Program Memorandum Intermediaries/Carriers	Department of Health and Human Services (DHHS) HEALTH CARE FINANCING ADMINISTRATION (HCFA)

Transmittal AB-01-07	Date: JANUARY 19, 2001

CHANGE REQUEST 1462

SUBJECT: CONTRACTOR TESTING REQUIREMENTS--ACTION

This Program Memorandum (PM) replaces Transmittal AB-00-25, Change Request 1027 that was issued in April 2000. This PM provides guidance on systems testing responsibility for each organization involved in Medicare Fee-for-Service quarterly systems releases.

The goal of combined systems testing efforts is to ensure that all changes function as intended and that the implementation of the changes does not degrade or otherwise unintentionally affect existing system capability and function prior to implementation. This PM identifies the overall testing responsibility for each organization to help achieve this goal. Generally, all organizations shall test each quarterly release (and interim releases as appropriate) to meet the goal of systems testing. Definitions pertinent to this PM are provided in the last section.

All organizations shall have processes in place to meet the requirements of this PM with the testing activities associated with HCFA's third quarterly release in July 2001. Testing activities will generally begin 3 to 4 months in advance of the release date, particularly for standard system maintainers and the CWF maintainer.

Standard System and CWF Maintainer Testing

Each maintainer of the Fiscal Intermediary Shared System, Arkansas Part A Standard System, Multi Carrier System, VIPS Medicare System, Verizon, HCFA Part B Standard System, and CWF systems shall test all changes and software releases before distributing them to a beta test site or their users. For quarterly systems releases, prior to distribution to a beta test site or their users, maintainers shall:

- Perform unit/module and string testing, system testing, and regression testing (see *Definitions* section);

- Utilize a standard set of test Medicare claims representative of typical claims received by their users. This standard set of test claims shall be used to test every quarterly release;

- Create new test cases to test specific changes, as indicated by change requests; and test typical interactions (sending claims and receiving appropriate responses) with CWF, through a selected CWF host.

The maintainers shall report to HCFA (through their project officer or HCFA maintenance contact) and the recipients of a release of any identified problems found during testing and subsequent fixes to those problems. HCFA encourages maintainers to inform HCFA and the recipients of the release of identified problems and fixes on a continuous basis, but report no later than with the distribution of the release. Maintainers shall communicate this information in writing (e-mail, fax, etc.) *and* where the capability exists, a centralized database such as INFOMAN.

Maintainers shall obtain approval from their HCFA project officer or maintenance contact for all non-quarterly release changes. All changes outside of a quarterly release (interim releases, mini-releases, table/fee schedule updates, elevates, and emergency fixes) shall be tested to the extent feasible within mandated time constraints. The maintainer shall not distribute any changes without performing unit/module testing, at a minimum.

HCFA Pub. 60AB

Standard System Beta Testing

A selected user of the following systems will perform beta testing on quarterly, emergencies, and fix releases prior to general distribution to all users: FISS, APASS, MCS, and VMS/DMERC. Beta test sites are required by contract with HCFA, and before the maintainers send the release to its users for their testing, to:

- Review standard system maintainer documentation of the changes contained in the release for completeness and accuracy, providing feedback to the maintainer and HCFA;

- Develop tests to conform with the conditions described in the maintainer specifications for all changes contained in the release (HCFA mandates and other changes);

- Test all claim types for Part A, Part B, and DMERC claims processing (as it applies);

- Test claims providers are likely to submit that are incorrect (as it applies to each Change Request);

- Create a variety of claims, process them through the new release version of the standard system software, and evaluate the processing results against specifications;

- Perform regression and volume testing (see *Definitions* section) in addition to performing and evaluating individual test cases;

- Submit test files through the CWF beta site and evaluate the processing results against specifications.

The beta test sites will report all test results to HCFA and the individual maintainer. Beta testing, separate and apart from user testing, will continue to occur until the implementation date of the release. It is HCFA's goal to have Beta test sites begin testing 8 weeks prior to release implementation, which is approximately 4 weeks prior to the start of user testing. Individual determinations will be made on the timing of Beta testing for each quarterly release.

CWF Host Beta Testing

HCFA has currently designated Great Western and Southwest CWF hosts to perform beta testing of each CWF quarterly software release. By contract, the Great Western CWF host will beta test all CWF change requests, perform regression and volume testing, test out-of-service-area (OSA) processing, and will test with each standard system maintainer and the four standard system beta sites. The Great Western host will test all CWF quarterly, emergency and priority releases. The Southwest host will test all CWF quarterly releases and perform OSA testing with the Great Western host.

Contractor (User) Testing

Each contractor shall test, at a minimum, all HCFA change requests contained in their standard system's quarterly release. This testing may be done in collaboration with other users of the contractor's data center or standard system.

Each contractor shall perform the following processes when appropriate:

- Process test claims through their front-end processing system, entering test claims through their own EMC software, DDE, and OCR mechanisms, emulating production claim submission;

- Process test claims through the standard system, including a minimum of one submission to their primary CWF host site (more than one submission is strongly recommended);

- Process test claims through their back-end processing system, producing ERAs, RAs, EOMBs, and MSNs);

- Develop and execute test cases designed to test specific changes, which may include criteria to ensure other back-end processes and interactions function in accordance with specifications (e.g., ensuring correct data flow to the financial or reporting systems/modules);

- Test claims providers are likely to submit that are incorrect (as it applies to each Change Request);

- Develop and execute test cases designed to test any variations in the system or claim/provider mix local to that contractor; and

- Report problems, including pertinent documentation and impact information, found during testing to their data center or standard system maintainer, as appropriate, through their regular release reporting system (e.g., INFOMAN).

