



UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

127894

SEPTEMBER 11, 1985

INFORMATION MANAGEMENT
& TECHNOLOGY DIVISION

B-219889



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The Honorable Caspar W. Weinberger
The Secretary of Defense

Dear Mr. Secretary:

Subject: DOD Should Restructure the March Air Force Base
Test of Veterans Administration-developed Software
(GAO/IMTEC-85-14)

The Chairmen of the House and Senate Committees on Appropriations and House Committee on Veterans' Affairs asked us to review the Tri-Service Medical Information System (TRIMIS) Program. The Department of Defense (DOD) established this program to consolidate Army, Navy, and Air Force efforts in developing computer systems for their hospitals and clinics. As part of our review, we were asked to

- assess the cost and feasibility of adapting the Veterans Administration's (VA's) Decentralized Hospital Computer Program software for use in DOD hospitals and clinics;
- evaluate the acquisition and implementation of the Composite Health Care System (CHCS),¹ which is managed by the TRIMIS program office; the system's functional requirements; and vendor proposals for this system; and
- monitor DOD's test of VA's software at March Air Force Base (AFB), California.

This report addresses only the last item; we plan to respond to the other congressional concerns in future reports and briefings.

The committees referred to above expressed concern that DOD not has given VA software a fair evaluation before proceeding with the CHCS procurement. In connection with consideration of the fiscal year 1985 Defense Appropriations Act, the Congress directed that DOD "proceed with the testing of the VA software at March AFB to determine the feasibility and cost-effectiveness of using the

¹CHCS is intended to provide a health-care computer system to 167 DOD hospitals, 533 outpatient clinics, 45 dental clinics, and about 20 other medical facilities at an estimated cost of \$800 million to \$1.1 billion.

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VA software."² We found the test's proposed scope too narrow to provide the necessary information because only two of at least five available software modules were being tested.³ Furthermore, DOD currently plans to test only 3 of the 12 software modules planned for the VA system and to consider testing other modules as they become available. By restructuring the test to include all available modules, DOD would ensure that the VA software receives a fair evaluation. In addition, an adapted VA system could provide an alternative health-care computer system that could be installed in other military hospitals should the CHCS procurement exceed approved funding levels or face long delays.

DOD has been reluctant to expand the March AFB test. DOD believes that (1) the test's scope satisfies congressional direction and (2) it has satisfied congressional concerns that VA software receive a fair evaluation by including in the CHCS procurement process a requirement that one of the initial vendors adapt the VA software to meet the CHCS specifications.

We disagree with DOD that the VA software, as such, will have a fair evaluation in the CHCS procurement. Our concern is that the vendor will be required to modify the VA software to meet CHCS functional specifications calling for more features which, in turn, will add cost and complexity to the resulting system.

OBJECTIVE, SCOPE, AND METHODOLOGY

Our objective was to determine whether the test of VA's software at March AFB was appropriately structured to provide adequate information on the cost and feasibility of adapting the software for the TRIMIS program.

We conducted our review from March 1984 to June 1985 at the TRIMIS Program Office (hereafter referred to as the program office) in Bethesda, Maryland; the VA Medical Center in Loma Linda, California; and the military hospital at March AFB, California.

To determine the progress being made to test VA's software at March AFB, we examined test planning documents, the DOD-VA sharing agreement, and other documents relating to the use of VA software at March AFB. We also interviewed program office, Air Force, and VA officials, and a DOD consultant retained to evaluate the test.

²This language appears in the conference report on the continuing resolution (Congressional Record, October 10, 1984, H11854, and H11944).

³In February 1985 VA reported that four modules were operational in its facilities and a fifth was being tested. During our review, however, a VA official stated that six modules either were available or could be made available soon.

We performed our review in accordance with generally accepted government auditing standards.

DOD AND VA HEALTH-CARE COMPUTER SYSTEMS

Since 1968, DOD has pursued the goal of providing computer support to its hospitals and clinics. The program office, established in 1974, now spearheads this effort. In 1976, to strengthen the program's management, DOD established the program office as a field activity of the Office of the Assistant Secretary of Defense for Health Affairs. During fiscal years 1976-84, DOD spent about \$222 million to acquire, implement, and operate various stand-alone and integrated health-care computer systems. Stand-alone systems support individual hospital functions (such as pharmacy, laboratory, and patient appointment and scheduling). In an integrated system, all hospital functions share a common database.

DOD plans to acquire CHCS

CHCS is by far the most costly and complex of four computer systems that DOD plans to acquire under the TRIMIS program to support its hospital operations through 1992. Once implemented, CHCS should provide a fully integrated health-care computer system to 167 military hospitals and almost 600 other medical facilities, at an estimated life-cycle cost of \$800 million to \$1.1 billion.

CHCS will support the following hospital functions in three phases:

Phase 1

- °Patient registration
- °Patient appointment and scheduling

Phase 2

- °Patient admission, disposition, transfer
- °Clinical records
- °Pharmacy
- °Laboratory
- °Clinical nursing
- °Order entry/results reporting

- °Retrospective quality assurance
- °Personnel scheduling
- °Radiology order entry/results reporting

Phase 3

- °Administrative nursing
- °Radiology-anatomical pathology transcription
- °Clinical dietetics

In addition, improvements to pharmacy, laboratory, radiology, and patient administration will be made during phase 3. CHCS will also provide access to the Defense Enrollment Eligibility Reporting System, which will verify patient eligibility during phase 1 and will coordinate with other existing or planned health-care computer systems during phase 3.

DOD's acquisition strategy calls for a phased approach to procure, develop, and implement CHCS. On May 15, 1985, the program office requested vendor proposals for CHCS' procurement. The program office's approach is to define detailed functional requirements from which the contractor will

- develop new or modify existing application software;
- provide, operate, and maintain the computer equipment; and
- maintain and enhance the application software as needed.

The program office is using a two-part procurement to reduce the risks (such as cost overruns and schedule slippages) inherent in acquiring a major system. First, it plans to select and fund up to three vendors, one of whom will be required to adapt the VA software⁴ as part of a demonstration of its capability to develop an integrated health-care computer system that conforms to CHCS specifications. Second, the program office, after an extensive evaluation period, plans to select, in May 1987, a single vendor to implement, operate, and maintain CHCS.

VA is implementing an integrated health-care system

In February 1982, VA established the Decentralized Hospital Computer Program to provide an integrated health-care computer

⁴With the fiscal year 1985 Defense Appropriations Act, the Congress directed DOD to include in the CHCS solicitation document a stipulation that one of the vendors use and adapt existing VA software for the TRIMIS program.

system to 167 VA hospitals, plus other facilities. The three-phased system's software modules, which share a common database, will support the following functions:

Phase 1

- ° Patient registration
- ° Patient admission, discharge, and transfer
- ° Patient scheduling
- ° Outpatient pharmacy

Phase 2

- ° Laboratory
- ° Inpatient pharmacy

Phase 3

- ° Mental health
- ° Dietetics
- ° Surgery
- ° Radiology
- ° Nursing
- ° Social work

VA is considering developing additional software modules for other hospital functions, such as supply and finance. As of February 1985, VA had implemented all or some of the phase 1 software modules in 150 hospitals. By January 1986, VA plans to have implemented in most of its hospitals all the phase 1 and phase 2 software modules. The laboratory module was being tested at three VA facilities in February 1985. Development of phase 3 modules is nearing completion. Although the VA system supports essentially the same hospital functions as those planned to be supported by CHCS, CHCS will provide features not currently available in the VA software.

