data mapping verification testing, the site returns to the data mapping sustainment phase as discussed in para 3.2.2.

4.2.3 End User Device Installation

End user device hardware and software is installed 30 to 60 days prior to the start of training activities on-site. Based upon timing of CHCS II software releases, the CHCS II suite of software will be loaded prior to shipment to the MTF. This suite is intended to include the following:

- Site-specific image
- KEA 5.10H

- Tivoli executable (site-specific)
- CHCS II

The vendor responsible for EUD installation will look to the MTF for guidance and a plan to install EUDs in a manner that minimizes disruption to clinic activities. For Army and Navy MTFs, TIMPOs EUD vendor will install EUDs in accordance with device placement determined during the functional site survey. A technical test and a functionality test will be performed if CHCS II software is available.

When timing of software releases preclude “factory load” of CHCS II, the software will be loaded by the I&T vendor and a functionality test performed.

5.0 Training Concept of Operations

The CITPO is responsible for providing on-site resources to make certain that training is available for all users within the scheduled time frame. The MTF is responsible for ensuring the execution of training within the site’s allocated training resources.

5.1 Preparation for CHCS II Training

Following the functional site survey, the CHCS II implementation vendor provides a Site-Specific Implementation and Training Plan delineating training start and end dates for initial user, client administration, and train-the-trainer training. The CITPO team, the Service CIO Representative, and the I&T vendor review this plan with the MTF Training Coordinator and then address any discrepancies.

The MTF Training Coordinator ensures the training facilities are ready for training classes. Once approved, the Coordinator disseminates the approved training plan and schedule throughout the facility. The Coordinator works with the clinic representatives to ensure that the providers’ schedules are blocked and the providers are booked for training at least 60 to 45 days prior to the initial training start date.

5.1.2 Training Room

Each CHCS II Training Site must have a dedicated training room with desks, chairs, and electrical power to accommodate at least 10 students and 1 instructor. Most small to medium size facilities will require two training rooms.

5.1.3 Training Hardware

Training for CHCS II is conducted on laptop computers configured with the CHCS II Implementation Training Tool. *(The training laptops do not remain at the facility following implementation.)*

5.1.4 CHCS Basic Training

The CHCS II training curriculum assumes that users are fully trained in appropriate CHCS modules. The Facility Training Coordinator is responsible for ensuring that CHCS training is provided for those requiring it prior to CHCS II training.

5.1.5 Basic Computer Skills Training

CHCS II uses a familiar graphic interface. The training curriculum assumes students have basic computer skills, including the ability to use MS Windows, drop-down windows, a mouse and a keyboard. Basic computer skills training and CHCS legacy training are the responsibility of the facility.

5.2 Management of CHCS II User Accounts

New CHCS II software functionality will allow both Host and Satellites Sites to create and manage their own user accounts for CHCS II as they currently do for CHCS I. This software enhancement is scheduled for release to the field in March 2004. Documentation is being prepared to assist MTFs with creation and management of CHCS II user accounts using this new functionality.

Until this new functionality becomes available, Host Sites are responsible for creating user accounts for all Satellite facilities, assisting with forgotten passwords, and unblocking locked accounts. This activity requires significant cooperation and coordination between Hosts and their Satellite sites. Implementation and training contract support staff will assist users to register for their new CHCS II accounts shortly before their scheduled training date. They will also assist the user with first time logon to verify accuracy of the user's new CHCS II account.

5.3 CHCS II Training

The CITPO uses a combination of training methodologies to familiarize users with CHCS II and to help them integrate the system's use into their clinic work flow. Training duration varies by class type.

5.3.1 End User Training

CITPO is responsible for the delivery of initial End User Training. Training models are Service-specific, developed and refined as a result of lessons learned during CHCS II limited deployment. Role-based training is provided to providers, nurses, support personnel, clerks, and immunization staff by the CITPO's I&T vendor. Training materials include a computer-based training product, a training video, and a web-based training tool.

5.3.2 Systems Administration Training

While DISA holds the primary responsibility for operations and sustainment of CHCS II servers, training is conducted on-site for System Administrator personnel shortly after server installation is completed at the host site. This training is scheduled in advance and consists of six two-hour sessions scheduled across a period of time dependent upon the size and number of personnel requiring this training.

