Audit Report

YEAR 2000 COMPUTING ISSUES RELATED
TO HEALTH CARE IN DOD - PHASE III

Report No. D-2000-046 December 1, 1999

Office of the Inspector General
Department of Defense

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Acronyms

AFIA	Air Force Inspection Agency
ASD(C^3I)	Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)
ASD(HA)	Assistant Secretary of Defense (Health Affairs)
BUMED	Navy Bureau of Medicine and Surgery
CHCS	Composite Health Care System
EPP	Emergency Preparedness Plan
MHS	Military Health System
MTF	Military Treatment Facility
RATE	Readiness Assessment Team Evaluation
TMA	TRICARE Management Activity
Y2K	Year 2000

INSPECTOR GENERAL
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December 1, 1999

MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE (HEALTH AFFAIRS)

SUBJECT: Audit Report on Year 2000 Computing Issues Related to Health Care in DoD - Phase III (Report No. D-2000-046)

We are providing this report for your information and use. This report is one in a series of reports being issued by the Inspector General, DoD, in accordance with an informal partnership with the Chief Information Officer, DoD, to identify progress made by DoD Components who are preparing information and technology systems for year 2000 compliance. This report represents the results of the third and last phase of a project on year 2000 issues related to health care in DoD. We considered management comments on a draft of this report when preparing the final report.

Comments on the draft of this report conformed to the requirements of DoD Directive 7650.3 and left no unresolved issues. Therefore, no additional comments are required.

We appreciate the courtesies extended to the audit staff. Questions on the audit should be directed to Mr. Michael A. Joseph (mjoseph@dodig.osd.mil) or Mr. Sanford W. Tomlin (stomlin@dodig.osd.mil) at (757) 766-2703. See Appendix E for the report distribution. The audit team members are listed inside the back cover.

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Report No. D-2000-046 **December 1, 1999**
(Project No. 8LF-5013.02)

Year 2000 Computing Issues Related to Health Care in DoD - Phase III

Executive Summary

Introduction. This report is one in a series being issued by the Inspector General, DoD, in accordance with an informal partnership with the Chief Information Officer, DoD, to monitor DoD efforts to address the year 2000 computing challenge. For a list of audit projects addressing the issue, see the year 2000 web pages on the IGnet at http://www.ignet.gov.

Objective. The overall audit objective was to evaluate whether military treatment facilities have adequately planned for and managed year 2000 risks to avoid disruptions to the military health care mission. This report specifically addresses the management of contingency plans and preparation of day-one strategies at military treatment facilities. It is the third and last in a series on year 2000 computing issues related to health care in DoD.

Management Initiatives. The Office of the Assistant Secretary of Defense (Health Affairs) established a Situation Awareness Team that will monitor the status of Military Health System automated information systems, biomedical devices, and facility devices during the year 2000 date rollover. Each Military Department established a sentinel military treatment facility in the Pacific Rim that will report its status of operations on January 1, 2000. The Situation Awareness Team will act as the central point for collecting and analyzing year 2000 information, and, if necessary, disseminating that information throughout the Military Health System. We commend the Office of the Assistant Secretary of Defense (Health Affairs) for its proactive and coordinated effort to minimize potential year 2000 disruptions. Additionally, on October 15, 1999, the Assistant Secretary of Defense (Health Affairs) issued a memorandum to the Military Department Surgeons General stating that commands need to emphasize department-level contingency plan completion, including training and day-one strategies.

Results. Each military treatment facility maintains emergency preparedness plans for responding to a variety of contingencies, disasters, or emergencies. The nine military treatment facilities we visited were using emergency preparedness plans to assist in preparing for year 2000-related events. Additionally, those military treatment facilities completed, or were in the process of completing, contingency plans for minimizing year 2000-related disruptions. DoD can further enhance year 2000 operational preparedness of the Military Health System and mitigate the risk of year 2000-related

failures by emphasizing military treatment facility-wide coordination of year 2000 planning in the last 2 months of 1999 and developing and rehearsing day-one year 2000 strategies. See the Finding section for details.

Summary of Recommendations. We recommend that the Assistant Secretary of Defense (Health Affairs) coordinate with the offices of the Military Surgeons General to supplement guidance in her October 15, 1999, memorandum. The supplement should focus on military treatment facility-wide coordination of emergency preparedness plans; departmental contingency plans; and development of day-one strategies that, at a minimum, recognize resource and training requirements.

Management Comments. The Assistant Secretary of Defense (Health Affairs) concurred with the recommendations to supplement guidance provided in her October 15, 1999, memorandum. The Assistant Secretary of Defense (Health Affairs) issued supplemental guidance on November 17, 1999, that requires each military medical department to certify its year 2000 preparedness by December 20, 1999. The guidance requires the certification to include a statement that all biomedical equipment, information systems, and facility components are year 2000 compliant or have been removed from service. Additionally, the guidance requires that the certification attest to the operational readiness of day-one strategies. See the Finding section for a summary of management comments and the Management Comments section for the complete text of comments.

