United States General Accounting Office

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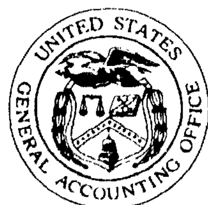
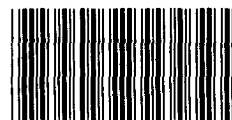
Report to the Chairman, Committee on Government Operations, House of Representatives

September 1992

VA HEALTH CARE

VA Did Not Thoroughly Investigate All Allegations by the Froelich Trust Group





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United States
General Accounting Office
Washington, D.C. 20548

Human Resources Division

B-249818

September 4, 1992

The Honorable John Conyers, Jr.
Chairman, Committee on Government
Operations
House of Representatives

Dear Mr. Chairman:

In an April 30, 1991, letter to the director of the Southern Region of the Department of Veterans Affairs (VA), an anonymous group of veterans, known as the Froelich Trust Group, made a series of allegations about the Veterans Health Administration's (VHA) medical information resources management.[1] Included were allegations that: (1) user interfaces are severely unfriendly, slow, and do not follow physician logic; (2) VA software is not advancing medical treatment of veterans and does not always contain an accurate record of treatment provided to patients, thus potentially failing to prevent unnecessary procedures or harmful treatment; (3) the medical data in VA databases cannot be verified as accurate; and (4) staff had submitted fraudulent time and attendance reports, abused federal funds, government vehicles, and official travel in some Information Systems Centers,[2] and that one center's director had verbally abused employees.

On August 29, 1991, you requested that we determine the validity of these allegations. However, because VA was just beginning its own investigations of these allegations, your staff agreed that we should limit our role to evaluating the effectiveness of those investigations. On March 11, 1992, we briefed your staff on the results of our review. This report updates the information we presented in that briefing and addresses the thoroughness, objectivity, and conclusions drawn by VA investigators. (See app. I for our scope and methodology.)

[1]VA provides health care to veterans through the Veterans Health Administration (VHA). The Medical Information Resources Management Office (MIRMO) is part of VHA and is responsible for managing VA's medical information systems, including the Decentralized Hospital Computer Program (DHCP).

[2]VA's seven Information Systems Centers provide support to VA's medical centers in software development, user applications, training, and installation.

Background

In 1982, VA committed itself to developing and implementing a national automation program called the Decentralized Hospital Computer Program (DHCP). The focus of DHCP was the implementation of clinical, management, and system/database management software modules that could be easily integrated into a complete hospital information system. VA's goal was to develop a totally integrated medical center information system built around a local database of patient and administrative information to support local and agencywide management. Before 1982, only a few of VA's facilities were supported by automation, most of which were local pilot projects concentrating on laboratory results reporting; clinic scheduling; and patient registration, admission, discharge, and transfer.

By 1985, VA had developed and implemented software modules for patient registration and clinic scheduling, outpatient/inpatient pharmacy, and clinical laboratory results. In 1989 and 1990, VA upgraded its computer capacity at all medical centers and is now distributing software that supports film/chart tracking, dietetics, radiology, mental health, medical center procurement, surgery, nursing, order entry/results reporting,[3] patient-based cost accounting, quality management, and payroll administration. Not all of the modules are in place at every medical center. Once VA releases new software, each of VA's 159 medical centers can choose whether to use it.

Each of VA's Information Systems Centers supports DHCP at a number of medical centers and develops new or modified DHCP software for use at medical centers nationwide. When implementing new packages, the centers are responsible for executing VA's software integration practices to ensure that they do not destroy or alter existing data.

Results in Brief

VHA's Medical Inspector did not thoroughly address the Froelich allegations concerning inaccurate medical data, including the effect of VA's software integration practices on the accuracy of its automated databases. The scope of the Medical Inspector's investigation into inaccurate medical data was too narrow. His review of software integration practices was merely a description of VA's existing processes, and he did not follow up on the large number of incomplete paper medical records identified during his review.

[3]VA's order entry/results reporting software is its system for staff to place orders (such as laboratory tests) and obtain results.

VHA's Medical Information Resources Management Office substantiated several of the Froelich Group's allegations, including allegations that DHCP is slow and not user friendly and that its order entry/results reporting software does not follow physician logic. The office attributed most of DHCP's problems to a lack of funding during software development. MIRMO did not investigate the allegations regarding software management and planning deficiencies because it had already begun to address problems in these areas.

