

January 17, 1995

1. Transmitted is a new chapter to the Department of Veterans Affairs, Veterans Health Administration (VHA) Manual, M-11, "Information Resources Management," Chapter 12, "Verification."

2. Chapter 12 establishes policy and procedures related to ensuring the quality of VHA developed software.

3. Filing Instructions

Remove pages

Insert pages

12-i
12-1 through 12-4

4. **RESCISSIONS:** VHA Circulars/Directives 10-85-93, 10-85-112, 10-85-116, 10-86-147, 10-87-19, 10-87-119, 10-87-122, and 10-87-123.

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Under Secretary for Health

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CHAPTER 12. VERIFICATION

12.01 PURPOSE

The purpose of verification is to ensure the functional integrity and technical correctness of software and documentation (refer to chapters 4, 9, 10, and 11 for related information).

12.02 POLICY

It is the policy of Veterans Health Administration (VHA) to release only software and documentation that has been verified and that adheres to all established standards. Verification ensures that nationally distributed and supported software and documentation meet all requirements necessary to be successfully implemented in all health care facilities regardless of facility size or complexity.

12.03 DEFINITIONS

a. **Verification.** Verification is a review for the purpose of assessing compliance with established requirements, standards, and procedures.

b. **Quality Assurance Review (QAR).** QAR is a series of actions and checkpoints that take place throughout the development process which serve as indices to validate that sound development practices are being followed. QAR is also called "internal verification."

c. **Verification Cycle.** The verification cycle is a complete review of the software and documentation which includes reviewing, inspecting, testing, checking, and auditing.

d. **Verification Process.** The verification process is an overall review of the software and documentation consisting of one or more verification cycles.

12.04 RESPONSIBILITIES

a. The Director, Information Integration Service, Medical Information Resources Management Office (MIRMO), has overall responsibility for verification.

b. The Director of the Development Information Systems Center (ISC) shall ensure that all packages conform to established standards.

c. The Director of the Verification ISC, which has been assigned responsibility for verification of a specific package, will certify the completion of the verification process.

12.05 PROCEDURES

a. **QAR.** The purpose of QARs is to ensure the release of quality software into the official verification cycle. It will be performed concurrent with the development and testing of package releases. QARs are typically performed by verification staff at the Development ISC. The transmittal letter which accompanies a package being submitted to the Verification ISC will certify the status of the QAR process.

b. Verification Process

(1) Verification of a package is the last step in the development process. In addition to substantiating that the package is sound and transportable, verification will ensure that design review recommendations have been incorporated into the package.

(2) The result of the verification process will be one of the following:

- (a) Verification of the submitted package;
- (b) Verification of the submitted package with annotated exceptions;
- (c) Return of the package to the Development ISC; or
- (d) Voluntary withdrawal of the package by the Development ISC.

(3) Concurrence on unresolved verification issues will be sought by the Development ISC from the Verification ISC.

(a) If concurrence cannot be reached at this level, the issues will be referred to Information Integration Service, MIRMO.

(b) In no case will the final verification letter be sent to the Development ISC before concurrence on all issues is reached.

(4) Items submitted to the Verification ISC for verification will include:

- (a) Software;
- (b) User manual or updates;
- (c) Technical manual or updates;
- (d) Release notes (e.g., enhancements, installation guide);
- (e) Other package-specific documentation (where applicable);
- (f) Data Base Administrator (DBA) endorsement;
- (g) A letter from the representative user group endorsing the functionality of the package; and
- (h) A list of beta sites and the beta sites' recommendations.

c. Functional Verification

(1) Functional verification ensures that the software is operationally sound (e.g., exercising of site configurable parameters, use of multi-divisional configurations, interfaces and integration with other mandated software, documented external relations, specialized equipment).

(a) The package will be tested for:

- 1. Logic errors,
- 2. Inaccuracies,
- 3. Inconsistencies, and
- 4. Compliance with required security features.

(b) Testing will be conducted in controlled environments involving interaction with other verified modules.

(2) During the verification cycle, functional discrepancies will be reported to the Development ISC for clarification or redefinition and resolution.

(3) The Verification ISC may request the involvement of functional experts in the application area.

d. Technical Verification

(1) Technical verification includes;

- (a) Auditing software for adherence to current standards;
- (b) Evaluating software for installation and operational correctness;
- (c) Testing software under all centrally-procured operating systems;
- (d) Peer review findings; and
- (e) Site configurations.

(2) During the verification process, a report detailing deficiencies, errors, and the environment in which they occurred will be generated by the Verification ISC and forwarded to the Development ISC.

(a) Any unresolved technical issues will go before the DBA.

(b) Any violations of standards and conventions will go before the Standards and Conventions Committee (SACC).

(c) Any issues relating to failure to comply with design review requirements will go before the Data Base Integration Committee (DBIC).

e. Documentation Verification

(1) This process involves reviewing all documentation for:

- (a) Technical and functional accuracy;
- (b) Clarity of presentation; and
- (c) Completeness.

(2) During the verification cycle, documentation discrepancies will be reported to the Development ISC for clarification or redefinition and resolution.

(3) The Verification ISC and the Development ISC shall resolve any changes required by the National Center for Documentation (NCD) through its independent review, as described in the NCD written notification, prior to submission of the verification letter to the Development ISC.

f. Verification Assignments

(1) All verification assignments will be periodically reviewed by the Information Integration Service, MIRMO. The Director, MIRMO, will make the verification assignments.

(2) All new verification assignments will be made based on existing workload and availability of expertise. The Director, MIRMO, may alter these assignments.

(3) As workload or other circumstances warrant, verification in process may be redirected to another ISC by the Director, MIRMO.

g. Reports and Release

(1) During verification, the verifier will update the package status and provide any necessary progress notes to the Activity Tracking System on a monthly basis.

(2) Upon completion of the verification process, the Verification ISC will prepare a report which summarizes the verification process and testing environment.

(a) A cover letter for distribution, which states the outcome of the verification process and lists problems which impact site operations, configurations, or users, will be included.

(b) The letter and report will be sent to the Development ISC with a copy of each to the Director, MIRMO.

(3) The Development ISC will submit to the Director, MIRMO, a letter which states that verification has been completed and the package is approved for release.

(a) There should be a concurrence line for both the Director, MIRMO, and the program office official.

(b) The Information Integration Service, MIRMO, will be responsible for processing the letter through the appropriate officials.

(4) Once the release letter has been signed, the Development ISC will distribute the package to the other ISCs as soon as possible. The release letter and verification cover letter (but not the verification report) will be included in the Distribution Kit as defined in Chapter 9.

(5) When the package is released nationally, the Verification ISC will compare the official release with the package that it verified to ensure that no changes (except verified patches) have been made since completion of the verification process. If discrepancies exist, the Development ISC will be notified immediately.