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Background

Executive Order 13073. Because there is a potential for computers to fail to run or function throughout the Government on January 1, 2000, the President issued Executive Order 13073, "Year 2000 Conversion," February 4, 1998. The Executive Order makes it policy that Federal agencies ensure that no critical Federal program experiences disruption because of the year 2000 (Y2K) problem. The order requires that the head of each agency ensure that efforts to address the Y2K problem receive the highest priority attention in the agency.

DoD Y2K Management Strategy. The DoD Chief Information Officer has the overall responsibility for overseeing the DoD solutions to the Y2K problem. In his role as the DoD Chief Information Officer, the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) (ASD[C^3I]) issued version 1.0 of the "DoD Year 2000 Management Plan" (the DoD Management Plan) in April 1997. The DoD Management Plan is a living document and has had numerous revisions. Version 1.0 required DoD Components to implement a five-phase (awareness, assessment, renovation, validation, and implementation) Y2K management process. However, a later version reduced the five-phase management process to three phases (inventory, assessment, and implementation) for biomedical devices, facility devices, and other embedded chip applications. The DoD Management Plan also provides overall contingency planning guidelines to assist organizations in minimizing the adverse effects of disruptions and for maintaining continuity of operational capability. Specifically, it requires contingency plans for core functions.

Military Health System. The Military Health System (MHS) uses a combination of military hospitals, clinics, and military and civilian professionals to treat uniformed members and retirees and their dependents. The MHS includes more than 100 military treatment facilities (MTFs) and nearly 500 clinics.

The Assistant Secretary of Defense (Health Affairs) (ASD[HA]) and the Military Department Surgeons General are responsible for the MHS Y2K efforts, which primarily encompass automated information systems, biomedical devices, and facility devices. The ASD(HA) is responsible for providing oversight of Y2K preparations, including contingency plans. The ASD(HA) reports quarterly the Y2K status of the MHS to the ASD(C^3I) and the Office of Management and Budget. Each Military Department is responsible for addressing potential Y2K problems in the MHS through MTF contingency plans.

On October 7, 1999, the MHS reported that 100 percent of its mission-critical automated information systems had been certified Y2K compliant. Mission-critical systems are those that have a direct impact on patient care or medical readiness. Additionally, 97 percent of nonmission-critical systems and 99 percent of biomedical equipment had been certified as Y2K compliant.

Readiness Assessment Team Evaluation. In February 1999, personnel from the Office of the ASD(HA) and the Military Departments established a Readiness Assessment Team Evaluation (RATE) process to assess Y2K preparedness at 39 MTFs. At the 14 Army, 12 Navy, and 13 Air Force MTFs in the United States and overseas, RATE personnel conducted, or planned to conduct, separate reviews at varying degrees of detail to evaluate the Y2K compliance of Military Department MTFs. The RATE assessments commenced in February 1999 and will end in December 1999. See Appendix C for a discussion of the RATEs.

Planning. Y2K contingency planning in the MHS is the development of a plan that enables an MTF to respond to the loss or degradation of essential services due to a Y2K problem in an automated system. Automated systems may include biomedical and electrical devices; natural gas, waste, and water management systems; or, information management systems. The DoD Management Plan defines contingency planning as follows:

> . . . the managerial approach to developing workarounds, finding alternative means to satisfy essential requirements, putting in place manual processes that bridge the capability gap threatened by an outage, and otherwise preparing an organization to continue to conduct business in spite of potentially dramatic and sustained outages of key technical systems.

The DoD Management Plan states that Y2K contingency plans labeled as continuity of operations plans are generally operational contingency plans and do not have to change their name. For purposes of this report, the term "contingency plan" includes continuity of operation plans.

Objective

The overall audit objective was to evaluate whether MTFs have adequately planned for and managed Y2K risks to avoid disruptions to the military health care mission. This report specifically addresses the management of contingency plans and preparation of day-one strategies at MTFs. See Appendix A for a discussion of the audit scope and methodology and Appendix B for a summary of prior coverage.

Year 2000 Mission Capability at Military Treatment Facilities

Each MTF maintains an emergency preparedness plan (EPP) for responding to a variety of contingencies, disasters, or emergencies. MTFs used the EPPs to assist in preparing for Y2K-related events. Additionally, MTFs had completed, or were in the process of completing, contingency plans for minimizing disruptions caused by Y2K date-related problems. DoD can further enhance Y2K operational preparedness of the MHS and mitigate the risk of Y2K-related failures by:

- emphasizing MTF-wide coordination of MTF Y2K planning in the last 2 months of 1999 and
- developing and rehearsing day-one Y2K strategies.

