Defense Health Agency

ADMINISTRATIVE INSTRUCTION

Director, HI

SUBJECT: Health Informatics Responsibilities for Major Release Upgrades to Health
                     Information Technology Systems

References: See Enclosure 1.

1. <u>PURPOSE</u>. This Defense Health Agency-Administrative Instruction (DHA-AI), based on the authority of References (a) and (b), and in accordance with the guidance of References (c) through (e), establishes the Defense Health Agency (DHA) procedures for Health Informatics (HI) software upgrade release management. For background information, see Enclosure 2.

2. <u>APPLICABILITY</u>. This DHA-AI applies to the DHA Enterprise (components and activities under the authority, direction, and control of the DHA) to include, assigned, attached, allotted, or detailed personnel. For DHA publications, the terms "market" or "direct reporting market" includes the Hawaii Market unless otherwise noted in the publication. This applies to all published DHA publications, thereby ratifying any actions taken by the Hawaii Market after establishment.

3. <u>POLICY IMPLEMENTATION</u>. It is DHA's instruction, pursuant to References (a) through (c), that:

   a. The terms DoD health information technology (HIT) system, enterprise clinical system, clinical health system, and electronic health record (EHR) system have essentially the same meaning for the purposes of this policy. Hereinafter, only the term "HIT system" is used in this document.

   b. The DHA will establish procedures for communication and coordination related to upgrades for HIT systems.

4. <u>RESPONSIBILITIES</u>. Enclosure 3 includes responsibilities primarily for DHA-HI Technology Management Integration (TMI) within DHA-HI, with responsibilities of other stakeholders included for context. The responsibilities indicated in that enclosure for

stakeholders are not comprehensive but represent the information essential to the subject of this publication.

5. <u>PROCEDURES</u>. See Enclosure 4.

6. <u>PROPONENT AND WAIVERS</u>. The proponent of this publication is the Director, HI. When components and activities are unable to comply with this publication the activity may request a waiver that must include a justification, including an analysis of the risk associated with not granting the waiver. The activity director or senior leader will submit the waiver request through their supervisory chain to the Director, HI to determine if the waiver may be granted by the Director, DHA or their designee.

7. <u>RELEASABILITY</u>. **Cleared for public release.** This DHA-AI is available on the Internet from the Health.mil site at: <u>https://health.mil/Reference-Center/Policies</u> and is also available to authorized users from the DHA SharePoint site at: <u>https://info.health.mil/cos/admin/pubs/SitePages/Home.aspx</u>.

8. <u>EFFECTIVE DATE</u>. This DHA-AI:

   a. Is effective upon signature.

   b. Will expire 10 years from the date of signature if it has not been reissued or canceled before this date in accordance with Reference (c).

CROSLAND.TEL
ITA.1017383040
Digitally signed by
CROSLAND.TELITA.1017383040
Date: 2023.07.07 16:14:44 -04'00'

TELITA CROSLAND
LTG, USA
Director

Enclosures
   1. References
   2. Responsibilities
   3. Procedures
   4. Applicability, Rationale, Timing, and Stakeholders for Software Upgrades
Glossary

ENCLOSURE 1

REFERENCES

(a) DoD Directive 5136.01, "Assistant Secretary of Defense for Health Affairs (ASD(HA))," September 30, 2013, as amended
(b) DoD Directive 5136.13, "Defense Health Agency (DHA)," September 30, 2013, as amended
(c) DHA-Procedural Instruction 5025.01, "Publication System," April 1, 2022
(d) DHA-Procedural Instruction 8140.02, "The Military Health System Informatics Steering Committee Structure," May 19, 2022
(e) United States Code, Title 10, Chapter 55, Section 1073(c)

ENCLOSURE 2

RESPONSIBILITIES

1. <u>DIRECTOR, DHA</u>. The Director, DHA, must ensure that staff under their authority, direction, and control comply with this DHA-AI.

2. <u>DIRECTOR, HI</u>. The Director, HI must take actions to ensure effective functionality and usability of enterprise HIT systems. With respect to the management of software upgrades, the HI division chiefs are the main functional points of contact representing the end user. Chiefs report to the Director, HI.

