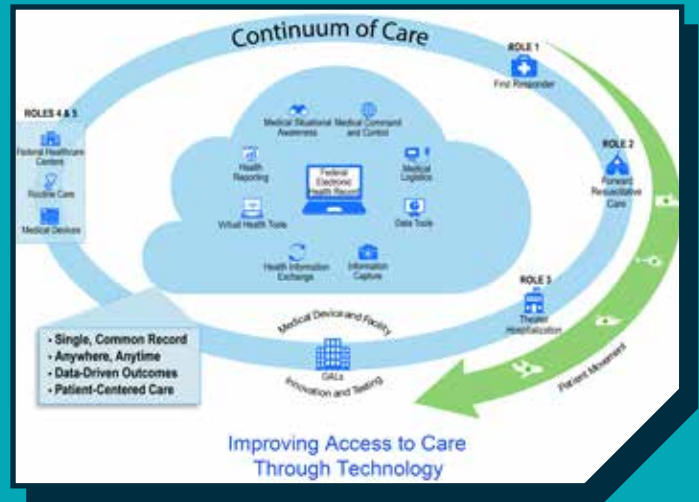


DOD Healthcare Management System Modernization (DHMSM®)

Military Health System (MHS) GENESIS is operationally effective for basic operations in conventional clinics, but not for certain specialty clinics and business areas. One of the configuration management initiatives, called “Pay It Forward,” demonstrated potential for improving MHS GENESIS operational suitability. While training remains an area of major concern, with 72 percent of respondents rating it poorly, hands-on practice in a mock environment also demonstrated potential to improve MHS GENESIS operational suitability. Despite ongoing cybersecurity improvements, MHS GENESIS is not yet survivable in a cyber-contested environment.



System Description

MHS GENESIS is a modernized electronic health records system intended to create a single health care record for each patient that can be utilized by the DOD, Department of Veterans Affairs, or U.S. Coast Guard. DOD medical staff use MHS GENESIS to manage delivery of en route care, dentistry, emergency department, immunization, laboratory, radiology, operating room, pharmacy, vision, audiology, and inpatient/outpatient services, and to perform administrative support, front desk operations, logistics, billing, and business intelligence. MHS GENESIS comprises three major elements: 1) the Millennium suite of applications, which provides medical capabilities, 2) the Dentrix Enterprise, which provides dental capabilities, and 3) the Orion Rhapsody Integration Engine, which enables the majority of the external information exchanges.

Program

MHS GENESIS is an Acquisition Category I program intended to replace the legacy healthcare systems, including the Armed Forces Health Longitudinal Technology Application, Composite Health Care System, and Essentris systems. The Project Management Office (PMO) is deploying MHS GENESIS in military treatment facility “waves” in designated medical operational centers and intends to field MHS GENESIS to 205,000 MHS personnel, providing care for 9.4 million DOD beneficiaries worldwide. MHS facilities encompass 54 hospitals, 377 medical clinics, and 270 dental clinics. At the end of July 2021, MHS was fielded to about 30 percent of its intended recipients, with another deployment wave that started at the end of September 2021.

In 2020, the Joint Interoperability Test Command (JITC) conducted FOT&E on MHS GENESIS, resulting in a declaration that MHS GENESIS is partially operationally effective, but not suitable. Consequently, the FY21 Defense Appropriations Act directed a follow-on suitability assessment of MHS GENESIS change management and training and a subsequent report by March 2021.

Major Contractors

- Leidos – Reston, Virginia.
- Cerner – Kansas City, Missouri.
- Henry Schein, Inc. – Melville, New York.

Test Adequacy

From February 12 through March 5, JITC conducted the congressionally mandated evaluation of MHS GENESIS change management and training, in accordance with a DOT&E-approved test plan. JITC conducted small group interviews with Defense Health Agency (DHA) and PMO personnel and with health care providers (e.g., new end users) at Nellis Air Force Base, Nevada, and Camp Pendleton, California. JITC also administered an electronic survey to users in selected clinical and business areas. The testing was adequate to evaluate current change management strategies and determine whether training had improved to a level that enabled new users to operate the system without substantial outside assistance. Testing also enabled the closure of eight previously identified incident reports, but many of them remain open. DOT&E submitted an independent assessment of the MHS GENESIS change management and training to the House and Senate Defense Appropriations Subcommittees in March 2021.

Performance

Effectiveness

Based on the FOT&E completed in 2020, MHS GENESIS is operationally effective for basic operations in conventional clinics, but not for certain specialty clinics and business areas.

Suitability

Based on the FOT&E completed in 2020, MHS GENESIS was not operationally suitable largely because training and configuration management were unsatisfactory, dissemination of system change information was inadequate, and usability problems persisted. The

follow-on 2021 suitability assessment demonstrated that a new change management initiative called “Pay It Forward,” designed to provide experienced military treatment facility personnel on-site to support new users during each fielding wave, proved successful, although interviews and survey results showed that this initiative was not available to many users during fielding. The 2021 follow-on assessment also demonstrated that training remains an area of major concern, with 72 percent of respondents rating it poorly. Current computer-based training remains ineffective, while a new training initiative that allows users to get hands-on practice in a mock environment demonstrated improvements.

Survivability

Despite ongoing cybersecurity improvements, MHS GENESIS is not yet survivable in a cyber-contested environment.

Recommendations

1. DOT&E’s 2020 recommendations to the Under Secretary of Defense (Personnel and Readiness), the PMO, and DHA still apply.
2. JITC should continue its verification of the incident report fixes and plan for an FOT&E to verify corrective actions and resolve any outstanding incident reports.
3. DHA and the PMO should expand the “Pay It Forward” change management process.
4. DHA and the PMO should expand the new training initiative that allows users to get hands-on practice in a mock environment. The ineffective computer-based training should either be shortened, focused on more relevant skills, or discontinued.
5. DHA and the PMO should engage with vendors and JITC to conduct cybersecurity testing on vendor data storage solutions to assess the risk to mission and identify vulnerabilities that may expose sensitive protected health information and personally identifiable information.