MTF Emergency Preparedness Plan

Each MTF maintains an EPP for responding to a variety of contingencies, disasters, or emergencies. The standards of the Joint Commission on Accreditation of Healthcare Organizations (the Commission) are used to address a health care organization's level of performance in specific areas. Accredited organizations include ambulatory care facilities, clinical laboratories, and hospitals. The Commission's standards set forth performance expectations for activities that affect the quality of patient care. As part of the Commission's certification process, MTFs are required to develop, maintain, and update EPPs that will enable them to respond effectively to a variety of emergency situations. For example, aircraft accidents, chemical spills, hurricanes, or loss of electrical power are events that would normally require activation of an EPP. An EPP describes how the MTF will establish and maintain its health care operations during disasters or other emergencies. The MTFs used the EPP in their development of Y2K-related contingency plans.

Year 2000 Program Actions

MTFs visited had completed, or were in the process of completing, contingency plans to minimize disruptions to patient care activities caused by Y2K date-related problems. To determine the status of Y2K preparations, we visited nine MTFs in the continental United States and Alaska. A separate audit team reviewed and reported on contingency planning efforts at MTFs in Europe. Consistent with the DoD Management Plan, all nine MTFs had developed contingency plans for the biomedical device, facility, and information management core functional areas. In addition to the contingency plans for the three core functional areas, three MTFs had developed complete departmental

contingency plans. The other six MTFs were in various stages of completing departmental contingency plans at the time of our visits in August and September 1999.

DoD can further enhance Y2K operational preparedness of the MHS and mitigate the risk of Y2K-related failures by emphasizing the importance of coordination of MTF-wide Y2K planning in the last 2 months of 1999. Additionally, MTFs need to develop and rehearse day-one strategies that, as a minimum, identify unique resource and training requirements in the event of Y2K-induced failures.

MTF-Wide Coordination. Even if core function contingency plans are in place, there is a need for coordination between MTF administrators and department representatives to ensure that the plans achieve their desired outcomes. Each department needs to be aware of the plans and operating constraints of other departments. For example, potential Y2K operating constraints of a pharmacy will need to be known by other departments so that medications can be obtained in a timely manner.

MTF-wide coordination should be used to increase MTF-wide awareness of departmental contingency plans and to inform personnel of each department's expectations with respect to interdepartmental interaction. The following are examples of MTF commanders taking steps to ensure a climate of Y2K awareness existed in their facilities.

- At one Army location, an MTF-wide contingency plan was developed by compiling individual departmental contingency plans. The MTF commander required that his staff become familiar with the overall contingency plan as well as individual departmental plans so that interaction would occur with limited disruption.

- At an Air Force MTF, the commander emphasized Y2K awareness by establishing Y2K awareness groups, posting the MTF Y2K status on placards throughout the facility, and requiring departmental familiarity with EPPs. The commander's efforts resulted in an increased Y2K awareness throughout the MTF and beneficiary community.

When MTFs do not require internal coordination of overall contingency plans, departmental expectations, with respect to contingency plan implementation, may not be known and could aggravate a Y2K disruption. During our visit to a Navy MTF, the information systems officer had not been told that the information systems would be fully supported by emergency generators if the commercial power source failed. The information department's initial contingency plan was to use the temporary back-up battery supply to save information and power down the systems. As a result, the Composite Health Care System (CHCS) (the information system that provides patient data management capabilities) would not have been available if Y2K problems resulted in a power outage. Discussions with several MTF clinical department representatives disclosed that they were not aware that CHCS would be shut down and were planning to plug their local personal computers into generator

driven outlets and continue using the information system. Further discussions with the facility department disclosed that the information system was fully supported by the emergency generators. While at the MTF, we provided this information to the information systems officer, who validated our discussions with the facility department and revised the department contingency plan accordingly. The information systems officer also issued a message advising all the MTF departments that CHCS would continue to operate if commercial power fails because of a Y2K-related problem.

Day-One Strategy. DoD can further enhance operational capabilities in a Y2K degraded environment and mitigate risk by developing MTF day-one strategies. Because MTFs maintain EPPs for responding to a variety of contingencies, they provide an excellent basis for contingency planning of potential electrical equipment failures during a Y2K-related event. Therefore, MTFs need to review EPPs and contingency plans to develop day-one strategies to determine if a Y2K degraded environment will result in unique resource and training requirements.

According to the General Accounting Office, a day-one strategy comprises those actions that must be executed during the last days of 1999 and first few days of 2000 to reduce risks of potential Y2K-related failures. The General Accounting Office guidance states that day-one strategies must be integrated with contingency plans and should describe key activities and responsibilities. Day-one strategies are internal MTF procedures that may need to be implemented before, during, or after the Y2K date rollover. To ensure minimal disruption during a potential Y2K event, MTFs should determine resource, training, and rehearsal requirements before December 31, 1999.