3. <u>CHIEF, TMI, HI</u>. The Chief, TMI, HI must take actions to ensure efficient sustainment configuration of all HIT used in patient care. TMI drives functional strategy for content and configuration in sustainment. This is accomplished via designated solution teams. Solution team leads, often referred to as solution owners, are the lead experts pertaining to a specific solution area. TMI is involved in the following areas:

   a. <u>Requirements Management</u>. TMI is the main consulting stakeholder for translation of new requirements into configuration design decisions, particularly with respect to definition and planning of scope of changes, including major software upgrades. Any discrete functionality must go through a formal Critical Design Review (for new capabilities) or Requirements Review (for maintenance upgrades) before testing can begin.

   b. <u>Testing</u>. TMI is the main consulting stakeholder for the functional validation and adjudication of software testing activities.

   c. <u>Issue Resolution</u>. As the enterprise functional expert for end-user issue resolution, TMI is a responsible stakeholder. TMI chief and solution owners will engage with relevant stakeholders such as the appropriate PMO, the vendor, the DHA functional leads, and the MTFs (e.g., Chief Medical Informatics Officers, Informatics Steering Committees, peer experts, and end users) to adjudicate and resolve issues.

4. <u>CHIEF, SAW, HI</u>. The Chief, SAW, HI must take actions to ensure effective development and management of enterprise workflows involving HIT used in patient care. SAW is involved in the following areas:

   a. <u>Requirements</u>. Block upgrades include upgrades of existing functionality within a module (such as Dentrix or Millennium), as well as new or changed functionality. SAW is a responsible stakeholder for the translation of requirements to enterprise workflows, with respect to the scoping of both module upgrades and new or changed functionality.

b. <u>Functional Validation</u>. SAW is the major consulting stakeholder for functional validation. This responsibility entails reviewing the portfolio of possible changes in each software release block upgrade and evaluating the impact to end-user workflows.

5. <u>CHIEF, EUE, HI</u>. The Chief, EUE, HI must take actions to ensure effective development and management of communications and change management strategy involving HIT used in patient care. EUE is involved in the following areas:

a. <u>Training</u>. EUE is the major consultant stakeholder regarding training of end users. EUE will guide the strategy for training end user personnel in the use of HIT systems at the time of planned software release.

b. <u>Adoption</u>. EUE will coordinate adoption activities for peer experts to the non-production environment before go-live.

c. <u>Communications</u>. EUE will develop a communication plan, including a determination of whether changes in the software functionality included in the block upgrade require training or communications materials to be developed.

6. <u>PROGRAM ADMINISTRATORS</u>. Program administrators are responsible for coordinating between the software vendor and DHA-HI and are accountable to ensure the agreed-upon scope of major software upgrades meets cost, schedule, and performance criteria within a project management framework. The program administrators must:

a. Be responsible and accountable for updates to baseline training.

b. Communicate with software vendors to ensure clear channels of communication and responsiveness.

c. Be responsible for thoroughly testing all software delivered in a release, identifying and documenting defects, and tracking them to closure. Program administrators will coordinate with DHA TMI to gain adjudication on severity levels for defects, likelihood of the defect occurring in production, priority for fixing, and approval of workarounds or mitigations required for identified defects.

7. <u>HEADQUARTERS, MARKET, AND MTF DIRECTORS</u>. The headquarters, market, and MTF directors must effectively manage MTF collaboration with enterprise stakeholders. The responsibilities and establishment of an Informatics Steering Committee are discussed in Reference (d). Under the director, each MTF will:

a. Identify a set of peer experts in key functional areas and make them available to participate in functional validation and adoption activities.

b. Disseminate communication materials to the relevant end users to ensure any knowledge gaps are closed.

c. Execute end user training activities as directed by DHA-HI.

d. Identify and escalate any issues with the software release block upgrade to DHA-HI, and disseminate mitigations, and solutions to affected end users.

e. Engage with DHA-HI per established enterprise processes and business rules to ensure the successful release of each software release upgrade.