VA's Inspector General (IG) thoroughly investigated all the allegations referred to his office. These included allegations that employees in some of VA's Information Systems Centers submitted fraudulent time and attendance reports and abused work hours, federal funds, business travel, computers, and government-owned vehicles. The IG also investigated alleged verbal abuse by the director of one center. The latter allegation was substantiated when over half of the staff stated that they had been subjected to or witnessed verbal abuse by the director. The IG investigations did not substantiate the remainder of the allegations.

Principal Findings

VA Did Not Thoroughly Review Its Software Integration Practices

VA did not thoroughly investigate the Froelich Group's allegation that the procedures it uses to integrate or add new software to DHCP fail to protect medical data in existing databases from being corrupted or destroyed. In a July 3, 1991, report, VHA's Medical Inspector limited his discussion of this issue to describing VA's existing processes for testing and integrating new software. These include an initial test by the center responsible for developing the new software to validate that it does what the programmer intended, and a subsequent test at a number of additional medical centers to evaluate the functioning of the software in a user environment.[4] After these tests, new software goes through a verification process that includes an internal audit at the responsible center and an external audit at another center. Upon completion of the verification process, various center and MIRMO officials must approve the software for use in medical centers. After concluding this description of existing processes, the Medical Inspector stated that the allegation could not be substantiated.

[4] VA refers to these initial and subsequent tests as alpha and beta tests.

VA officials emphasize that this Froelich Group allegation has not been substantiated with specific examples of software integration problems. However, the approach that the Medical Inspector used did not and could not identify such specific examples. Additionally, although VA believes its testing and validation process adequately assures data accuracy, a description of that process is not an adequate resolution of the Froelich Group's allegation.

VA Has Not Assured All Medical Data Are Accurate

VHA's Medical Inspector investigated the Froelich Group allegation that the medical data in VA's databases are not accurate and have a high error rate. A review team visited eight medical centers representing a cross section of facilities within VA, including facilities providing primarily medical or psychiatric services, relatively new and old facilities, and urban and rural facilities. The review team compared administrative, laboratory, pharmacy, and radiology data in the medical, surgical, psychiatric, and outpatient paper records to those in DHCP. If data in the paper record were not identical to the patient data in the electronic record, the inconsistency was considered a data error. If, however, data were missing from either the paper record or the electronic record, the review team considered it a data omission.[5]

The Medical Inspector found that where data are contained in both paper and electronic records, the two consistently agree. He concluded, therefore, that data elements that are identical are also accurate. After visiting eight medical centers, the Medical Inspector concluded that the medical data in the DHCP record are valid and do not have a high error rate.

According to the Assistant Inspector General for Healthcare Inspections, the Medical Inspector's review covered primarily patient data in modules that could be expected to be among the most accurate (laboratory and pharmacy) because, typically, data input is not involved: electronically produced test information is automatically made a part of the patient's DHCP record by the equipment that produces the test results, at which point they are immediately available on DHCP. These results are supposed to be printed and periodically filed in the patient's paper medical record file. These procedures are in contrast to other modules that are currently less amenable to this kind of automatic data entry. For example, in the DHCP's medicine module, once test results from gastrointestinal and pulmonary procedures are available, someone must enter that data into

[5]Thus, where data elements, such as a laboratory test or a prescription, were missing from one record but not the other, there was no possibility of comparing the two to check accuracy.

DHCP. If inaccurate data entry occurs, any physician relying on DHCP as a record of a patient's treatment could be basing clinical decisions on the wrong information.

The Medical Inspector's examination of automated and paper medical records did not demonstrate that all medical data in VA's medical databases are accurate because the medical data that are susceptible to errors of data input were not examined. Thus, while we believe the Medical Inspector can reasonably conclude that data in the laboratory, pharmacy, and radiology modules are accurate, his projection of those results to modules in which far greater potential for error exists is not valid.