Resource Requirements. Y2K-unique staffing and other requirements should be identified as part of a day-one strategy. That is critical because workarounds and alternative work routines identified in contingency plans and EPPs could impact the normally well-defined resource requirements of an MTF. For example, clinical departments may be required to use manual forms and "runners" to obtain medications from a pharmacy that may be operating in a Y2K degraded environment. Senior MTF management should require medical departments to identify those staff members who may be needed to augment the current work force in the event manual workarounds and alternative work routines need to be implemented.

Although formal day-one strategies had not been developed at the MTFs when we visited them in August and September 1999, the contingency planning process was being used to identify unique resource requirements in some cases. At an Air Force MTF, the surgical intensive care unit plans to augment the normally scheduled staff during the Y2K date rollover and has contingency plans to cancel personal leave and implement a staff recall roster, if necessary. The unit also plans to pre-position bottled water, extra blankets, prescription pads, portable oxygen bottles, waterless soap, and other supplies necessary to maintain operations for 10 days. In the event of communication failures,

additional personnel, or runners, were identified to perform various administrative or logistical functions between MTF departments. That type of planning needs to be done by all MTF departments.

Training. MTF staffs need to review contingency plans and EPPs to identify the potential workarounds or alternative work routines that may become necessary due to a Y2K degraded environment and determine resulting training requirements. Training on workarounds or alternative work routines should be emphasized by each department in the MTF. Individual departments will likely need to develop training based on their specific needs and types of biomedical devices used. Additionally, departmental training should include a familiarization with the workarounds of other departments so that the day-one strategy can be successfully implemented throughout the MTF.

MTF personnel had established training programs for manual workarounds and other Y2K-related events at several sites, such as follows.

- At an Army MTF, the Department of Nursing identified the need to ensure staff training on workarounds for computer-controlled high-risk medical devices that may fail because of a Y2K disruption. For example, the department plans to place ambulatory bags (used in manual ventilation) at each bedside where an automated ventilator is located. Additionally, the department has established a nurse ambulatory bagging rotation plan and identified training requirements to manually ventilate patients in the event automated ventilators fail.

- At a Navy MTF, the biomedical engineering department identified Y2K workarounds required on certain biomedical equipment. The workarounds consisted of manual rollovers of the date and time on January 1, 2000. The biomedical engineering department developed staff training for the workarounds and planned to train departmental users by early December 1999.

Day-One Strategy Rehearsal. At a minimum, day-one strategies should be practiced through tabletop exercises, and, if possible, through an actual rehearsal at the MTF in a predetermined degraded environment. Tabletop exercises or rehearsals of day-one strategies should include all departments to ensure that the many diverse interrelated events are properly coordinated. Tabletop exercises and actual rehearsals are two methods MTFs can use to rehearse their day-one strategies. A tabletop exercise is a structured discussion of all planned response actions. An actual rehearsal may involve medical treatment that is provided without the benefit of using certain biomedical devices. As of September 30, 1999, four of the nine MTFs visited had performed actual rehearsals of portions of their core function contingency plans and, as a result, had identified modifications necessary to improve operational effectiveness of the MTF while operating in a contingency plan mode. For example, at an Air Force location, the MTF conducted an actual rehearsal of a communications and power outage. All first line communications alternatives, such as landline, cellular phones, and pagers, were affected. The rehearsal identified various functional area deficiencies in patient care capabilities. For example, emergency lighting in the surgical suite was not sufficient for patient

care. As a result of the rehearsal, the MTF issued work orders and requisitions to correct the deficiencies. The lessons learned from the communications and power outage rehearsal will be incorporated into the Medical Contingency Response Plan.

We also found problems in contingency plans that could have been identified with actual rehearsals. For example, at an Army location, the MTF EPP mentioned alternative power equipment that was to be provided by the installation in the event of an MTF power failure. Coordination with the installation's Department of Public Works confirmed that the power equipment was not of sufficient capacity to support the MTF. As a result, MTF management agreed to revise the EPP and Y2K contingency plan.

Ongoing Management Initiatives

The Office of the ASD(HA) established a Situation Awareness Team (the Team) that will monitor the status of MHS automated information systems, biomedical devices, and facility devices during the Y2K date rollover. The Team will act as the central point for collecting Y2K information, and, if necessary, disseminating that information throughout the MHS.

Because the Y2K date rollover begins in the Pacific, each Military Department established an MTF sentinel site in the Pacific Rim. The Navy and Air Force will report the operational status of automated information systems, biomedical devices, and facility devices at sentinel sites to the Team by 2 a.m. local MTF time on January 1, 2000. The Army will report the operational status at its sentinel site to the Team by 3 a.m. local MTF time. For the non-sentinel sites, each Military Department will report the overall operational status of each MTF that operates on a 24-hour, 7-day schedule by 10 a.m. local MTF time, January 1, 2000. The rollover reports are required regardless of whether any Y2K degradations are detected. If degradations do occur, the MTFs must prepare and forward Y2K incident reports to the appropriate Military Department. The Military Department will then forward incident reports to the Team. The incident reports will include detailed information about the problem and whether the problem was Y2K related. The Team will issue reports to the ASD(C^3I), MTFs, and other Federal agencies, such as the Food and Drug Administration and Health and Human Services. We commend the Office of the ASD(HA) for its proactive and well-coordinated effort to minimize potential Y2K disruptions and believe it will provide the earliest warning possible of any Y2K-related degradations in the MHS.

