

## Composite Health Care System II (CHCS II)

The Composite Health Care System II (CHCS II) is a tri-Service, medical management automated information system (AIS) that will be used in all military treatment facilities (MTFs) worldwide—fixed, deployed, and aboard ships. The core capability is a uniform, comprehensive, legible, secure Computer-based Patient Record (CPR) for every beneficiary. Building on the existing CHCS, CHCS II integrates medical and dental information, and is a key enabler for Force Health Protection and Population Health Improvement, two cornerstones of military medicine. CHCS II also addresses the need for readily accessible health care information on deployed Service members.

CHCS II will be implemented in multiple blocks with increasing functionality. It achieved Milestone I in 1998, and is expected to receive a Milestone B/C limited deployment authority by the beginning of 2003. CHCS II is a complex system requiring coordination among the Services, DoD Tricare regions, MTFs, the DoD acquisition community, various oversight organizations, and the test community. The Program Manager (PM) has effectively utilized Integrated Product Teams (IPTs), but requirements and architectural changes have presented challenges in planning for Operational Test and Evaluation (OT&E) of the integrated system.

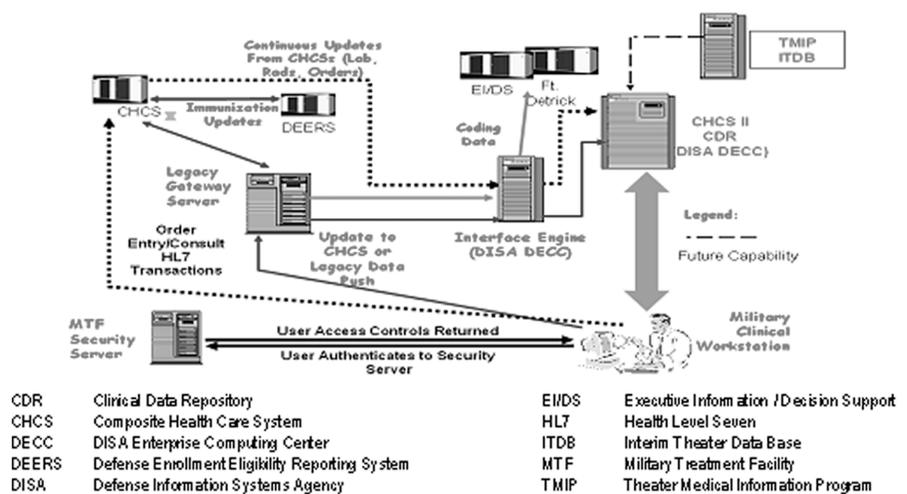
During 1999 and 2000, Army Test and Evaluation Command (ATEC), the independent Operational Test Agency, conducted Customer Tests (i.e., Operational Assessments) on CHCS II prototype systems that were installed in selected clinics at MTFs in Hawaii. Although the results indicated that these systems were not yet operationally effective or suitable, the assessments provided valuable information used to design the next iterations of the software, which incorporated substantial operational and technical architectural changes. In August 2002, the Joint Requirements Oversight Council (JROC) approved an updated CHCS II Operational Requirements Document (ORD).

### TEST & EVALUATION ACTIVITY

- During 2000 and 2001, CHCS II Block 1, which targets ambulatory care, was installed in selected clinics at four test sites, which comprise medium and large MTFs of the three Services: Portsmouth Naval Medical Center, Virginia; Langley Air Force Base, Virginia; Fort Eustis, Virginia; and Seymour-Johnson Air Force Base, North Carolina. The Program Manager (PM) continued to improve the software based on user input from the test sites and completed Developmental Test and Evaluation in May 2002.
- ATEC conducted Initial Operational Test (IOT) at the four test sites May 24 through July 3, 2002. More than 130 typical users (e.g., doctors, physician's assistants, nurses, technicians, and administrative personnel) participated.

### TEST & EVALUATION ASSESSMENT

CHCS II is on the leading edge of technology and must link multiple commercial-off-the-shelf products in a way that is not being done, or is even feasible, in the civilian sector. It requires health care providers to become increasingly computer literate and also introduces new techniques and procedures, such as the use of templates to record patient encounters in an effort to standardize the CPR. Since it will be DoD's premier health care system, CHCS II will have a tremendous operational impact on the fighting force. The CPR will be the first (military or civilian) cradle-to-grave automated health care record: one that can



*Composite Health Care System II provides a computer-based patient record for every beneficiary of the military health system. It integrates medical and dental information and will be used in every military treatment facility worldwide.*

# DOD PROGRAMS

revolutionize the effectiveness of the Military Health System (MHS) by providing instantaneous patient information to health care providers worldwide.

ATEC found Block 1 to be operationally effective, operationally suitable, and survivable. DOT&E determined that the Initial Operational Test and Evaluation (IOT&E) was adequate and agreed with the ATEC findings based on the JROC-approved operational requirements. However, during the course of the IOT&E, it became apparent that an additional mission performance parameter – one not found in the approved ORD – also applied. Health care providers (HCPs) at every test site reported that the number of patient encounters that can be completed is a major measure of mission performance in today's MHS. Many of these HCPs said that they had been told to see as many as 25 patients per day. User surveys, conducted during the IOT, indicated that a majority of HCPs who perform full patient encounters are dissatisfied with the ability of CHCS II to help achieve this requirement. These HCPs indicated that a patient encounter usually takes longer using CHCS II than it would if documented solely on paper. The impact appears to be more severe for some clinics (e.g., family practice and primary care) than for others.

CHCS II clearly offers major benefits to the MHS, including a legible, accurate, and electronically transferable CPR mandated by the President. Although the relationship between CHCS II and the number of patients that can be seen is not yet completely understood, the system may save time in other ways and may improve the quality of care. There are, however, very limited test data at this time to support these contentions due to limited implementation of CHCS II. The OT&E could not establish whether the acknowledged benefits of the system, and the fact that it fully met its ORD requirements, outweigh the reported "bottom line" need to maximize the number of patient encounters. During the limited deployment, the medical community will determine the overriding measures of success and will continue to assess CHCS II Block I. ATEC will conduct a continuing evaluation of Block 1 in April 2003, with an emphasis on productivity and interoperability. Meanwhile, the Test and Evaluation Master Plan is being updated to prepare for test and evaluation of Block 2 at selected test sites still to be determined. Block 2 OT&E is currently scheduled to begin during the summer of 2003.

As part of the limited deployment process, the Assistant Secretary of Defense (Health Affairs), in consultation with the Services' Surgeons General, should reconsider the operational requirements for CHCS II and the relative importance of maximizing patient encounters before deciding whether to pursue fielding CHCS II Block 1 worldwide. The results of the Block 1 reassessment should provide information to aid this decision. The PM, in the meantime, continues to focus on improving system response time and refining system functionality, including the elimination of some manual workarounds required during IOT. DOT&E will continue to work test issues with the PM, the test community, and the users through the IPT process.