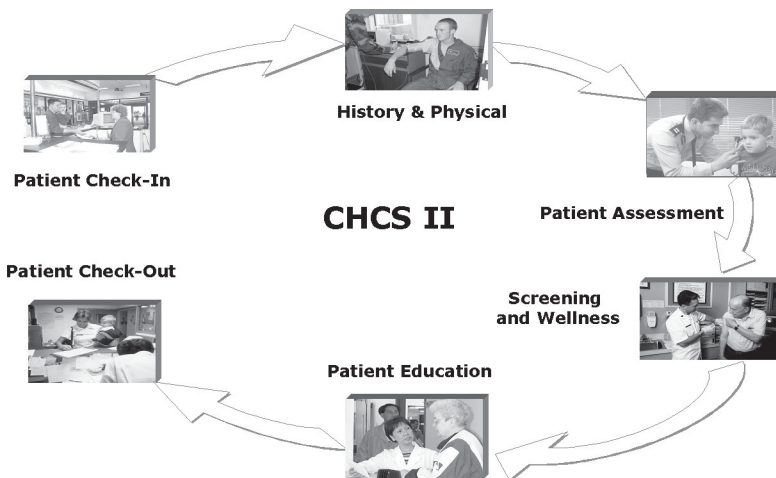


Composite Health Care System II (CHCS II)

SUMMARY

- The Composite Health Care System II (CHCS II) Block 1 exhibited some performance and reliability problems during 2004 that now appear to be corrected. There are also productivity (patient throughput) concerns that may be offset by other major medical care benefits.
- In July 2004, the Army Test and Evaluation Command and the Army Medical Department Board began operational test and evaluation of Block 2 at seven sites in Virginia and Texas.
- Block 2 met its functional requirements. However, qualitative data obtained from user questionnaires indicate that the dental module is not user friendly enough. Users also related that the same productivity concerns arise with dental encounters as with medical encounters.
- The operational testers need suitable metrics to determine whether more experience with CHCS II alleviates the apparent productivity loss and whether the long-term benefits of CHCS II will outweigh its near-term disruptions.



CHCS II provides a uniform, comprehensive, legible, secure, computer-based patient record for every beneficiary of the Military Health System.

SYSTEM DESCRIPTION AND MISSION

CHCS II provides a uniform, comprehensive, legible, secure, computer-based patient record for every beneficiary of the Military Health System. All military treatment facilities worldwide will use it—fixed, deployed, and aboard ships. Building on the existing CHCS, CHCS II integrates medical and dental information. It is a key enabler for force health protection and population health improvement. It also provides health care information on deployed Service members. The program manager is implementing CHCS II in blocks of increasing functionality.

CHCS II is on the leading edge of technology. It must link multiple commercial off-the-shelf products. It introduces new techniques and procedures to record patient encounters. This includes the use of templates to standardize the computer-based patient record. CHCS II will have a tremendous operational impact on the fighting force. The new patient record will be the first (military or civilian) cradle-to-grave automated health care record.

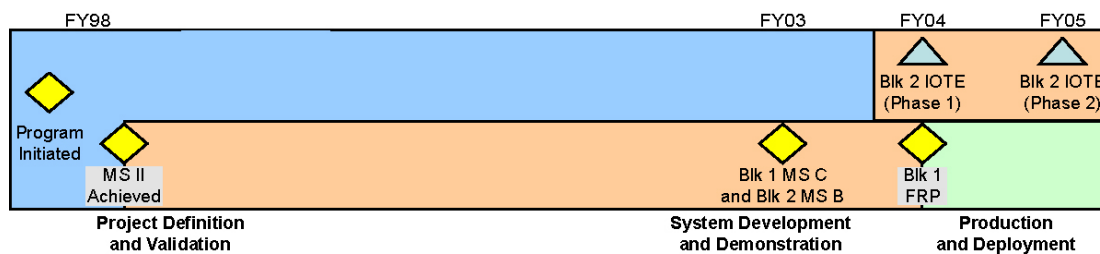
The Army Test and Evaluation Command is the lead operational test agency. In the 2002 initial operational test and evaluation (IOT&E), Army testers found that Block 1 was operationally effective, operationally suitable, and survivable. We determined that the IOT&E was adequate and generally agreed with the test findings. However, we also determined that an additional mission performance parameter applied. This factor was not in the approved Operational Requirements Document. Health care professionals at every test site reported that the number of patient encounters (i.e., office visits) completed is a major measure of mission performance. They indicated that a patient encounter usually takes longer using CHCS II than it would if documented solely on paper. This was particularly the case in general clinics such as family practice and primary care. The providers were unable to meet a goal of seeing up to 25 patients per day.