CONGRESSIONAL CONCERNS THAT DOD HAS NOT ADEQUATELY EVALUATED VA SOFTWARE

During May 1, 1984, hearings before the House Appropriations Committee, the Assistant Secretary of Defense for Health Affairs was asked whether the program office had evaluated and tested the potential for adapting VA's software for DOD use. The Committee

expressed concern that DOD would proceed with the CHCS procurement without adequately considering the VA software. The Assistant Secretary noted that he was taking action to thoroughly evaluate the VA software. In response to the Committee's concern, DOD directed the MITRE Corporation to evaluate (by mid-July 1984) the cost, schedule, acquisition, and operational implications of using the VA software as a starting point for CHCS. MITRE determined that

- VA software partially matched CHCS functional requirements;
- several commercial systems offered a greater functional match with the CHCS requirements than did the VA software, though no explicit comparison was conducted;
- it was not clear that the VA software could be integrated to meet the CHCS requirements;
- VA software features facilitated either development of new or enhancement of existing software for some applications; and
- the quality of the VA software documentation needed improvement before it could be used by an outside organization to maintain the CHCS system over its life.

During hearings on September 12, 1984, members of the House Committee on Veterans' Affairs also expressed concern to the Assistant Secretary of Defense for Health Affairs that DOD was about to spend substantial sums on the CHCS procurement without adequately considering the VA software. Moreover, the Chairman questioned the validity of the MITRE study. Specific criticisms raised were that the evaluation

- did not arrive at reasonable estimates of DOD costs for the VA software;
- compared DOD functional specifications with VA's fully operational applications but not with those that VA planned for later implementation;
- focused just on cost savings that the software development process might realize while ignoring actual savings achievable from reduced software maintenance over the system's life cycle, as well as potential savings in reduced hardware size and complexity; and
- ignored savings in operating expenses that could result from the VA approach of direct operations and system management by professional and administrative users.

The Chairman, still concerned that DOD had not given the VA software a fair evaluation, requested (in an October 4, 1984, letter to the Secretary of Defense) that DOD test the VA software

in six military hospitals, two from each service. To date, DOD has not tested, nor does it intend to test, this software in six military hospitals. It believes that the CHCS requirement to select one initial vendor who would adapt the VA software both addresses the Chairman's concerns and offers a fair evaluation of the VA software.

In this context of congressional concern relative to the evaluation of the VA software by DOD, the House and Senate Appropriations Committees, on October 10, 1984, directed that DOD "proceed with the testing of the VA software at March Air Force Base to determine the feasibility and cost-effectiveness of using the VA software."⁵

VA'S SOFTWARE TEST IS PROGRESSING,
BUT IT SHOULD BE RESTRUCTURED TO
COMPLY WITH CONGRESSIONAL DIRECTION

Testing of VA software was initiated in June 1984 by March AFB hospital personnel (prior to congressional direction) to obtain automated support for the hospital's outpatient clinics. This effort took on added significance when the fiscal year 1985 Defense Appropriations Act was passed.

Progress has been made in adapting the VA software. However, the program office, which has overall responsibility for the test, has been reluctant to expand the test's scope because, according to some program officials, so doing may lead to "informal competition" between the VA software adapted for the March AFB test and the planned CHCS. Program officials indicated that such informal competition could undermine the CHCS procurement. In our view, such competition is justified since it could conceivably result in DOD's adopting a less costly approach to meeting its medical automatic data processing requirements.

We believe the test needs to be restructured to adequately assess the cost and feasibility of DOD's adapting VA software for use in its military hospitals. As the test is currently structured, it will not adequately address congressional concerns that the VA software be given a fair evaluation. DOD should expand the test to include all available VA software modules. In addition, an adapted VA system could give DOD a potential alternative health-care computer system that could be installed in other military hospitals should the CHCS procurement exceed approved funding levels or face long delays.

March AFB initiated actions to use VA software

The March AFB hospital has 115 inpatient beds and an average of about 20,000 outpatient visits per month. Because the hospital did not have automated support for scheduling appointments for its

⁵Congressional Record, October 10, 1984 (H11944).

outpatient clinics and was not scheduled to receive CHCS until November 1987, its personnel, in June 1984, approached the staff of the Jerry L. Pettis Memorial VA hospital in Loma Linda, California, about implementing patient-scheduling software at the March AFB hospital. They considered this arrangement a potential interim solution for providing the needed automated support for the hospital's outpatient clinics. Subsequently, Air Force, VA, and program office officials signed a memorandum of agreement.

While the March AFB effort to use VA software for scheduling outpatient appointments was initiated locally to acquire automated support through an interagency agreement, the subsequent congressional direction to proceed with the testing of the VA software at March AFB has significantly increased both the importance and, we believe, the required scope of the test.

Scope of March AFB test is too narrow to determine feasibility and cost-effectiveness

As of April 1, 1985, the patient-scheduling and patient-registration modules and portions of the VA kernel⁶ supporting the patient-scheduling module had been implemented in all 13 March AFB hospital clinics. The Air Force plans additional modifications to the VA patient-scheduling module so it will conform to the CHCS specifications. Though only about 49 hours of programmer time were needed to adapt the VA software for the March AFB hospital, there is no estimate of the programming effort necessary to adapt the patient-scheduling module to meet the CHCS specifications. DOD plans to include the laboratory module in the test. DOD stated that once testing on that module is completed, it will consider other available modules as they become operationally available. However, any further expansion of the test is uncertain at this time.

Because DOD currently has plans to test only three of at least five available VA software modules, it cannot determine the feasibility and cost-effectiveness of using the VA software in a military hospital. (DOD has not indicated any plans to test the two other VA modules--the patient-admission, discharge, and transfer module and the outpatient pharmacy module--that have been available since February 1985.) Consequently, congressional concerns that the VA software has not been given a fair evaluation will not be addressed. Although congressional direction with the fiscal year 1985 Defense Appropriations Act does not explicitly detail the scope or extent of testing, we believe the testing's

⁶The VA system has two major software components: the core and the kernel. The core consists of application software modules supporting specific hospital functions. The kernel provides access control and allows individual sites to tailor the overall system to their specific needs.

expressed purpose (i.e., to determine the feasibility and cost-effectiveness of using the VA software) clearly implies criteria to be met by such testing. Accordingly, we believe that the test's scope must be expanded to include additional VA software modules.

According to Federal Information Processing Standards Publication 64, a feasibility study should assess both the technical and operational feasibility of an alternative. Technical feasibility applies to the capability of the alternative to meet user requirements with available technology and methods of operation. Operational feasibility is the ability of the alternative to fit the operational pattern and resources of the organization. We believe that the VA software test, as specified in the current test plan, will not properly assess feasibility or allow the program office to adequately evaluate the functional capabilities and benefits of the VA system. The reason: the patient-scheduling, patient-registration, and laboratory modules are only 3 of 12 software modules that will share an integrated database. Much of the value and utility of the VA software comes from its integrated database design, which allows users (such as physicians, pharmacists, and nurses) to access patient data from several modules (e.g., laboratory, pharmacy, and patient-registration).