VA Identified Problems With Incomplete Paper Medical Records

VHA's Medical Inspector identified a large number of omissions, primarily laboratory and pharmacy data, from the paper records of patients at the eight medical centers visited by his team during its investigation into the accuracy of and error rate in VA's medical databases. However, because so many data elements were missing from paper records, the Medical Inspector chose not to tabulate them and did not address the issue further. We counted about 500 data elements omitted from patients' paper medical records.[6] Thus, in about 500 instances, if a VA physician went to a patient's paper records to determine the results of a medical test, those results were not available to assist in clinical decisionmaking. In commenting on the Medical Inspector's conclusions, VA's Assistant Inspector General for Healthcare Inspections found the apparent problems with incomplete paper records "disturbing."

VA has responded in two ways to address the issue of incomplete paper medical records. First, it advised all of its facilities by conference call that they should ensure that all laboratory (paper) documents are properly filed in patient records. Second, VA's Medical Records Advisory Council recommended that DHCP be designated as the foundation of the computer-based patient record. When this is done, information that is readily accessible via terminals would be printed every 90-days and filed in the paper record. Daily print-outs can be filed as a temporary part of the patient's record on an interim basis between the periodic 90-day filings.

VA is developing guidance for all its facilities to designate DHCP as the foundation of each patient's medical record. However, this guidance does

[6] The records we obtained from the Medical Inspector were often unclear as to the exact number of data elements omitted, therefore, our statement that we found 500 omissions is a conservative estimate. The actual number could be higher.

not require that every medical center implement the recommendation, and the funds required for implementation will have to come out of each facility's budget.[7] Making implementation of the council's recommendation optional allows each facility to proceed at its own pace, depending on the way each allocates its resources.

By making implementation of the Advisory Council's recommendation optional, and, thus, dependent on the priorities of each center's director, it is very likely that VA's medical centers will not have uniform procedures for maintaining patient records—at least in the short term. Additionally, because it is an option and not a mandate, VA cannot be assured that all its facilities are working to improve the accuracy and completeness of their patient records.

MIRMO officials told us that they support the conclusions the Medical Inspector reached and emphasized their plans to designate DHCP as the foundation of the computer-based patient record. In addition, they questioned the benefits of conducting additional work to investigate an allegation that the Froelich Group had not substantiated with specific examples of inaccurate data.

Thorough IG Investigation Identified Internal Control Weaknesses

VA's Inspector General conducted audits at each of VA's seven Information Systems Centers to determine the validity of the Froelich Group's allegations that: (1) center directors had submitted fraudulent time and attendance reports, (2) center directors abused federal funds, (3) personnel at four centers abused use of government-owned vehicles, (4) center employees abused official travel by scheduling trips to distant locations for personal business, and (5) center employees used government computers for personal benefit.[8]

VA's Inspector General examined time and attendance reports, procurement records, government vehicle-usage logs, official travel records, and government equipment-inventory records and found no evidence to support these Froelich Group allegations. However, at one

[7]The Council recommended that if VA management believes that electronically stored data must be printed and filed as it is generated (often daily), consideration should be given to devoting resources to hire staff to do this. As noted, VA is proceeding with an emphasis on the electronic record.

[8]VA Office of Inspector General Audits of Selected Allegations by the Froelich Trust Group, report numbers 2R6-G02-086, February 25, 1992; 2R7-G02-088, February 28, 1992; 2R3-G02-095, March 3, 1992; 2R8-A99-103, March 20, 1992; 2R1-A99-108, March 24, 1992; 2R4-A99-120, April 8, 1992; and 2R2-A99-123, April 15, 1992.

center, eight of the staff interviewed stated that they had been subjected to verbal abuse or witnessed verbal abuse of others by the director.

The Inspector General found a number of internal control weaknesses at the centers, such as the need to improve time and attendance reporting, accountability for equipment, and controls over support service and consultant payments. The IG also cited several instances where centers need to improve compliance with VA's internal policies and goals, such as providing training in federal equal employment opportunity laws and better coordinating and consolidating of small procurements. The centers concurred with most of the IG's findings and have initiated corrective actions to address them. These actions include conducting vulnerability assessments, internal controls reviews, and equipment inventories; improving timekeeper training; bar coding center equipment for automated tracking; and developing a data processing security policy and contingency plans.