5.3.3 Client Administrator Training

Client administration training is provided to all sites. It is recommended that this training be conducted during the first week of end user training. Training early and working with contract technical staff allows sustainment personnel to be best prepared to support the system after I&T vendor support staff depart. If the Host Site triages trouble tickets for Satellites, Host Site help desk personnel should attend this training with satellite personnel. In this manner, issues pertaining to CHCS II workstations or client software (KEA, Tivoli, etc.) may be resolved more efficiently.

The Facility Training Coordinator coordinates the scheduling of Systems and Client Administrator students for these classes.

5.3.4 CHCS II Train-the-Trainer

In accordance with guidance from the MTF Command group, the MTF Project Officer facilitates identification of individuals to become CHCS II instructors to train future users of CHCS II. Developing instructors within each facility provides a cadre of skilled personnel to assist with future facility sustainment training requirements. The MTF Training Coordinator works with the CITPO Team and the I&T vendor to schedule selected students for this training. It is recommended that these individuals be identified by the 60 day Pre-Implementation Meeting. It is also recommended that these individuals attend all role-based user training classes early in the training schedule.

5.4 Implementation Assistance

Implementation Assistance consists of general and specific support activities at CHCS II designated point-of-care delivery sites. Providers receive Structured-On-the-Job-Training (SOJT) after completing classroom training. The timing and duration of this form of Implementation Assistance varies again by individual Service models. Other users in the clinic are assisted at their workstations by IAs for two weeks post classroom training. During implementation, it is recommended that patient appointments are blocked in a manner that permits all facility staff, including clerical, nursing, technicians, and especially providers, the time to learn to use CHCS II to record all information about the patient encounter and to integrate use of the system into their clinical workflow.

6.0 Operations and Sustainment Activities

It is exceptionally important that the Chief, Information Management Division or Chief, Medical Information Division and the MTF Project Officer work with the I&T vendor to begin transition planning on or before the first day of training.

Upon the completion of the last scheduled day of Implementation Assistance, the MTF transitions into sustainment whereby the site assumes responsibility for CHCS II. After an exit brief from the I&T vendor, the facility's Project Staff has full knowledge of users trained, trouble ticket status, status of CHCS II build, training materials, end user device status log, and other resources. Ongoing support activities, including sustainment training activities and MHS Help Desk support, are described below.

6.1 Sustainment Training

The facility is responsible for conducting sustainment training after clinics are activated and all available clinic personnel have been trained. Sustainment training includes training of incoming personnel and refresher training. The CITPO provides each facility with a set of training materials and manuals for sustainment training. Updates to these materials are planned to ensure they reflect the current CHCS II release functionality.

6.2 MHS Help Desk/Tier Support

Subsequent to activation, the facility continues to be supported via the MHS Help Desk. The MHS Help Desk uses a 3-Tier system to ensure that corrective action is accomplished at the lowest level possible while providing timely and cost-effective maintenance support to the end-user.

Tier 0: Tier 0 problems are resolved by local site support personnel, generally through the MTF help desk. Problems addressed by Tier 0 usually are application-driven and relate predominantly to sustainment training and education requirements. Entry-level assistance is provided to the user by system specialist and site managers. Tier 0 problems often involve username/password issues or error messages that can be resolved on-site.

Tier 1: CHCS II problems which can not be resolved by the MTF help desk at Tier 0 are escalated by help desk personnel to Tier 1 support engaging the MHS Help Desk via telephone support (phone numbers provided below). The MHS Help Desk generates a trouble ticket, addresses the problem with the user, and closes the trouble ticket if possible. Examples of Tier 1 problems may include Visual Basic or Tuxedo error messages that cannot be resolved by the system administrator on-site. If a trouble ticket cannot be resolved with Tier 1 expertise it is escalated by the MHS Help Desk to Tier 2 support personnel.

Tier 2: Tier 2 support personnel at the MHS Help Desk have technical expertise with component knowledge and the trouble-shooting capability to resolve problems beyond Tier 1. Tier 2 problems may involve known errors that are in the process of being resolved, in which case the MHS Help Desk personnel may give a work-around solution until the ticket is closed or escalated. If the MHS Help Desk is unable to resolve the trouble ticket at Tier 2, it is escalated to the appropriate support vendor.