The program office contracted with a consulting firm in October 1984 to evaluate the March AFB test. The firm questioned the limited number of VA software modules being tested, concluding, and we agree, that (1) to evaluate an integrated environment using the VA software, other VA software modules should be tested, and (2) implementing additional modules will provide a practical way to test the integrated database capability of the VA software in a military hospital environment. DOD has agreed to expand the test to include the laboratory module. However, we believe implementation of other modules will be required to fully determine the feasibility and cost-effectiveness of using the VA software.

Program office believes scope of test complies with the intent of the Defense Appropriations Act

According to the program office manager, the purpose of the March AFB test is to serve as a site where program office staff can become familiar with the VA software. These staff would then be better positioned to evaluate vendors proposing VA software in response to the CHCS solicitation document. DOD officials contend that expanding the test may lead to informal competition between the VA software adapted for the March AFB test and the software planned for CHCS, thus undermining the CHCS procurement. In our view, such competition is justified since it could conceivably result in DOD's adopting a less costly approach to meeting its medical automatic data processing requirements.

Program office officials also believe that the CHCS requirement that one of the initial vendors adapt the VA software

will address the fundamental concerns of the Chairman of the House Committee on Veterans' Affairs. We disagree with DOD that the VA software, as such, will be given a fair evaluation in the CHCS procurement by requiring its use as a "base" for meeting the CHCS requirements. This is because the vendor will be required to modify the VA software to meet the CHCS functional specifications calling for more features which, in turn, will add cost and complexity to the resulting system.

To perform a fair evaluation, the program office should expand the test to include all available VA software modules at their current functional levels. The modules should not be modified to conform to the CHCS functional specifications.

Computer equipment and support required
for a restructured test

Restructuring the March AFB test to include additional VA software modules can be supported to some extent by computer equipment being acquired by the Air Force. An official from the San Francisco VA Verification and Development Center said that several software modules, in addition to the patient-scheduling and patient-registration modules, can be made available now or in the near future for testing at March AFB. They include

- admission, discharge, and transfer;
- inpatient pharmacy;
- outpatient pharmacy;
- laboratory;
- mental health; and
- dietetics.

To date, the test has been supported by computer equipment the VA loaned to the March AFB hospital; the Air Force is currently acquiring replacement equipment. According to VA, additional hardware, including additional central processing capacity and associated terminal devices, will be needed to support an expanded test of all available VA software modules. March AFB is also installing data communication lines throughout the hospital to enable users to access the computer.

VA's commitment to the March AFB test is evidenced in both the programming support and the computer equipment loan. Although it is difficult to estimate what programming resources will be required to expand the test to include all available VA software modules, the VA programmer assigned to the March AFB test estimated that all available VA software modules could be modified and implemented within 500 to 1,000 hours of programming effort.

DOD can reduce the risk associated
with the CHCS procurement

There is inherent risk in acquiring any major automated system. We believe the risk associated with the CHCS procurement is substantial because of the system's size, high cost, scope, and complexity. If the CHCS acquisition encounters long delays, cost overruns, or poor system performance, DOD's options are to (1) cancel a partially implemented contract, (2) spend additional monies to correct deficiencies, or (3) live with an unsatisfactory system.

Although DOD has taken some steps, such as using a two-part procurement to reduce these risks, it can further reduce the risk by expanding the March AFB test to include all available VA software modules. The adapted VA system could serve as the basis for a potentially less expensive, alternative health-care computer system should the CHCS procurement exceed approved funding levels or face long delays often associated with major system acquisitions.

AGENCY COMMENTS AND OUR EVALUATION

We have revised and updated this report, where appropriate, to reflect DOD's and VA's comments on a draft of this report. Enclosure I presents DOD's July 17, 1985, comments and our responses. Enclosure II contains VA's comments.

DOD stated that the March AFB test of VA software is an essential part of its planned CHCS procurement. The final CHCS vendor would be selected after an extended evaluation of at least three proposals from interested vendors; at least one proposal would be based upon adaptation of the VA software and full consideration of total life-cycle costs for the proposed systems. Further, DOD noted that, even if the VA software were chosen for CHCS, a major competitive acquisition would still be required. DOD had a basic difference of opinion with us on the purpose of the March AFB test. According to DOD, the purpose of the test was to provide lessons learned that will contribute to the CHCS source-selection process. In addition, DOD stated that the decision on the future use of automation in DOD medical facilities should not be based solely upon the results of the March AFB test.

We agree that the March AFB test can be an important part of the CHCS acquisition process and that, taken with other aspects of a carefully planned acquisition strategy, it can increase the likelihood that DOD will make a sound investment decision in implementing CHCS. We believe, however, that since the March AFB test is important to the CHCS acquisition process, it should be conducted to yield maximum usefulness. This DOD has not done.

Much of the value and utility of the VA software comes from its integrated database design, which allows users such as physicians, pharmacists, and nurses to access patient data from

several modules (e.g., laboratory, pharmacy, and patient-registration). Therefore, if the feasibility and cost-effectiveness of using VA's software is to be determined, all the available modules must be included in the test. To date, DOD has conducted tests on only two modules, patient-scheduling and patient-registration. In our opinion, such a limited test contributes little useful information for the CHCS acquisition process.

DOD also stated that it wanted to make clear that it was not opposed to expanding the March AFB test to include other VA modules as long as the CHCS procurement was not delayed. DOD noted that its approach is to continue to expand the March AFB test (1) in phases, (2) subject to Air Force and VA resources, and (3) limited to those operationally available modules that meet minimal Air Force functional requirements. In this respect, DOD pointed out that it had requested another module--the laboratory module--from VA and that it will consider other modules as they become operationally available. In addition, DOD questioned the feasibility and cost-effectiveness of adapting all VA software modules at their current functional levels.

Although we are pleased with DOD's willingness to add the laboratory module and its stated position that it is not opposed to expanding the March AFB test, we question whether DOD's plan will lead to useful information for the CHCS acquisition process. DOD has no specified timetable for testing the laboratory module, acquiring other operational modules for testing, or analyzing test results. Consequently, it is uncertain whether the results will be available when needed prior to the planned May 1987 CHCS contract award.

DOD's gradual, "phased" expansion of the March AFB test does not appear to have been caused by VA module availability. According to VA records, four modules from the VA system have been operational since February 1985 and a fifth module was being tested at that time. To date, DOD has tested only two modules, with plans to test a third. DOD has no firm plans to test the two other modules that have been operational in VA since February 1985. Similarly, DOD has no firm plans to test other modules as they become available.

Regarding DOD's concern about the availability of Air Force and VA resources to conduct the March AFB test, we have updated our report to indicate that additional computer hardware will be required to support expanded testing of all available VA software modules at March AFB. In this regard, the Congress restored about \$8 million to DOD in its fiscal year 1985 appropriation for, among other purposes, testing of VA software at March AFB. Furthermore, regarding DOD's comment that an expanded test is neither feasible nor cost-effective, we believe DOD's legislative mandate did not instruct DOD to subject the test to a cost-benefit analysis.