VA Is Seeking Consultant Support for Medical Information Resources Planning

VA did not investigate the Froelich Group's allegation that VA medical software development is suffering from severe management deficiencies and that its long-range plans are outdated. However, before receiving the Froelich letter, VA initiated efforts to plan for the future of DHCP. These efforts resulted in a $1.7 million contract award to Abt Associates (an independent consultant) for support for its medical information resources planning. A VA official told us that the contract was not awarded as a reaction to the Froelich Group's allegation and had been in process before VA was presented with the allegations. The Abt contract is targeted at improving the management of DHCP to make it more responsive to the needs and expectations of its users. Over the next 3 years, Abt is expected to provide support to DHCP in a number of categories, including assistance in strategic planning for information resources management and evaluating alternatives for future VA hospital automation.

VA Agrees With Some of the Froelich Group's Allegations

VA agrees with the Froelich Group's allegations that DHCP's user interfaces[9] are slow and not user friendly and that the order entry software in DHCP does not follow physician logic. In its September 3, 1991, response to this allegation, VA's Information Resources Advisory Council attributed this problem to the fact that the system's development took place under severe funding constraints, which slowed the development process significantly.

[9]User interface refers to any means by which a system, such as DHCP, communicates information to users of that system (or, conversely, any means by which a user provides information requested by the system).

The council noted that the Froelich letter arrived after VA had begun addressing the future of DHCP and that sufficient resources could make DHCP a significantly more user friendly system.

VA stated that this version of the order entry software was not intended for physicians. Rather, it was designed for use by ward clerks and nurses to facilitate the ordering process. If an X-ray result raises questions in the treating physician's mind about previous laboratory tests, the physician must perform numerous steps to exit the X-ray module and then enter the laboratory module to find the patient's information. The next version, due in late fiscal year 1992 or early 1993, will better enable physicians to move between modules in DHCP. VA added that it is working toward developing software that will produce a totally automated patient medical record on DHCP, but it provided no timetable for completion.

Conclusions

On the basis of the work it performed, VA can neither substantiate nor refute the Froelich Group's allegations that (1) the accuracy of data contained in automated medical records is questionable and (2) its software integration practices harm existing medical data. Therefore, its investigations into these allegations cannot be considered sufficiently thorough, and the most serious patient care issues are still unresolved.

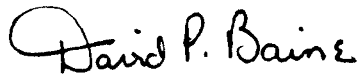
VA's emphasis on designating DHCP as the foundation of its patient record system does not take into account that the aforementioned Froelich allegations have not been resolved. Further, VA's emphasis on DHCP does not address the immediate problem of significant data omissions from its paper medical records. The fact that these records are not complete and up to date can result in errors by providers who rely on them when making clinical decisions.

Agency Comments

At the request of your office, we did not obtain written comments on this report. However, on June 10, 1992, we held an exit conference with VA officials and discussed the results of our work. VA generally agreed with our findings. As noted above, MIRMO officials questioned the benefits of conducting an additional investigation of the allegations relating to inaccurate medical data and software integration practices. We have incorporated their comments on these findings where appropriate.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from its issue date. At that time, copies will be sent to appropriate congressional committees; the Secretary of Veterans Affairs; the Director, Office of Management and Budget; and other interested parties. We will also make copies available to others upon request. If you have any questions about this report, please call me at (202) 512-7101. Other major contributors are listed in appendix II.

Sincerely yours,



David P. Baine
Director, Federal
Health Care Delivery Issues

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Abbreviations

VA	Department of Veterans Affairs
VHA	Veterans Health Administration
MIRMO	Medical Information Resources Management Office
IG	Office of Inspector General
DHCP	Decentralized Hospital Computer Program

Scope and Methodology

We evaluated the efforts VA undertook to address the Froelich Group's allegations. In doing so, we met with officials of VA's Office of the Inspector General, Office of the Medical Inspector, Medical Information Resources Management Office, and Medical Administration Service. We obtained copies of reports resulting from their efforts, documents generated in the course of addressing the allegations, and background materials relevant to the history and progress of DHCP.

We performed our work between October 1991 and April 1992 in accordance with generally accepted government auditing standards.

Major Contributors to This Report

Human Resources Division, Washington, D.C.

James A. Carlan, Assistant Director, (202) 512-7120
William D. MacBlane, Senior Evaluator

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