On October 15, 1999, the ASD(HA) issued a memorandum to the Military Department Surgeons General concerning the MHS preparations for the Y2K transition. See Appendix D for the complete text of the memorandum. The memorandum states that commands need to emphasize department-level contingency plan completion, including personnel training, a day-one strategy, and a day-one rehearsal prior to the year 2000. The ASD(HA) memorandum is

a positive step, but we believe more needs to be done to ensure that the MTFs fully coordinate their contingency plans and develop and rehearse day-one strategies that address unique resource and training requirements.

Continued Y2K Emphasis

The year 2000 is only 1 month away, and MTFs and other DoD Components have very little time to finish their Y2K preparations. MTF commanders are responsible for establishing MTF-wide awareness for potential Y2K events. Because of their unique and critical mission, MTFs have a greater concentration and diversity of computer-related software and processors than many other types of organizations. As a result, MTF plans and day-one strategies for possible Y2K-related failures are critical for the uninterrupted delivery of health care services in a degraded environment. Coordination of the plans and strategies with all involved parties is critical to their successful implementation.

Recommendations and Management Comments

We recommend that the Assistant Secretary of Defense (Health Affairs) coordinate with the offices of the Military Surgeons General to supplement the guidance included in the October 15, 1999, memorandum to:

1. Emphasize the coordination of emergency preparedness plans and departmental contingency plans throughout each military treatment facility.

2. Ensure that military treatment facilities develop day-one year 2000 strategies that can be implemented if military treatment facilities are presented with a year 2000 degraded operating environment. As a minimum, day-one strategies should include:

- **additional staffing requirements necessary to implement potential year 2000 workarounds,**
- **nonpersonnel resource requirements, such as manual forms and extra medical supplies, and**
- **unique training needs that will enable military treatment facilities to meet mission requirements in a year 2000 degraded environment.**

3. Ensure rehearsal of day-one strategies, with participation by all military treatment facility departments and, if necessary, other supporting organizations.

ASD(HA) Comments. The ASD(HA) concurred and issued guidance on November 17, 1999, requiring each military medical department to certify its Y2K preparedness by December 20, 1999. The guidance requires the certification to include a statement that all biomedical equipment, information systems, and facility components are Y2K compliant or were removed from service by December 15, 1999. Additionally, the guidance requires that the certification attest to the operational readiness of day-one strategies, to include the need for additional supplies, training, staffing, and coordination.

Appendix A. Audit Process

Scope and Methodology

This is one in a series of reports being issued by the Inspector General, DoD, in accordance with an informal partnership with the Chief Information Officer, DoD, to monitor DoD efforts to address the Y2K computing challenge. For a list of audit projects addressing the issue, see the Y2K web pages on the IGnet at http://www.ignet.gov/.

Work Performed. This report is the third in a series on Y2K computing issues related to health care in DoD. We analyzed DoD and Military Department policies for the preparation of MTF contingency plans. We judgmentally selected nine MTFs, which consisted of a medical center, community hospital, and clinic from each Military Department. The nine MTFs were located in Alaska, California, North Carolina, Texas, and Virginia, and we visited those locations in August and September 1999. At those MTFs, we reviewed available biomedical device, information management, and facility contingency plans. We also reviewed EPPs. At each MTF, we interviewed personnel from various clinical departments to determine their level of awareness of Y2K issues and obtained copies of departmental contingency plans, if available. We analyzed records that were prepared during 1999 that included contingency plans, EPPs, and manufacturer compliance letters for biomedical devices. We met with or contacted base civil engineers to determine the level of support that will be provided to the MTFs in the event of a Y2K disruption. We also researched General Accounting Office, Food and Drug Administration, and Veterans Affairs web sites and obtained information related to biomedical devices, contingency planning, and other Y2K issues. We also reviewed RATE reports that were conducted at varying degrees of detail to evaluate the Y2K compliance at 39 MTFs. See Appendix C for a discussion of the RATE assessments.

DoD-Wide Corporate-Level Goals. In response to the Government Performance and Results Act, DoD has established 2 DoD-wide corporate-level goals and 7 subordinate performance goals. This report pertains to achievement of the following goal (and subordinate performance goal).

> **Goal 2:** Prepare now for an uncertain future by pursuing a focused modernization effort that maintains U.S. qualitative superiority in key warfighting capabilities. Transform the force by exploiting the Revolution in Military Affairs, and reengineer the Department to achieve a 21st century infrastructure. **Performance Goal 2.2:** Transform U.S. military forces for the future. **(00-DoD-2.2)**

DoD Functional Area Reform Goals. Most major DoD functional areas have also established performance improvement reform objectives and goals. This report pertains to achievement of the following objective and goals in the Information Technology Management Functional Area.