DOD believed that its acquisition strategy for CHCS, including its approach to the testing at March AFB, was fully consistent with the Congress' legislative direction. DOD pointed out that, as recently as July 3, 1985, the staff of the Subcommittee on Defense, House Committee on Appropriations, confirmed its support for and agreement with DOD's current actions. We find this position directly contradictory to the preponderance of information provided by the Congress on its intentions and concerns regarding the March AFB test. First, we have also been in regular contact with the subcommittee staff, who have not disagreed with our position that DOD must test all available VA software modules to "...determine the feasibility and cost-effectiveness of using VA software..." as required by the conference report on DOD's fiscal year 1985 appropriations. Second, it is clear to us that government standards for conducting feasibility studies cannot possibly be met with the limited testing conducted so far by DOD. Finally, we wish to point out that the Congress, on July 29, 1985, reiterated its concern and intent for the March AFB test by placing language in DOD's fiscal year 1986 authorization bill, stating that the Secretary of Defense

"...shall carry out a demonstration project for the purpose of testing the use in military hospitals of the hospital-management computer system of the Veterans' Administration known as the Veterans' Administration's decentralized hospital computer program. The purpose of the test shall be to determine the feasibility and cost-effectiveness of the use in military hospitals of such system...."

"...shall ensure that all available components of the Veterans' Administration system...are used at their current functional level in each hospital in which the system is tested...." (Emphasis added.)⁷

In a July 16, 1985, letter, VA agreed with our conclusion that, in order to adequately assess the feasibility and cost-effectiveness of using VA software in military hospitals, the Secretary of Defense should expand the March AFB test to include adapting all available VA software modules at their current functional levels. VA stated, however, that March AFB will need additional computer equipment to carry out the expanded test. We agree with VA's comments and have reflected the need for the additional computer equipment in this report.

CONCLUSIONS AND RECOMMENDATION

The Congress directed that DOD proceed with the testing of VA software at March AFB and determine the feasibility and cost-effectiveness of using the software in military hospitals. If DOD tests only three of the available VA software modules, it will not

⁷Congressional Record, July 29, 1985 (H 6531).

be able to determine the feasibility and cost-effectiveness of using the software. An adequate assessment would include all the available VA modules. Also, the adapted VA system could become the basis for obtaining an alternative health-care computer system should the CHCS procurement exceed approved funding levels or face long delays.

An expanded test of VA software at March AFB could lead to informal competition between the VA software adapted for the March AFB test and the planned CHCS. We believe such competition is justified since it could conceivably result in DOD's adopting a less costly approach to meeting its medical automatic data processing requirements. If the March AFB test remains limited to only the patient-scheduling, patient-registration, and laboratory modules, the feasibility and cost-effectiveness of using the VA software cannot be assessed adequately. Therefore, we recommend that the Secretary of Defense expand the March AFB test to include adapting all available VA software modules at their current functional levels.

As you know, 31 U.S.C. 720 requires the head of a federal agency to submit a written statement on actions taken on our recommendations. This written statement must be submitted to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report. A written statement must also be submitted to the House and Senate Committees on Appropriations with an agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Chairmen, House and Senate Committees on Appropriations and on Veterans' Affairs, and Subcommittees on Defense, House and Senate Committees on Appropriations; Ranking Minority Member, House Committee on Veterans' Affairs; Administrator, Veterans Affairs; Director, Office of Management and Budget; and other interested parties; and will make copies available to others upon request.

Sincerely yours,



Warren G. Reed
Director

Enclosures - 2



HEALTH AFFAIRS

ASSISTANT SECRETARY OF DEFENSE

WASHINGTON D C 20301

17 JUL 1985

Mr. Frank C. Conahan
Director, National Security and
International Affairs Division
U.S. General Accounting Office
441 G Street, N.W.
Washington, D.C. 20548

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report entitled, "DoD Should Restructure The March Air Force Base Test Of Veterans Administration-Developed Software," dated June 7, 1985 (GAO code 510085/OSD case 6775-A).

The Composite Health Care System (CHCS) acquisition will provide DoD a prime contractor responsible for hardware, communications, software, maintenance, training, and personnel for all DoD medical facilities worldwide. This worldwide computer system will support 167 hospitals, 532 medical outpatient clinics, 45 dental facilities, 13 training schools, and 7 aero-medical staging facilities, serving nearly 11,000,000 active duty members, retirees and their families.

The March Air Force Base software test is an essential part of the DoD plan to conduct a fair and fully competitive CHCS procurement. The Veterans Administration (VA) software will be evaluated in comparison with other vendor approaches as an integral part of the CHCS acquisition. The CHCS acquisition provides for selection of at least three proposals to be evaluated through a DoD funded extended benchmark demonstration. One (or more) of these vendors will be selected from proposals based upon the VA software. The final selection will not, however, be based solely on the applications software. It will consider total system life cycle costs, including hardware, communications, software support, implementation support, training, maintenance and facilities management costs.

The DoD has a basic difference of opinion with the GAO with respect to the purpose of the March Air Force Base test. While the test of the VA software is important, it is not, nor was it intended to be, an independent evaluation. The Government cannot obtain the data it requires to decide upon the future use of automation in DoD medical treatment facilities from testing the VA software in isolation. Information on the VA software is

Note: The page references in the enclosure have been changed to correspond to the page numbers in the final report.

17 JUL 1985


useful, but insufficient on which to base such a major procurement decision. The CHCS worldwide requirements involve a complex interrelationship of many goods and services which a contractor will provide. Even if DoD were to utilize the VA software (which is at least one of the three possibilities under the current CHCS competitive acquisition strategy), a major acquisition similar in cost, schedule, and complexity to the current CHCS procurement would still be required. In DoD's view, only through a competitive award process in which all possible solutions are considered can the Department meet its requirements in a cost-effective manner.

The Department wants to make it clear that it is not opposed to testing the VA software at March Air Force Base, nor is DoD opposed to expanding the test as long as the CHCS procurement is not delayed. The laboratory module has, for example, already been formally requested from VA for implementation in the March Air Force Base test. Other modules will be considered as they become operationally available. The DoD does not agree, however, that adapting all the VA modules, despite their current functional level, would be feasible and/or cost-effective to the Department of Defense.

The competitive acquisition strategy that the DoD is currently following was directed by the House Appropriations Committee, which considered the views of the House Veterans' Affairs Committee prior to providing the guidance. To assure its compliance with that guidance, the DoD has met regularly with the staff of the Defense Subcommittee, House Committee on Appropriations. As recently as July 3, 1985, the Subcommittee staff confirmed its support and agreement with the actions currently being taken or planned by the TRIMIS Program Office.

The detailed DoD comments on each finding and the recommendation are provided in the enclosure. In addition, at the July 10, 1985, meeting with the staff from the Information Management and Technology Division, an annotated copy of the draft report was provided indicating several technical corrections and general observations. Also offered were additional documents which should be considered in the preparation of the final report. Thank you for the opportunity of commenting on the draft report.