Tier 3: CHCS II problems that can not be resolved by the MHS Help Desk are escalated to the system developer who provides Tier 3 support. Tier 3 issues generally involve either a material defect in the software that is affecting the functionality of the system or a user's desire to change or enhance a software feature. The issue is investigated by system developer staff and results in either a (1) Problem Change Request or (2) System Change Request. The MHS Information Management Directorate manages this process. Problem Change Requests are forwarded to the CITPO Configuration Management Workgroup for prioritization and repair. System Change Requests represent an enhancement to baseline system functionality and by MHS policy must be prioritized and funded by a Tri-Service panel.

MHS Help Desk Contact Information:

The MHS Help Desk (Tiers 1 and 2) Customer Support Telephone Numbers are:

CONUS Sites: (800) 600-9332

OCONUS Sites: (866) 637-8725

Direct Commercial: (210) 767-5250

Commercial Fax: (210) 767-0449

The MHS Help Desk Internet web site <http://www.mhs-helpdesk.com> includes a frequently asked question section and links to allow users to request accounts, enter trouble tickets or query the status of open tickets.

7.0 In Closing

Your comments on this guide and other CHCS II implementation materials are critical to our ability to improve upon these documents. Please submit any recommended changes for this guide or any other CHCS II implementation materials to the Deployment Operations Center at CITPO-OPSCTR@ha.osd.mil.

Please take advantage of the Deployment Operations Center electronic library online at

www.citpo.org. The companion documents listed in Appendix C are currently available in the library. If you have recommendations for additional resources that should be added to the library, please notify the Deployment Operations Center by calling 703-284-7400 or 866-837-1924.

Appendix B provides contact information for Service and CITPO CHCS II points of contact. These individuals, as well as the Deployment Operations Center, are important resources for you throughout the CHCS II implementation process.

APPENDIX A: Drivers for Development of CHCS II

The Department of Defense (DoD) and the MHS require a worldwide integrated clinical information system to meet strategic goals and mission requirements. CHCS II is the major information technology enabler to support the MHS critical mission tenets of Force Health Protection (FHP) and Population Health Improvement (PHI). FHP is an integrated, prevention-oriented and surveillance-based clinical system for maintaining a healthy and fit force and for casualty prevention. FHP directly supports the medical readiness of every Soldier, Sailor, Airman and Marine for all military operations. PHI applies the FHP activities for maintaining a healthy and fit population while optimizing clinical outcomes across the MHS by shifting from an emphasis on disease and injury intervention to prevention and health promotion. The target for PHI includes all members of the military community: armed forces members, their families and others entitled to DoD medical care. Collectively, FHP and PHI will reduce the requirement for complex health care in the patient population and costly health care interventions while maintaining a more combat capable force.

In 1991 the Institute of Medicine (IOM), a congressionally chartered advisor to the federal government on scientific and technological matters, published its report, *The Computer-based Patient Record: An Essential Technology for Health Care*.

The IOM committee identified the following five objectives for future patient record systems:

- 1) Support patient care and improve its quality.
- 2) Enhance the productivity of health care professionals and reduce the administrative costs associated with health care delivery and financing.
- 3) Support clinical and health services research.
- 4) Accommodate future developments in health care technology, policy, management, and finance.
- 5) Establish mechanisms to ensure patient data confidentiality at all times.

The IOM determined that future patient records must be computer based if these objectives were to be attained. However, they noted any efforts to automate the form, content, and procedures of current patient records would perpetuate deficiencies and would not be sufficient to meet emerging user needs. To be successful, the computer-based patient record must reside in a dynamic system designed to support users through availability of complete and accurate data, practitioner reminders and alerts, clinical decision support systems, links to bodies of medical knowledge, and other aids.

The introduction of the CPR concept coincided with the deployment of U.S. troops in Operation Desert Shield/Desert Storm. In 1992, complaints from Service members experiencing unexplained illnesses and other health problems following deployment to the Persian Gulf drove the White House and Congress to call for investigation. Public Law 102-585, Sec. 706 mandated that the Secretaries of the DoD and the Department of Veterans Affairs enter into an agreement with the National Academy of Sciences – specifically IOM’s Medical Follow-Up Agency (MFUA) – to review health consequences of military service in the Persian Gulf theater of operations during the Persian Gulf War.