ENCLOSURE 3

PROCEDURES

1. UPGRADE PLANNING AND SCOPING PROCEDURES. Stakeholders will continuously review and prioritize any vendor defects that are introduced with the upgrade. A list of capabilities for potential inclusion in block release software upgrades is to be curated collaboratively between DHA-HI, the PMO, and the vendor. The list is to be available for viewing by any and all consulted parties, who can share with appropriate informed parties. Scoping of capabilities and scheduling of implementation date is decided upon collaboratively and approved jointly by all responsible stakeholders before the project kickoff meeting is to be held. At the major software release level, the following are procedures for specific teams in DHA-HI:

   a. TMI. TMI will consult and agree to configuration scoping.

   b. SAW. SAW will consult and agree to the enterprise workflow.

   c. EUE. EUE will consult and agree to the specific communications and adoption strategy.

2. PRE-UPGRADE EXECUTION PROCEDURES. Each capability within a major software upgrade constitutes its own project, with its own project plan; and includes discrete milestones, dependencies, and gates. The Block Release Kickoff meeting is the milestone that serves as the official transition from scoping/planning to pre-upgrade project activities.

   a. DHA-HI. Each project area (TMI, SAW, EUE) is owned by the relevant chief within DHA-HI, who will assign nominal points of contact within their teams to each capability. In the pre-upgrade stage (before kickoff), stakeholders will agree on major project activity strategy, including start and end dates.

      (1) TMI. Testing domains and dates will be agreed upon. The TMI chief will identify discrete subject matter expert points of contact for functional adjudication in the following areas:

         (a) Software testing results and defect resolution.

         (b) Minor configuration decisions for each discrete capability.

      (2) SAW. Workflow content, as well as available domains and dates, will be agreed upon for workflow and functional validation. The Chief, SAW, HI will identify discrete subject matter expert points of contact for functional adjudication, at the minor software release level, of the following areas:

         (a) Adjudication of workflow.

(b) Functional validation of changes.

(3) <u>EUE</u>. Domains and dates will be agreed upon for access to upgrade code in a live environment for execution of strategy for training, communications, and adoption. The Chief, EUE, HI will identify discrete subject matter expert points of contact for functional adjudication, at the minor software release level, of the following areas:

(a) Training.

(b) Communications.

(c) Adoption/change management strategy.

b. <u>VENDOR</u>. The vendor is the responsible entity for release project management. Project areas to be executed include test and evaluation, functional analysis, cybersecurity, technology integration, end-user engagement, and end-user impact. Each HIT vendor will perform the following procedures:

(1) In coordination with the PMO, provide a list of planned changes for each proposed capability. For each itemized change, identify the nature of the change. A change can be an incremental revision to an existing software module or can be a functionality change. Functionality changes can include the removal of procedural steps, the modification of procedural steps, or the addition of a new feature or function to the HIT system that previously did not exist.

(2) Implement the proposed block upgrade in a non-production environment, and coordinate with the PMO regarding the availability of the upgrade for testing purposes.

(3) Identify and propose workarounds or mitigations for defects.

c. <u>PMO</u>. The PMO is accountable for delivery of the block release software upgrades within acceptable performance parameters, within scope, and on schedule. The program office is the lead project management entity responsible for facilitating and integrating work between DHA-HI and the vendor with respect to holistic release management. Milestone events include testing readiness review, functional validation, and fielding decision review. The software release calendar is posted in a secure network or intranet location such as a Common Access Card-protected website. While such locations change over time, the MHS GENESIS Visual Release Calendar can be viewed on MilSuite using the following URL: https://www.milsuite.mil/book/docs/DOC-783272. The Visual Release Calendar is updated on a regular basis.

3. <u>UPGRADE GO-LIVE AND SUSTAINMENT PROCEDURES</u>. The appropriate PMO, DHA-HI, and MTF representatives will meet twice a day during the week of the code upgrade. The agenda will be to identify, escalate, and communicate resolution of all issues. DHA-HI, working with the appropriate PMO, will proactively monitor the system for any issues that might

result as a part of the upgrade release. Issues identified after release will be handled by the defect process or the DHA-HI issue resolution process, respectively.

a. <u>DHA-HI</u>. DHA-HI will proactively monitor the system in production after going live for any issues that result from the block upgrade.

(1) <u>TMI</u>. TMI will address non-defect issues identified in the block upgrade utilizing the established issue resolution process.

(2) <u>SAW</u>. SAW will facilitate the use of available tools to provide a platform for sites and DHA-HI to engage in measurement of relevant metrics for workflow.