Sincerely,


for William Mayer, M.D.

GAO DRAFT REPORT - DATED JUNE 7, 1985
(GAO CODE 510085) - OSD CASE 6775-A

"DOD SHOULD RESTRUCTURE THE MARCH AIR FORCE BASE TEST
OF VETERANS ADMINISTRATION-DEVELOPED SOFTWARE"

DEPARTMENT OF DEFENSE COMMENTS

* * * * *

FINDINGS

FINDING A. Scope of the DoD And VA Health Care Computer Systems. The GAO was asked by the House Committees on Appropriations and Veterans Affairs to continue its review of the TRI-Service Medical Information Systems (TRIMIS) Office. One of the objectives was to monitor the DoD test of VA's software at March Air Force, California. GAO reported that both Committees have expressed concern that DoD has not given the VA software a fair evaluation before proceeding with the Composite Health System (CHCS) procurement. GAO reported that DoD's CHCS is managed by the TRIMIS Program and that from fiscal year 1976, DoD has spent about \$222 million to acquire, implement, and operate various stand-alone and integrated health care computer systems. GAO found the CHCS is by far the most costly and complex of four computer systems DoD plans to acquire and that through 1992, the fully integrated system installed at virtually all military hospitals has an estimated cost of \$800 million to \$1.1 billion. With regard to the VA's automated health care system, GAO reported that the Decentralized Hospital Computer Program (DHCP) was established in February 1982, at 169 VA hospitals and other facilities. GAO found that while the VA system supports essentially the same hospital functions as those planned to be supported by the CHCS, its current scope is far less ambitious than the planned CHCS system. GAO concluded that the planned CHCS will provide features not currently available in the VA's software. (pp. 2-5, GAO Report)

DoD Response: Partially concur. The Department agrees that during 1984, congressional questions were raised by the House Appropriations Committee (HAC), Subcommittee on Defense, and the House Committee on Veteran's Affairs concerning the adequacy of DoD's evaluation of VA's software for use in military hospitals. DoD, however, does not concur that the Subcommittee on Defense is currently

concerned that the Department is not giving the VA software a fair evaluation before proceeding with the CHCS procurement. The DoD has met on a continuous basis with the staff of the Subcommittee. As recently as July 3, 1985, the HAC staff confirmed its support and agreement on the TRIMIS Program management of the CHCS procurement, including the DoD validated functional requirements, the competitive acquisition strategy currently in process and the scope of the March AFB test. In addition, neither the Subcommittee staff nor the TRIMIS staff is opposed to expanding the scope of the March AFB test to include additional VA software, available for operational testing, provided it does not delay the CHCS procurement. The DoD is also concerned that the GAO description of the intended application of the CHCS is much too narrow. For example, it will not be limited to hospitals. It will, instead, provide a worldwide health care computer system to 167 hospitals, 532 medical outpatient clinics, 45 dental facilities, 13 training schools, and 7 aero-medical staging facilities serving about 11,000,000 active duty members, retirees and their dependents. Also, while it is true that the CHCS and VA systems relate to the same hospital functions, it has to be recognized that the CHCS must operate in the significantly more complex DoD environment. CHCS requirements have been developed with consideration of worldwide deployment, communications, mobilization, nature of the DoD environment, standardization, patient categories and types, upward reporting and control, and mobility of staff and patients. In addition, CHCS must function in both a wartime and a peacetime environment.

GAO Response

Since early 1984 we have been in regular contact with the staffs of the Subcommittee on Defense, House Committee on Appropriations, and the Subcommittee on Oversight and Investigations, House Committee on Veterans' Affairs, concerning VA software testing at March AFB. During this time, we have advised these staffs of our concern that DOD may not test all available VA modules to evaluate the cost and feasibility of adapting the software to meet the needs of military hospitals. These subcommittee staffs did not disagree with our basis for analyzing the March AFB test (i.e., that DOD must test all available VA software modules to adequately respond to its congressional mandate). While these contacts, like DOD's similar subcommittee staff contacts, provide an indication of congressional concern and intent for the mandated March AFB test, the clearest statement of congressional intent for the test is specified in the conference reports on the DOD's fiscal year 1985 appropriations act and fiscal year 1986 authorization bill.

The congressional direction specified in the 1985 conference report states that DOD must "proceed with the testing of the VA software at March Air Force Base to determine the feasibility and cost-effectiveness of using VA software." The 1986 report (published in the Congressional Record, dated July 29, 1985), further defines this congressional direction by presenting the DOD authorization bill statement that DOD must test all of VA's "available software components."

Although DOD stated that it is not opposed to expanding its testing, it has no immediate plans to do so. As of July 1985 DOD had limited testing to only two of at least five available VA software modules. In addition, although DOD plans to add a third module (laboratory), the two other modules (the patient admission, discharge, and transfer module and the outpatient pharmacy module) are not scheduled for testing, despite the fact that they have been operational since February 1985. Moreover, DOD has not established timeframes for additional module testing. Nor has it indicated that it will test additional modules as they become available. Instead, DOD said that "other modules will be considered as they become available." Because DOD's test plans are uncertain, it appears that testing could take an indefinite amount of time. Consequently, test results may not be available before DOD's planned award of a contract for its CHCS procurement in May 1987.

A DOD consulting firm, tasked in October 1984 to evaluate the March AFB test, has also advised the agency to modify its plans. The firm questioned the limited number of VA software modules being tested and concluded that, to evaluate the VA software in an integrated environment, DOD should test additional modules. Although DOD plans to expand its test to a third module, we believe it should test all available modules; only then can DOD respond to its congressional mandate and determine the feasibility and cost-effectiveness of using VA software.

Regarding DOD's concern with our description of the intended application of the CHCS system, we have updated our report to include the agency's most current statistics on its medical facilities.

Concerning DOD's comments on its and VA's operational environments, we agree that the CHCS and VA systems must operate in different environments. Nevertheless, we believe that VA's medical environment is also complex in terms of standardization, reporting, control, and types of patients. Furthermore, while it is true that CHCS must function in wartime, it is also true that legislation (Public Law 91-174) passed in 1982 requires that VA operate as a backup to DOD during a war. Moreover, although the DOD and VA environments may be different, we believe that the extent of such differences and their impact on ADP systems can be better understood if DOD thoroughly tests all available VA system modules.