But CHCS II may save time in other ways and offers major benefits. These include a legible, accurate, and electronically transferable computer-based patient record. The President and the Congress mandated this requirement in Presidential

DOD PROGRAMS

Review Directive 5 and Public Law 105-85, respectively. We could not establish whether the acknowledged benefits, and the fact that CHCS II fully met its documented requirements, outweigh the need to maximize patient encounters. During FY03, Army testers tried to resolve the productivity issue. They used data provided by Bearing Point, Inc. The testers found that the number of patient encounters initially dropped off by about 20 percent across the Services after the installation of CHCS II. As the use of CHCS II Block 1 increased, productivity did not further decrease. But the data collection period was short. The metrics were questionable. The ramifications of the findings were not clear to us or to the user community. The Milestone Decision Authority therefore directed the program manager to work with the Services and with us to determine appropriate metrics to quantify productivity. This activity continues.

TEST AND EVALUATION ACTIVITY



The program office fielded CHCS II Block 1 to all three Services at about 20 locations. Meanwhile, they developed CHCS II Block 2, which provides dental and optometry capabilities. The program office installed this version for developmental testing at the dental and optometry clinics at Sheppard Air Force Base, Texas; Fort Eustis, Virginia; and the Naval Base in Norfolk, Virginia. In June 2004, we approved an updated Test and Evaluation Master Plan and a detailed Operational Test and Evaluation Plan for Block 2. In September 2004, we revalidated the Test and Evaluation Master Plan.

While the program office was testing Block 2, they continued to field Block 1. As the number of sites increased, many users began to encounter serious problems. System performance was poor. Some functions ceased to work properly. This potentially affected the performance of Block 2. (Block 2 rides on the same infrastructure as Block 1. It uses the same computer-based patient record.) As the scheduled time for IOT&E of Block 2 approached, we decided that it would be appropriate to conduct it in two phases. The program office, the operational test agency, and the user community agreed with us. The unresolved Block 1 problems would preclude an immediate fielding of Block 2, regardless of the test results.

In July 2004, the operational testers began Phase I Operational Test and Evaluation of Block 2. They tested it at the seven sites in Virginia and Texas previously used for developmental testing. If the program office is able to correct the Block 1 discrepancies by November 2004, the Army testers will verify the status and complete Phase II IOT&E by the end of 2004. The program office reportedly has made great progress. During the Phase II IOT&E, the testers will consider all usable data collected during Phase I.

TEST AND EVALUATION ASSESSMENT

Phase I IOT&E provided important insight into the operational effectiveness and operational suitability of Block 2. Quantitative data indicate that CHCS II Block 2 is performing the dental functions as designed. These data also indicate that there are no significant concerns with the optometry portion. However, qualitative data obtained from user questionnaires indicate that the dental module is not user friendly enough. This data also indicates that the same productivity concerns arise with dental encounters in Block 2 as with medical encounters in Block 1. Dentists and dental technicians stated that they were unable to treat as many patients using CHCS II as they could by recording information on paper. The testers need to be able to determine whether more experience with CHCS II eventually alleviates the problem. They need to be able to judge whether the long-term benefits outweigh any apparent productivity loss.

To assist in answering these questions, the Army Test and Evaluation Command has updated the user survey to record participant responses during the second phase of the Block 2 evaluation, targeting these specific areas of concern. Since the review of Phase 1 results, substantial efforts have been made to improve the system. The revised survey is intended to capture how those Human System Integration and system performance changes have impacted user friendliness, productivity, and mission support. The Phase II testing is on track to commence as scheduled in November 2004.