It is HCFA's goal that all data centers for Medicare contractors will receive quarterly release software from their standard systems maintainer no later than 4 weeks prior to the implementation of the quarterly release. Individual determinations will be made on the timing of contractor testing for each release.

All changes outside of a quarterly release (interim releases, mini-releases, table/fee schedule updates, elevates, and emergency fixes) shall be tested prior to implementation to the extent feasible within any time constraints. All testing should be done to meet the goals of systems testing as stated at the beginning of this PM.

In addition, to improve the overall testing process, contractors may suggest test cases or test claims for their standard system maintainer to use during maintainer testing of the release.

HCFA strongly encourages each contractor to implement some level of quality assurance and quality control of their testing within their current resources. Because of funding limitations, HCFA is not mandating any quality assurance requirements for contractors at this time.

CWF Host Testing

Each CWF host is required to install the CWF quarterly release software in their test region and make the software available to their satellites (contractors) for testing. The host shall send out Satellite software and documentation, test the release using current files submitted by maintainer, report release problems to CWFM and HCFA. In addition, each CWF host will verify with HCFA that each of its satellites submitted at least one test file during user testing.

Documentation

It is important for all testing organizations to retain documentation of their testing activities (and any quality assurance and quality control activities), and the factors that affect their ability to test timely and completely. Testing organizations (maintainers, beta test sites, hosts, and users) shall retain documentation that allows a reviewer (HCFA or its agents) to determine what specification or requirement was being tested, how it was being tested, and whether the test criteria was successfully met. Documentation may be hard copy or electronic, as long as it is accessible to reviewers. Additional requirements for selected standard system and CWF maintainers, beta test sites, and CWF hosts are contained in these organizations' individual contracts.

All testing organizations shall complete a testing log. Recognizing that testing and test plans change throughout the testing period, maintainers shall update a testing log on a weekly basis, beginning at the start of system testing (see *Definitions* section). Beta test sites shall update a testing log on a weekly basis, beginning 1 week after receipt of the release for testing. Hosts and contractors (users) shall complete a testing log within one week after receipt of the release for testing. All testing organizations must update their testing logs to current testing status within 15 calendar days of the quarterly release implementation date. The testing log shall contain information regarding all of the contractor's testing activities for the quarterly release testing period.

The log is designed to show the testing activities a contractor performs to test each HCFA change request or other change contained in the quarterly systems release. A template log is attached. Contractors may complete a log using a format differing from the template, but all logs shall contain the following:

- HCFA change request or other change request/requirement number tested;

- A descriptive list of tests for the Change Request or requirement;

- The functional area of Medicare processing each test addresses;

- Problems reported;

- Test results; notes of any other factors affecting the ability to execute and evaluate a particular test; and

- A short narrative describing the outstanding problems that exist at the time the release is implemented into production.

All testing organizations must retain testing documentation for four quarterly releases at a time. This will approximately relate to 1 calendar year.

Definitions

The following definitions are provided for clarity and common understanding.

<u>Unit/Module Testing</u> - Testing typically conducted by a programmer or coder to ascertain if the unit or module performs correctly, independent of the system.

<u>String Testing</u> - Testing of several key units or modules to ascertain if they perform correctly together when interfaced.

<u>Systems Testing</u> - Testing conducted by the development team (the maintainer) to ensure that the entire system performs successfully.

<u>Regression Testing</u> - Testing designed to show that functionality that existed prior to a change has not been lost or unintentionally modified by the coding performed to implement the change.

<u>Volume (or Stress) Testing</u> - Testing performed with massive volumes of data to ensure that the system will continue to perform correctly and within acceptable CPU time when introduced into production.

The *effective date* for this PM is with testing for the third quarterly release of 2001 (July release).

The *implementation date* for this PM is with testing for the third quarterly release of 2001 (July release).

These instructions should be implemented within your current operating budget.

This PM may be discarded January 1, 2002.

Questions related to this PM should be addressed to your HCFA consortium contractor management contact or your central office standard system or CWF maintenance contact.

Attachment

Functional Area of Medicare Processing

Change Request or Requirement Number	Test Identifier or Business Process	Claims Electronic Collection	Claims Entry and Initial Validation	Claim Adjudication CWF - Claims Payment	Correspondence MSN/EOMB	Customer Service Correspondence Tracking Letter Generation	Reporting	Financial Processing Remit-Checks -Cash Receipts- Overpayments	Problem Number	Status of Testing
Requirement 1	Test 1.1	X			X	X				PASS
	Test 1.2		X				X	X		PASS
	Test 1.3				X	X	X			PASS
Requirement 2	Test 2.1	X						X		PASS
	Test 2.2		X	X	X			X	XXXXX	PASS AFTER FIX XXXXX
Requirement 3	Test 3.1	X						X		PASS
	Test 3.2	X		X	X	X				PASS
	Test 3.3						X	X	XXXXX	
	Test 3.4		X		X	X				PASS

At the time test cases are being developed the functional areas of Medicare processing should be determined documented as per the example above. Once testing has started any applicable problem numbers and status of testing should be documented.