FINDING B. Congressional Concerns That DoD Has Not Adequately Evaluated VA Software For Use In Military Hospitals. GAO reported that on May 1, 1984, the ASD(HA) testified before the House Appropriations Committee, Subcommittee on Defense, that DoD was taking action to thoroughly evaluate the VA software for possible DoD use. In response to the Committee's inquiry, in October 1984, DoD asked a contractor to evaluate the cost, schedule, acquisition, and operational implications of using the VA software as a starting point for the CHCS. GAO also reported that in hearings held by the House Committee on Veterans Affairs in September 1984, concern was expressed to the ASD(HA) that DoD was about to spend substantial amounts of money on the CHCS procurement without adequate consideration of the VA software. The Committee Chairman also expressed concern about the validity of the DoD contractor study. Subsequent to the VA committee hearings, the Chairman wrote an October 10, 1984, letter to the ASD(HA) requesting that DoD test the VA software in six military hospitals, two from each service. GAO, found however, that DoD does not intend to test the VA software in six military hospitals because it believes the CHCS mandatory requirement to select one vendor who would adapt the VA software addresses the Chairman's concern, and will result in a fair evaluation of VA software. In the context of congressional concern, GAO reported that the House and Senate Appropriations Committees, on October 10, 1984, directed DoD to "proceed with the testing of VA software at March AFB to determine the feasibility and cost-effectiveness of using the VA software." (pp. 5-7, GAO Report)

DoD Response: Partially concur. While DoD agrees with the factual information as presented, the Department does not concur with the GAO subtitle conclusion. As indicated in the DoD response to Finding A, the Subcommittee on Defense, House Committee on Appropriations, does not share a concern that the VA software is not being adequately evaluated. It is also true that DoD does not plan to expand the March Air Force Base demonstration to six hospitals. The report appears to imply a somewhat arbitrary decision was made on this matter. DoD carefully considered the suggestion by the Chairman, House Committee on Veterans Affairs, to expand the DoD test of VA's software to six additional military hospitals. The decision not to proceed was based on DoD's best judgement that it was unnecessary to incur the additional cost when testing objectives were already being accomplished at March Air Force Base.

GAO Response

The report subtitle to which DOD refers--Congressional concerns that DOD has not adequately evaluated VA software--accurately reflects congressional interest concerning DOD's evaluation of VA software. The House Veterans' Affairs Committee remains concerned that DOD has not adequately evaluated the VA software for use in military facilities. Furthermore, as pointed out on pages 18 and 19 of this enclosure, even broader congressional concern regarding the March AFB test has been expressed during the 1985 and 1986 DOD budget reviews.

DOD decided against expanding its March AFB test to six military hospitals, as requested by the Chairman of the House Committee on Veterans' Affairs, because it believed it was already achieving its testing objectives. Nevertheless, as discussed on page 19 of this enclosure, the March AFB testing objective is "to determine the feasibility and cost-effectiveness of using the VA software." DOD is not likely to accomplish this objective because its current test plan is both limited and uncertain.

FINDING C. Test Of VA Software Is Progressing, But Should Be Restructured To Comply With Congressional Concerns. GAO reported that progress has been made at March AFB in adopting the VA software. However, GAO found that the TRIMIS Program Office officials have been reluctant to expand the scope of the test because they believe that any expansion may lead to an "informal competition" between the VA software adapted for the March AFB test and the planned CHCS. GAO further found that DoD believes any such informal competition could undermine the CHCS procurement if the adapted VA software proves to be cost-effective and could lead interested parties to support the VA software as an alternative to the planned CHCS. GAO concluded that the test needs to be restructured to provide an adequate assessment of the cost and feasibility of adapting VA's software for use in military hospitals. GAO further concluded that:

- the test as currently structured will not adequately address congressional concerns that the VA software be given a fair evaluation;
- DoD should take action to expand the test to include all available VA software modules; and
- an adapted VA system could give DoD a potential alternative health care computer system that could be installed in other military hospitals should CHCS procurement exceed approved funding levels or face long delays. (p. 7, GAO Report)

DoD Response: Nonconcur. DoD has a basic difference of opinion with the GAO with respect to the purpose of the March Air Force Base test. While the March Air Force Base test is important, it is not, nor was it intended to be, an independent evaluation. The Government cannot obtain the data it requires to decide upon the future use of automation in DoD medical treatment facilities from testing the VA software in isolation. Information on the VA software is useful, but insufficient on which to base such a major decision. The CHCS worldwide requirements involve a complex interrelationship of many goods and services which a contractor will provide. Even if DoD were to utilize the VA software (which is one of the three possibilities under the current CHCS competitive acquisition strategy), the additional hardware, communications, training, maintenance and other support to be provided would still require a major acquisition similar in cost, schedule, and complexity to the current CHCS procurement. In DoD's view, only through a competitive award process in which all possible solutions are considered can the Department meet its requirements in a cost-effective manner.

It should be made clear that DoD is not opposed to testing of the VA software at March Air Force Base. The March Air Force Base software test is an essential part of the Department's plan to conduct a fully competitive CHCS procurement, with a part of this competition being reserved for a vendor who bids using the VA DHCP-based software as the solution to the CHCS requirements. The first stage of this testing involved implementation of the VA's Patient Appointing and Scheduling and Registration modules, with minimum changes, to achieve a rapid implementation schedule. Additional and more complex changes are now being made to this software to meet minimal Air Force requirements. The lessons learned from this first stage of testing will be very helpful at the initial award evaluation in assisting the DoD to select the best vendor proposal for a VA DHCP-based software solution to the CHCS. This first level of selection will occur early in 1986. DoD will continue to learn lessons from the March Air Force Base test as the laboratory and other operational modules are available and implemented. These lessons will assist the DoD to make a more informed source selection decision of a single vendor at the completion of the extended benchmark test which will occur early in 1987. This is in keeping with the guidance and ongoing agreement of the Defense Subcommittee, House Committee on Appropriations. (This competitive acquisition strategy has also been fully briefed to the staffs of the House Government Operations Committee and Senior Officials of the General Services Administration--both of which agreed with the approach.)

With respect to the so-called issue of "informal competition," a successful test of the VA software as described above would facilitate the vendor selection process, not undermine the CHCS procurement as claimed. In the competitive arena, if the VA software is the best performer, it will be selected.

GAO Response

We agree with DOD that testing VA's software in isolation will not deliver the data required to decide whether to automate military medical treatment facilities. We have not suggested that the software be so tested. Nevertheless, while the March AFB test represents only one source of information on automation, DOD must comply fully with the congressional direction for the test. Furthermore, an appropriately structured and implemented test can better serve as a basis for a more informed decision on CHCS. In this regard, much of the VA software's value comes from its integrated database design, which allows users (such as physicians, pharmacists, and nurses) to call up patient data from several modules. Consequently, we believe DOD should expand the test to include all available modules.

Regarding DOD's comments on CHCS, we recognize that this acquisition is complex and that DOD must buy the system's hardware and support equipment. We do not dispute DOD's plan to use the competitive award process to meet its requirements cost-effectively. Such a procurement would include deciding on hardware, communication, and other costs, which would be incurred regardless of the type of software used.

Regarding DOD's comment that it is not opposed to testing VA software, we believe that more aggressive testing of all available modules would more clearly demonstrate that DOD is not opposed to such testing. In February 1985, VA reported that four modules from the VA system were operational. Yet, as of July 1985, DOD had tested only two of these four modules and had announced plans to test another module that had since become available.

Our position on DOD's comments regarding congressional guidance on the March AFB test is presented on pages 18 and 19.

Regarding the issue of "informal competition," as we indicate on page 9 of our report, DOD officials, in a meeting with us, voiced concern that "informal competition" between the CHCS project and the VA software might undermine the CHCS procurement.