(3) <u>EUE</u>. EUE will facilitate the use of available tools to provide a platform for sites and DHA-HI to engage in measurement of relevant metrics for adoption and training.

b. <u>VENDOR</u>. The vendor will:

(1) In coordination with DHA-HI, proactively monitor the system in production after going live for any issues that result from the block upgrade.

(2) Facilitate go-live meetings, during which they will identify, triage, and track all issues identified in the upgrade.

c. <u>PMO</u>. The appropriate PMO will facilitate the adjudication of defects identified in the block upgrade utilizing the established defect resolution process.

d. <u>HEADQUARTERS, MARKETS, AND MTFs</u>. Sites receiving code upgrades will execute the communications and adoption strategy, as delivered by DHA-HI and facilitated by the program office.

ENCLOSURE 4

APPLICABILITY, RATIONALE, TIMING,
AND STAKEHOLDERS FOR SOFTWARE UPGRADES

1. <u>BROAD APPLICABILITY</u>.

a. DHA-HI is currently adopting a consistent set of standards and processes across the enterprise to deliver healthcare to its constituents with more consistency, efficiency, clarity, flexibility, and improved use of resources. HIT systems represent a key enabler in this process. To ensure these systems remain modern and secure, regular software upgrades are required.

b. This DHA-AI describes the DHA-HI software upgrade release management policy, including background information, responsibilities, and procedures. This DHA-AI frequently references MHS GENESIS, which is the predominant HIT system to which the DHA is migrating. Note, however, the DHA-AI applies broadly to legacy, current, and future DHA HIT software solutions.

2. <u>RATIONALE FOR HIT SOFTWARE UPGRADES</u>.

a. DHA employs enterprise HIT to manage the healthcare of all DoD beneficiaries across all branches of military service. For example, MHS GENESIS is an enterprise HIT system currently being implemented across all military medical treatment facilities (MTF) and dental treatment facilities (DTF) across the DHA to provide enhanced, secure technology to manage health information. This HIT solution is a combination of commercial off-the shelf products. For more information about MHS GENESIS, please see the glossary.

b. HIT vendors regularly release enterprise-level software lifecycle upgrades that incorporate new functionality into the system. These upgrades include sets of functionalities that are grouped for development and deployment.

c. Releasing major software upgrades in regularly scheduled blocks is more efficient and effective than conducting releases with minor functionality or defect fixes on an ongoing basis. Relative to life cycle milestones, major software upgrades are released in blocks for the following reasons:

(1) <u>Requirements</u>. Evaluation of system and organizational requirements pertaining to the selection, scheduling, and prioritization of software modules and capabilities is important to overall scheduling of major software upgrades.

(2) <u>Functional Analysis</u>. A holistic analysis from the functional perspective, performed in concert by both technical and engineering teams, is necessary in advance to ensure the proper scoping of individual software capabilities.

(3) <u>Testing</u>. To ensure continued optimization, block upgrades are tested rigorously. Thorough testing identifies defects in the proposed block in advance. Each defect is tracked, and a resolution plan is identified for each before deciding if the upgrade will enter production.

(4) <u>Functional Validation</u>. Functional validation events occur at the end of a test window, allowing DHA-HI to validate block functionality as it will be deployed to the field, including use of workarounds or other mitigation activities to ensure product viability.

(5) <u>Workflow</u>. Base code, functional changes, or added functionality within major releases can lead to changes in workflow. All workflow changes need to be identified, documented, and communicated in advance of releasing the changes into production.

(6) <u>Training</u>. All users must be trained on functionality or workflow changes before deployment of upgrades.

(7) <u>Adoption/Strategic Communications</u>. The underpinning of a successful upgrade release is a well-executed strategic plan for adoption. This can include, but is not limited to, support documentation and communications plans and support for end users, trainers, training supervisors, peer experts, and site and regional informatics leads.

3. <u>TIMING FOR BLOCK RELEASES</u>. Regularly scheduled timing of major software upgrades is essential to optimal deployment. For example, for MHS GENESIS, block updates are scheduled approximately every 6 months. The number, frequency, and timing of block upgrade releases may differ based on the specific HIT in use, but the same general tenets apply.