Objective: Become a mission partner.
Goal: Serve mission information users as customers. **(ITM-1.2)**
Goal: Modernize and integrate DoD information infrastructure. **(ITM-2.2)**
Goal: Upgrade technology base. **(ITM-2.3)**

High-Risk Area. In its identification of risk areas, the General Accounting Office has specifically designated risk in resolution of the Y2K problem as high. This report provides coverage of that problem.

Audit Type, Dates, and Standards. We performed this program audit from August through September 1999 in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD. We did not rely on computer-processed data during the audit.

Contacts During the Audit. We visited or contacted individuals and organizations within DoD and other Federal agencies. Further details are available on request.

Management Control Program. We did not review the management control program related to the overall audit objective because DoD recognized the Y2K issue as a material management control weakness area in the FY 1998 Annual Statement of Assurance.

Appendix B. Summary of Prior Coverage

The General Accounting Office and the Inspector General, DoD, have conducted multiple reviews related to Y2K issues. General Accounting Office reports can be accessed over the Internet at http://www.gao.gov/. Inspector General, DoD, reports can be accessed over the Internet at http://www.dodig.osd.mil/. The Inspector General, DoD, has issued five final reports discussing Y2K issues in DoD health care.

Inspector General

Inspector General, DoD, Report No. D-2000-042, "Year 2000 Operational Contingency Planning for Health Care in the European Theater," November 26, 1999.

Inspector General, DoD, Report No. D-2000-031, "Year 2000 End-to-End Tests for the Military Health System," November 4, 1999.

Inspector General, DoD, Report No. 99-255, "Year 2000-Sensitive Property Reutilized, Transferred, Donated, or Sold," September 15, 1999.

Inspector General, DoD, Report No. 99-196, "Year 2000 Computing Issues Related to Health Care in DoD - Phase II," June 29, 1999.

Inspector General, DoD, Report No. 99-055, "Year 2000 Computing Issues Related to Health Care in DoD," December 15, 1998.

Appendix C. Readiness Assessment Team Evaluations

During our audit of MTF contingency plans, we also reviewed RATEs that were scheduled at 39 MTFs. The following summaries discuss the results of the RATEs, which were performed by personnel from the Office of the ASD(HA) and the Military Departments. Each of the Military Departments conducted separate reviews at varying degrees of detail to evaluate the Y2K compliance of MTFs. All three Military Departments reported results back to their respective Surgeon General.

Army MTFs. The Army RATE team included personnel from the office of the ASD(HA) TRICARE Management Activity (TMA), who conducted assessments of Y2K readiness at 14 Army MTFs. The 3- to 5-day visits to the MTFs were conducted between June 1999 and September 1999. The TMA team conducted the site visits using a 30-item "Medical Treatment Facility Y2K Readiness Assessment and Assistance Guide." The team interviewed MTF personnel, reviewed Y2K-related documentation, and assisted the MTFs by providing copies of contingency planning documents and other guidance. Results of the assessments were provided to the MTFs in narrative reports that summarized the team's findings and provided recommendations for corrective action, if necessary.

We reviewed the narrative reports for 7 of the 14 Army MTF sites. The seven reports were for two medical centers, four community hospitals, and one overseas hospital. Although the seven reports indicated that some contingency planning had occurred, six identified contingency plans as an area needing further attention. The overall Y2K program was judged to be commendable at three MTFs, satisfactory at three MTFs, and "having evidence of due diligence" at one MTF. The four MTFs that did not receive commendable evaluations were directed to submit written progress reports to the U.S. Army Medical Command within 30 days.

We visited one Army community hospital that had been visited by the Army RATE team. The results and conclusions of our visit generally agreed with the team's report. We believe the RATEs were detailed, objective, and beneficial to the Army MTFs assessed.

Navy MTFs. The Navy Bureau of Medicine and Surgery (BUMED) conducted its own site assessments. The BUMED Chief Information Officer led the team, which visited 12 naval hospitals between June 1999 and September 1999, and spent approximately 3 to 5 days at each site. The BUMED Y2K Self-Assessment Worksheet was used as a guide for the evaluations. The evaluations included detailed reviews of the processes that each MTF followed to determine the Y2K compliance of automated information systems, biomedical devices, and facility devices. The team also evaluated the status of operational contingency plans at each hospital.

The team provided a slide presentation to each MTF that summarized the results of its review. BUMED was in the process of drafting a report for each site. The team will also prepare an overall summary report to be provided to the Navy Surgeon General. In addition to the RATE reporting process, the BUMED Chief Information Officer held Y2K video teleconferences twice a month with Y2K representatives from Navy MTFs worldwide. The BUMED Chief Information Officer also sent e-mails to MTF personnel summarizing the results of the RATEs.