FINDING D: Scope Of March AFB Test Is Too Narrow To Determine Feasibility And Cost Effectiveness. GAO found the DoD is testing two (out of 13) VA software modules (scheduling and registration) and that DoD has indicated a willingness to expand the test to include the laboratory module, but little else. GAO concluded that since DoD is only testing two of the available VA software modules, it cannot determine the feasibility and cost-effectiveness of using the VA software in a military hospital. Because of this, GAO concluded that the VA software has not been given a fair evaluation and, thus, congressional concerns have not been addressed. GAO further concluded that, although the fiscal year 1985, Defense Appropriations Conference Committee Report does not explicitly detail the scope or extent of testing, the expressed purpose of the testing (i.e., determine the feasibility and cost-effectiveness of using the VA software) clearly implies criteria to be met by such testing. The GAO, therefore, also concluded that the scope of the DoD test must be expanded to include additional VA software modules. GAO noted that the October 1984 DoD contractor study questioned the limited number of VA software modules being tested, stating that implementing additional modules would provide a practical way to test the integrated data base capability of the VA software in a military hospital environment. GAO found that DoD has not taken any actions to respond to issues raised in the contractor's report. (pp. 8-9, GAO Report)

DoD Response: Partially concur. DoD agrees that currently it is testing two VA software modules at March AFB--i.e., patient scheduling and registration, and has already directed that the laboratory module be added. DoD disagrees, however, that it has shown an unwillingness to test VA software beyond the laboratory module. The testing at March AFB is being conducted on a phased basis. At such time as the laboratory module testing has been satisfactorily completed, DoD will consider other operationally available VA software modules for testing. It is the DoD intent to learn as much as possible from the March AFB demonstration testing to assist in the CHCS source selection process. Again, DoD disagrees with the GAO conclusion on what the March AFB test is intended to produce. The GAO implies that the March AFB test is an independent test of the VA system. This is not correct. The March AFB test is not an alternative to the competition which will occur through the CHCS source selection process. DoD has designed the CHCS acquisition strategy in accordance with OMB Circular A-109. It is during the formal evaluation of the vendors' responses that the VA software will be thoroughly tested in comparison with other approaches. The purpose of the March Air Force Base test is to provide lessons learned which will contribute to the CHCS source selection process, such as costs to install and operate a system based upon the VA software. However, the limited

cost data collected in the March Air Force Base test will be insufficient to make a CHCS source selection decision. Only when the competing vendors' proposals are received will DoD be able to select the most cost-effective solution to the CHCS functional and technical requirements. The October 1984 contractor work plan referenced and agreed with by GAO, indicated that the lack of integrated testing at March AFB would place limits on the contractor's ability to evaluate the VA software in an integrated environment. The DoD agreed with the contractor but does not agree with GAO that no actions have been taken to respond to this issue. Introduction of the laboratory module will permit additional integrated testing--a major objective in expanding the March AFB test. In reference to GAO's conclusion that the 1985 Defense Appropriations Conference Committee Report clearly implies criteria for the testing at March AFB, the DoD disagrees. In fact, TRIMIS officials requested and received clarification from the staff of the Appropriations Committee on the extent of testing that was necessary. The Committee staff did not require expanding the test to include additional VA software modules, although they have no objection to such expansion as long as it does not delay the CHCS procurement. The Department, therefore, does not agree with GAO's interpretation of the 1985 Defense Appropriations Conference Committee Report language or that congressional concerns of the House Appropriations Committee are not being addressed.

GAO Response

During our review, TRIMIS program office officials indicated a willingness to expand the test to include the laboratory module, but little else. On the basis of DOD's written comments, we have updated our report to indicate DOD's agreement to include the laboratory module in its testing. DOD also explained that it is performing the test in phases and that, after completing the laboratory module testing, it will consider other operationally available modules. As mentioned in previous sections of this enclosure, we believe DOD's testing of only a portion of the available modules is not fully responsive to the congressional direction and does not effectively provide the information DOD requires for its CHCS acquisition.

In addition, DOD's plan to expand the March AFB test to include the laboratory module and then to consider other modules does not adequately ensure that DOD will comprehensively test all available modules in time to collect significant information for the CHCS acquisition. For example, according to a VA report on operational modules, DOD only recently requested a third module from VA, even though at least four modules have been available since February 1985.

Our position on the purpose of the March AFB test is addressed on pages 18 and 19.

Although we referred to a DOD contract with a consulting firm, we did not agree with the work plan provided to DOD by the consulting firm for an evaluation of the March AFB test. We did agree with the contractor that, to evaluate an integrated environment using the VA software, DOD must test other software modules.

Our position on congressional concern about the March AFB test is addressed on pages 18 and 19.

FINDING E: Program Office Believes Scope Of Test Complies With Defense Appropriations Act. GAO reported that the TRIMIS program officials believe the scope of the March AFB test satisfies the Defense Appropriations Conference Committee Report requirement because March AFB serves as a site where program staff can become familiar with the VA software in order to evaluate vendors that propose the VA software in response to the CHCS solicitation document. Additionally, GAO reported that program officials believe the expansion of the test may lead to an informal competition between the VA software adapted for the March AFB test and the planned CHCS, and that the informal competition could undermine the CHCS procurement. GAO concluded that if the VA software test proves to be cost-effective, the CHCS procurement could in fact be undermined. GAO also reported that program officials believe that the CHCS mandatory requirement to select one vendor to adapt the VA software addresses the concerns of the Chairman, House Committee on Veterans' Affairs. GAO disagreed, concluding that if the VA system is modified it will add cost and complexity to the existing system. To perform a fair evaluation, therefore, the GAO concluded that the March AFB test should be restructured to include all available VA software modules at their current functional levels. (pp. 9-10, GAO Report)

DoD Response: Partially concur. The GAO correctly reflects the DoD position that its March AFB test of the VA software satisfies the guidance contained in the FY 1985 Defense Appropriations Conference Report (see DoD Response to Finding A). With respect to the concerns of the Chairman, House Veterans Affairs Committee, it is the DoD position it has been responsive. The CHCS competitive acquisition strategy more than adequately considers the VA software; in

fact, the mandatory set aside provides a special opportunity for the VA system and, therefore, should assure any of its proponents that it will be fully considered in the competitive process. As previously stated in the response to Finding C, DoD does not agree with the GAO conclusion that a successful test of the VA software would undermine the CHCS procurement. Nor does DoD agree that restructuring the March Air Force test to include all available VA software modules at their current functional levels would be feasible and/or cost effective to the Department. The DoD approach is to continue to expand the March Air Force Base test (1) on a phased basis, (2) subject to Air Force and VA resources and (3) limited to those operationally available modules which meet minimal Air Force functional requirements.

GAO Response

Our position on congressional guidance and concern regarding the March AFB test is presented on pages 18 and 19.

DOD plans to consider expanding the March AFB test in phases--subject to Air Force and VA resources and available modules that meet minimal Air Force functional requirements--as long as the CHCS procurement is not delayed. DOD has adopted this approach despite the fact that the direction provided by the Congress makes no provision for a limited test to avoid delays in the CHCS procurement or for any other reasons. We believe that an expanded test of VA software would not necessarily delay the CHCS procurement if done promptly and concurrently with the CHCS procurement process. The final decision on the procurement is not scheduled until May 1987. By that time, DOD could obtain valuable information in response to congressional direction and for the CHCS procurement by aggressively testing the five available VA modules, as well as others as they become available.