4. <u>STAKEHOLDERS AND COMMUNICATION</u>. As the functionality of relevant HIT systems evolves, it is imperative that major stakeholders coordinate iteratively and routinely to ensure seamless upgrades. These major stakeholders include, but are not necessarily limited to, the following entities:

a. DHA-HI, including the following teams:

(1) Standards and Workflow (SAW)

(2) TMI

(3) End User Engagement (EUE)

b. An appropriate Program Management Office (PMO). For example, for MHS GENESIS, this refers to the DoD Healthcare Management System Modernization PMO.

c. Software vendor or vendors. In the case of MHS GENESIS, the software vendor for DHA is Leidos Partnership for Defense Health. For the Department of Veterans Affairs, the vendor is

Cerner.

d. Enterprise functional communities or councils, for example, clinical communities, ancillary communities, business communities, and operation functional communities.

GLOSSARY

PART I. ABBREVIATIONS AND ACRONYMS

DHA	Defense Health Agency
DHA-AI	Defense Health Agency-Administrative Instruction
DTF	dental treatment facility
EHR	electronic health record
EUE	End User Engagement
HI	Health Informatics
HIT	health information technology
MHS	Military Health System
MTF	military medical treatment facility
PMO	Program Management Office
SAW	Standards and Workflow
TMI	Technology Management Integration

PART II. DEFINITIONS

block. A block is a large set of software upgrades for the HIT system in place at DHA and its components. For MHS GENESIS, blocks are scheduled twice each year.

capability. For the purposes of this DHA-AI, this term refers to a functional capability that is being added, removed, or modified as part of a planned block upgrade.

DTF. DTFs are the stand-alone dental treatment facilities used to perform and document patient dental care for Military Health System (MHS) beneficiaries.

EHR. An EHR system is a clinical health system such as MHS GENESIS or Essentris that includes a distinct collection of records for each beneficiary comprising a total picture of appointments, diagnoses, treatments, prescriptions, history, and so on. This term is often used interchangeably with the terms "clinical health system" or "health information technology system."

HI. HI ensures the MHS EHR systems meet the needs of end users (patients, providers, and staff). Our directorate focuses on the use of information systems, medical devices, and technology to standardize, organize, modernize, and integrate data into healthcare delivery to

improve patient outcomes. It helps ensure the successful deployment of HIT tools, working to effectively manage the disparate data associated with safely and efficiently providing healthcare to MHS beneficiaries. Additionally, HI ensures enterprise HIT tools use standardized workflows to capture the right information, at the right place, at the right time, in the right format.

HIT. HIT is health technology, particularly information technology, applied to health care. HIT supports health care management across computerized systems and includes the secure exchange of health information between consumers and providers.

maintenance upgrade. A software release that introduces new or revised functionality, with an emphasis on optimization or stabilization to existing system capabilities.

major software release. A planned software release in which there are significant design changes at the systems level.

MHS GENESIS. MHS GENESIS is the branded name for a suite of software modules that comprise the newest EHR system being adopted across DHA. This HIT system solution is a combination of commercial off-the shelf medical, dental, coding, and financial software components, as well as customized components. The mixture of components and customizations both may differ by site. Components may be added or replaced over time. The current portfolio of software suites that comprise MHS GENESIS includes components in the following module categories: Outpatient (ambulatory, dental, revenue cycle, and maternity); Inpatient (acute, surgical, anesthesia, maternity); Emergency Department; and Ancillary services (including radiology, pharmacy, and laboratory). Other categories and modules may be included. While "MHS" stands for Military Health System, the correct branded name of this product suite is MHS GENESIS, with all letters capitalized.

minor software release. A planned software release in which core systems architecture is unchanged; minor changes are included to support new features.

MTF. MTFs are the hospitals and clinics in which HIT systems, including MHS GENESIS, are used to perform and document patient care for MHS beneficiaries. For the purposes of this document, DTFs are included in the general term MTF.

non-production environment. A non-production environment (relative to HIT) is a software system, domain, or environment which mimics the live production environment in terms of data, schema, and workflow, but in which no actual patient data is affected. Some systems have multiple non-production environments (often referred to as Development, Test, and so on). In the case of MHS GENESIS, upgrades and defect fixes are fully tested in a non-production environment or environments.