Overall, the team found that the Y2K compliance effort for automated information systems, biomedical devices, and facility devices was adequate and in compliance with DoD, ASD(HA), Navy, and BUMED guidance. The team also found that MTFs had EPPs to follow in the event of disruptions that could be caused by Y2K problems, but recommended that the MTFs develop Y2K-specific day-one strategies that include staffing requirements for the Y2K date rollover. The team also recommended that MTFs develop Y2K-specific contingency plans that focus on the medical care process and that personnel training be conducted in support of the contingency plan procedures. We visited one Navy MTF that had been visited by the team, and we agreed with its findings and conclusion.

Air Force MTFs. The Air Force Inspection Agency (AFIA) evaluated Air Force MTF Y2K compliance as a special emphasis item during scheduled installation inspections. From February through June 1999, inspections were performed at 11 MTFs, and two more are planned for December 1999. The AFIA conducted the evaluations using a 1-page, 13-question checklist, indicating answers with yes, no, or non-applicable. The AFIA inspection efforts were recognized and endorsed by the Air Force Surgeon General's office. The checklist was coordinated through the Air Force Medical Logistics Office.

The AFIA reported results for 10 of the sites to the Surgeon General's office on July 7, 1999. It noted that all sites were successfully accomplishing Y2K requirements. However, the AFIA felt that additional review, in late November and December, of the MTF contingency plans was necessary.

We visited one site that the AFIA reviewed. The MTF Y2K point of contact stated that the AFIA evaluation consisted of a 30-minute interview and that no documentation was requested by the AFIA on MTF compliance efforts. Although the AFIA RATE was of limited scope, we agree with the AFIA conclusion that the MTF had adequately prepared its contingency plans.

We reviewed the AFIA reports on the other nine sites. The AFIA did not make significant comments that would lend further insight on the degree of Y2K compliance or preparedness of the MTFs.

Appendix D. Assistant Secretary of Defense (Health Affairs) Initiatives During the Audit

THE ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

15 October 1999

MEMORANDUM FOR SURGEON GENERAL OF THE ARMY
SURGEON GENERAL OF THE NAVY
SURGEON GENERAL OF THE AIR FORCE

SUBJECT: Military Health System Actions in Preparation for the Year 2000 Transition

The Military Health System (MHS) is committed to delivering uninterrupted quality medical care on and after 1 January 2000. Through the efforts of the Service Medical Departments and the MHS information technology program managers, all of our mission critical and non-mission critical information systems have been certified Y2K compliant and implemented across the MHS. Only a few remaining Y2K non-compliant facility items remain. The progress since May 1999 on repairing or replacing the remaining Y2K non-compliant biomedical items has fallen behind the planned compliance schedules provided by each Service. I ask each of you to take aggressive action now to ensure that your biomedical equipment compliance schedule is achieved.

Additionally, the Military Treatment Facilities need to use the time remaining in 1999 to ensure staff readiness to implement, if necessary, their Y2K contingency plans. The DoD Inspector General has indicated that commands need to emphasize department level contingency plan completion. The contingency plans should include personnel training, a day one strategy and be exercised prior to 2000. Continued evaluation of contingency plans will provide added confidence that the MHS will maintain uninterrupted quality health care through the Y2K transition period.

Your outstanding support of the MHS Y2K program is greatly appreciated. Should additional information be required, my point of contact is CDR Lyn Hurd, MHS Y2K Program Manager. CDR Hurd can be reached at (703) 681-6866 or by e-mail at lyn.hurd@tma.osd.mil.

Sincerely,

Dr. Sue Bailey

Dr. Sue Bailey

Appendix E. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense for Acquisition, Technology, and Logistics
  Director, Defense Logistics Studies Information Exchange
Under Secretary of Defense (Comptroller)
  Deputy Chief Financial Officer
  Deputy Comptroller (Program/Budget)
Under Secretary of Defense for Personnel and Readiness
Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)
  Deputy Chief Information Officer and Deputy Assistant Secretary of Defense (Chief Information Officer and Policy Implementation)
    Principal Director for Year 2000
    Year 2000 Oversight and Contingency Planning Office
Assistant Secretary of Defense (Health Affairs)

Department of the Army

Surgeon General of the Army
Auditor General, Department of the Army
Inspector General, Department of the Army

Department of the Navy

Chief, Bureau of Medicine and Surgery
Naval Inspector General
Auditor General, Department of the Navy
Inspector General, Marine Corps
Superintendent, Naval Postgraduate School

Department of the Air Force

Assistant Secretary of the Air Force (Financial Management and Comptroller)
Surgeon General of the Air Force
Auditor General, Department of the Air Force
Inspector General, Department of the Air Force
Air Force Inspection Agency