Regarding the issue of informal competition between the VA software adapted for the March AFB test and the planned CHCS, we believe that, if such competition occurs, it is justified because it could conceivably result in DOD's adopting a less costly approach to meeting its medical automatic data processing requirements.

Concerning DOD's comment that an expanded test is neither feasible nor cost-effective, we do not believe that DOD's congressional direction instructed the agency to analyze the cost-benefits of testing VA software. The Congress directed DOD to conduct the March AFB test to determine the feasibility and cost-effectiveness of using VA software. Whether it is cost-beneficial to restructure the test to include all software

modules is not the issue. In addition, test results could help DOD in its effort to develop and procure a less costly medical automatic data processing system for present and future use. A comprehensive test can help ensure that the government capitalizes on its prior and continuing investment in the VA software development by potentially spreading the use of the software to the DOD environment.

FINDING F: Computer Equipment And The VA Will Support Restructured Test. GAO found that restructuring the March AFB test to include additional VA software modules (not presently being tested) can be supported by computer equipment recently acquired by the Air Force and available VA software. In addition, GAO concluded that the VA commitment to assist DoD during the March AFB test is evidenced both in the programming support and by the loan of computer equipment to the Air Force. (p. 10, GAO Report)

DoD Response: Partially concur. DoD agrees that the VA has greatly assisted the Department in the testing of its software at March AFB. DoD does not, however, agree with the finding concerning hardware. The additional computer equipment has not yet been acquired nor will it be adequate. To the contrary, the hardware (which is in process of being procured by the Air Force and financed by the TRIMIS Program Office for the March Air Force Base test) will be inadequate to support the full range of VA software. The Veterans Administration has specifically stated that installation of additional modules of the DHCS at March Air Force Base will require additional hardware procurements beyond the equipment currently being acquired by the Air Force. In Long Beach, California, for example, the VA hospital, which is similar in outpatient workload to the March Air Force Base Hospital, has six computers supporting five VA software modules. Even the DoD implementation of the VA laboratory module will require one or two additional central processing units, several front end processors, and equipment interfaces.

GAO Response

VA has recently determined that at least three central processing units and associated terminal devices will be needed to operate all the software modules. We have revised our report to reflect this determination. Similarly, in response to DOD's comments about resources, we have updated our report to show that the Air Force is replacing equipment at March AFB and that it

will be required to obtain additional resources to support expanded testing. In this regard, the Congress restored about \$8 million to DOD in its fiscal year 1985 appropriation for, among other purposes, testing the VA software at March AFB.

FINDING G: DoD Can Reduce The Risk Associated With The CHCS Procurement. GAO reported that the risk inherently associated with the CHCS is substantial because of its size, high cost, scope, and complexity. GAO concluded that while DoD has taken steps to reduce the inherent procurement risk, such as using a two part procurement approach, it can further reduce the risk by expanding the March AFB test to include all available VA software modules. (p. 11, GAO Report)

DoD Response: Partially concur. DoD agrees with GAO's conclusion that DoD has taken steps to reduce the inherent risk of procuring the CHCS, such as using a two part procurement approach in accordance with OMB Circular A-109. The Department does not, however, agree that withholding the CHCS source selection until completion of an expanded March AFB test would further reduce risks. It is the DoD position that delaying the CHCS procurement would actually increase the risk due to increasing requirements and cost growth. In addition, as discussed in response to Finding C, an expanded March Air Force Base test would not eliminate the need for a major procurement. DoD is also concerned that the finding implies there is a question as to the need for the CHCS-- i.e., its size, cost, scope and complexity. The Department does not understand how such an assumption can be made without evaluating the DoD validated functional requirements for CHCS.

GAO Response

Regarding DOD's comment about potential delays to the CHCS procurement, congressional direction to DOD regarding the test makes no provision for limited software testing to avoid CHCS procurement delays. As we stated on page 27 of this enclosure, an expanded test would not necessarily delay the CHCS procurement if carried out expeditiously and concurrently with the CHCS procurement process. Because of its complexity, the proposed CHCS system is a high-risk project. Fully expanding the March AFB test will provide DOD with a backup option that may be implemented if the CHCS acquisition encounters significant delays or cost overruns.

Our report does not take issue with the need for a major CHCS procurement or the need for other medical ADP systems. Our concern is centered on establishing a test that meets the congressional direction specified in the conference report on DOD's 1985 appropriations and that assists DOD in deciding on the best medical automatic data processing system to support its worldwide operations.

RECOMMENDATION

Recommendation: GAO recommended that the Secretary of Defense expand the March AFB test to include adapting all available VA software modules at their current functional level. (p. 14, GAO Report)

DoD Response. Partially concur. DoD agrees that the March AFB test of VA software should be expanded and is currently in process of doing so. The laboratory module has, as a matter of fact, already been formally requested from the VA. DoD does not agree, however, that adapting all modules at their current functional level would be feasible and/or cost-effective to the Department. DoD will continue to expand the March AFB test: (1) on a phased basis, (2) subject to Air Force and VA resources, and (3) limited to those operationally available modules which meet minimal Air Force functional requirements.

GAO Response

We believe that expanding the March AFB test to include all available VA software modules is necessary if DOD is to test adequately the feasibility and cost-effectiveness of using the VA software. A comprehensive test can help ensure that the government capitalizes on its prior and continuing investment in the VA software development by potentially spreading the use of the software to the DOD environment. Test expansion to include all available VA modules will also help resolve concerns of the Chairman of the House Committee on Veterans' Affairs that DOD is not fairly evaluating the VA software. We believe test results at March AFB can provide valuable information, thus helping DOD to select the best medical automatic data processing system. Therefore, to be most useful, these results should be available before the planned CHCS vendor selection scheduled for May 1987. Prompt testing of all available VA modules will help ensure that the CHCS procurement is not delayed.

As stated previously, DOD's current plans for the March AFB test are both limited and uncertain. Consequently, it appears that if DOD plans only to "consider" implementing modules as they become available, testing could take an indefinite amount of time to accomplish, and test results may be of limited value to DOD in choosing the most cost-effective medical automatic data processing system.

Office of the
Administrator
of Veterans Affairs

Washington DC 20420



JUL 16 1985

Mr. Richard L. Fogel
Director, Human Resources Division
U.S. General Accounting Office
Washington, DC 20548

Dear Mr. Fogel:

Your June 7, 1985 draft report "DOD Should Restructure the March Air Force Base Test of Veterans Administration-developed Software" has been reviewed.

I agree with the General Accounting Office conclusion that in order to adequately assess the feasibility and cost-effectiveness of using VA software in military hospitals, the Secretary of Defense should expand the March Air Force Base test to include adapting all available VA software modules at their current functional level. However, it is our understanding that March Air Force Base is planning to purchase only two processors. In order to accommodate all current VA software, a minimum hardware configuration consisting of three DEC 11/44 processors and their associated terminal devices is recommended.

Thank you for the opportunity to review this report.

Sincerely,



HARRY N. WALTERS Deputy Administrator for
Administrator