The MFUA Committee to Review Consequences of Service During the Persian Gulf War published its final report, *Health Consequences of Service During the Persian Gulf War: Recommendations for Research and Information Systems*, in 1996. The report recommended development of a “uniform medical record”. The report stated the “single most troublesome problem encountered in attempts to conduct epidemiologic studies of illnesses among [Persian Gulf War] veterans has been the inability to retrieve information on medical care events such as hospitalizations, outpatient visits, and diagnoses and treatments from DoD and DVA medical records in a uniform and systematic manner.” The report went on to say the “lack of uniform and retrievable medical information concerning reserve, National Guard, active, and separated forces has greatly inhibited systematic analysis of the health effects of mobilization...Current systems are fragmented, disorganized, incomplete, and therefore poorly suited to support epidemiologic and health outcome studies.”

During the same time period, the President established the Presidential Advisory Committee on Gulf War Veterans’ Illnesses. The Advisory Committee was charged with the identification of relevant actions that may be taken by the federal government to better safeguard the health and well being of the US Armed Forces.

In response to the committee’s special report the President issued the following direction:

“I am directing the Department of Defense and Veterans Affairs to create a new Force Health Protection (FHP) Program. Every Soldier, Sailor, Airman and Marine will have a comprehensive, lifelong medical record of all illnesses and injuries they suffer, the care and inoculations they receive and their exposure to different hazards. These records will help us prevent illness and identify and cure those that occur”¹

¹ White House Memorandum dated 8 November 1997.

Congress supported the President's direction by specifically addressing FHP requirements in the Fiscal Year 1998 DoD Authorization Act (Public Law 105-85, Section 765). Public Law 105-85 required the Secretary of Defense to establish a system to assess the health condition of members of the Armed Forces deployed outside the US as part of contingency or combat operations.

These events and studies made clear the need for an organized electronic CPR. In November 1996, the Assistant Secretary of Defense (Health Affairs) approved the Mission Need Statement for the CHCS II. The MNS stated the need to implement a worldwide, single, integrated clinical information system. CITPO, the acquisition office for all centrally managed clinical information technology systems that support the delivery of health services throughout the MHS, was charged with acquiring and implementing the Military CPR.

In 2003, following a thorough acquisition process, exhaustive developmental and operational testing and a limited deployment to Army, Navy, and Air Force facilities, CHCS II was approved for worldwide deployment. Worldwide deployment of CHCS II is to commence in January 2004 and rollout is expected to occur over a 30-month period.

APPENDIX B: Points of Contact

Role	Name	Email
Air Force	LtCol Fuller	Janice.Fuller@pentagon.af.mil
BUMED	CDR Sowell	Pamela.Sowell@ha.osd.mil
AMEDD	COL Chiang	Suzanne.Chiang@otsg.amedd.army.mil
CHCS II Project Officer	CAPT Moos	Heidi.Moos@tma.osd.mil
CITPO Logistics Director	Col Abalos	Alma.Abalos@ha.osd.mil
CITPO Deputy Director Logistics	LCDR Nedved	Doris.Nedved@ha.osd.mil
TIMPO	LTC(P) Lewis	Vaseal.Lewis@ha.osd.mil

APPENDIX C: Companion Documents

<u>Doc</u>	<u>Companion Documents</u>	<u>Organization POC</u>
1	CHCS II Commander's Guide (Feb 04)	CITPO/ Logistics
2	CHCS II Device Placement Criteria (Jan 04)	CITPO/ Logistics
3	Pre-Implementation Meeting (PIM) Checklist Template	CITPO/ Logistics
4	Deployment Schedule Template & Assumptions	CITPO/Ops Center
5	Pre-Site Survey Questionnaire (PSSQ - FUNCTIONAL)	CITPO/ Logistics
6	Pre-Site Survey Questionnaire (PSSQ - TECHNICAL)	TIMPO
7	Site Specific Implementation and Training Plan (SSITP) Template (Oct 03)	CITPO/ Logistics
8	Pre-Deployment Data Mapping Verification Plan (Jun 03)	CITPO/ Logistics
9	CHCS II Host Site Responsibilities (Nov 03)	CITPO/Ops Center
10	Server Administration Guide: Application, Security and CDR (Sep 03)	CITPO/Vendor
11	Server Integration Testing Checklist	TIMPO
12	Integrated Logistics Support Plan (Sep 03)	CITPO/Logistics

Online Access to Companion Documents: The Deployment Operations Center established an electronic library of all implementation-related documents. (Logon to the CITPO Intranet at www.citpo.org. Click on the yellow *Register* bar in the upper right corner of the site to register for access to the Deployment Operations Center content.)