Other Defense Organizations

Director, Defense Contract Audit Agency
Director, Defense Information Systems Agency
  Inspector General, Defense Information Systems Agency
  United Kingdom Liaison Officer, Defense Information Systems Agency
Director, Defense Logistics Agency
Director, National Security Agency
  Inspector General, National Security Agency
Inspector General, Defense Intelligence Agency
Commandant, Defense Systems Management College

Non-Defense Federal Organizations and Individuals

Office of Management and Budget
  Office of Information and Regulatory Affairs
  National Security Division Special Projects Branch
General Accounting Office
  National Security and International Affairs Division
    Technical Information Center
  Director, Defense Financial Audits, Accounting and Information Management Division

Congressional Committees and Subcommittees, Chairman and Ranking Minority Member

Senate Committee on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Governmental Affairs
Senate Special Committee on the Year 2000 Technology Problem
House Committee on Appropriations
House Subcommittee on Defense, Committee on Appropriations
House Committee on Armed Services
House Committee on Government Reform
House Subcommittee on Government Management, Information, and Technology, Committee on Government Reform
House Subcommittee on National Security, Veterans Affairs, and International Relations, Committee on Government Reform
House Subcommittee on Technology, Committee on Science

Assistant Secretary of Defense (Health Affairs) Comments

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, DC 20301-1200

NOV 17 1999

HEALTH AFFAIRS

MEMORANDUM FOR DEPUTY INSPECTOR GENERAL, DEPARTMENT OF DEFENSE

SUBJECT: Audit Report on Year 2000 Computing Issues Related to Health Care in DoD-Phase III (Project No. 8LF-5013.02)

Reference is made to the Director, Readiness and Logistics Support Directorate memorandum, dated 29 October, 1999, subject as above. The DoD Inspector General Draft Audit Report documents the results of a Health Care Y2K audit conducted by the DoD IG. We appreciate your staff's cooperation and partnership in addressing the Y2K issues.

The draft audit report recommends the Office of the Assistant Secretary of Defense (Health Affairs) coordinate with the offices of the Military Surgeons General to emphasize continued development, coordination and rehearsal of Y2K contingency plans and day-one strategies. We concur with the recommendations in the report to supplement the guidance included in the ASD(HA) memorandum dated October 15, 1999, subject: Military Health System Actions in Preparation for the Year 2000 Transition.

Concurrent with the release of the draft audit report, a Y2K In-Process Review (IPR) was conducted with the Service Deputy Surgeons General on October, 29, 1999. The purpose was to review and discuss OASD(HA), Service Medical Department and Medical Treatment Facility Y2K contingency plans and day-one strategies. The attached memorandum was coordinated with the Service Medical Departments as an outcome of the IPR and the recommendations of the DoD Inspector General Draft Audit Report.

Should you require additional information, my point of contact is Ms. Clarissa Reberkenny, Director, Technology Management, Integration and Standards. Ms. Reberkenny can be reached at (703) 681-8823 or by e-mail at Clarissa.Reberkenny@tma.osd.mil.

James C. Reardon
Military Health System
Chief Information Officer

Attachment:
As stated

THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

17 NOV 1999

MEMORANDUM FOR SURGEON GENERAL OF THE ARMY
SURGEON GENERAL OF THE NAVY
SURGEON GENERAL OF THE AIR FORCE

SUBJECT: Certification of Medical Department Year 2000 (Y2K) Preparations

As we transition into Year 2000 (Y2K), the Military Health System (MHS) remains committed to delivering quality medical care to our deployed forces and beneficiaries around the world. Through our combined actions, significant progress has been made to ensure the Y2K preparedness of the MHS. During the October 29, 1999 In-process Review, all Service Medical Departments reported the substantial completion of all Y2K repairs and replacement of information systems and biomedical equipment. In addition, they plan to remove from service all remaining non-compliant biomedical equipment by December 15, 1999.

In order to ensure the MHS is ready to meet the challenge of Y2K around the world, I request each Service Medical Department certify your Service's Medical Y2K preparedness by December 20, 1999. This certification shall include a statement that all biomedical equipment, information systems and facilities components are Y2K compliant or removed from service. Additionally, the certification shall attest to the operational readiness of day-one strategies. As identified by the DoD Inspector General, strategies should consider the need for additional supplies, training, staffing, and coordination required with all parties affected for execution.

Thank you for the outstanding support provided to the MHS Year 2000 program. It is an essential element in our ability to provide continuous top-quality health care services to our beneficiaries. Should your staff require additional information, my point of contact is CDR Lyn Hurd, MHS Y2K Program Manager. CDR Hurd can be reached at (703) 681-6866 or by e-mail at lyn.hurd@tma.osd.mil.

Dr. Sue Bailey

Audit Team Members

The Readiness and Logistics Support Directorate, Office of the Assistant Inspector General for Auditing, DoD, prepared this report. Personnel of the Office of the Inspector General, DoD, who contributed to this report are listed below.

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