United States General Accounting Office

GAO

Report to the Chairman and Ranking Minority Member, Subcommittee on Total Force, Committee on Armed Services, House of Representatives

September 2003

DEFENSE HEALTH CARE

Quality Assurance Process Needed to Improve Force Health Protection and Surveillance

GAO-03-1041

September 2003

DEFENSE HEALTH CARE

Quality Assurance Process Needed to Improve Force Health Protection and Surveillance

GAO Accountability • Integrity • Reliability

Highlights

Highlights of GAO-03-1041, a report to the Chairman and Ranking Minority Member, Subcommittee on Total Force, Committee on Armed Services, House of Representatives

Why GAO Did This Study

Following the 1990-91 Persian Gulf War, many servicemembers experienced health problems that they attributed to their military service in the Persian Gulf. However, a lack of servicemember health and deployment data hampered subsequent investigations into the nature and causes of these illnesses. Public Law 105-85, enacted in November 1997, required the Department of Defense (DOD) to establish a system to assess the medical condition of service members before and after deployments. GAO was asked to determine whether (1) the military services met DOD's force health protection and surveillance requirements for servicemembers deploying in support of Operation Enduring Freedom (OEF) in Central Asia and Operation Joint Guardian (OJG) in Kosovo and (2) DOD has corrected problems related to the accuracy and completeness of databases reflecting which servicemembers were deployed to certain locations.

What GAO Recommends

GAO recommends that the Secretary of Defense direct the Assistant Secretary of Defense for Health Affairs to establish an effective quality assurance program that will help ensure that the military services comply with the force health protection and surveillance requirements for all servicemembers. DOD concurred with the recommendation.

www.gao.gov/cgi-bin/getrpt?GAO-03-1041.

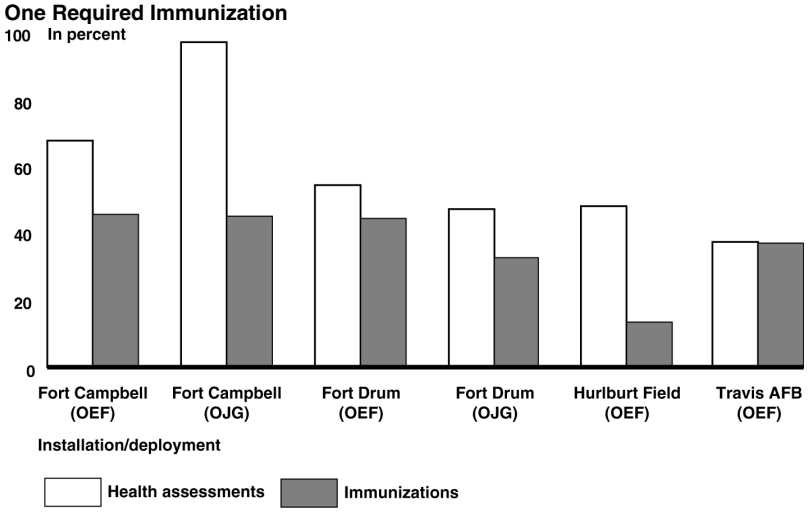
To view the full product, including the scope and methodology, click on the link above. For more information, contact Cliff Spruill at (202) 512-4531.

What GAO Found

The Army and Air Force—the focus of GAO's review—did not comply with DOD's force health protection and surveillance policies for many active duty servicemembers, including the policies that they be assessed before and after deploying overseas, that they receive certain immunizations, and that health-related documentation be maintained in a centralized location. GAO's review of 1,071 servicemembers' medical records from a universe of 8,742 at selected Army and Air Force installations participating in overseas operations disclosed that 38 to 98 percent of servicemembers were missing one or both of their health assessments and 14 to 46 percent were missing at least one of the required immunizations (see figure).

DOD also did not maintain a complete, centralized database of servicemembers' medical assessments and immunizations. Health-related documentation missing from the centralized database ranged from 0 to 63 percent for pre-deployment assessments, 11 to 75 percent for post-deployment assessments, and 8 to 93 percent for immunizations. There is no effective quality assurance program at the Office of the Assistant Secretary of Defense for Health Affairs or at the Army or Air Force that helps ensure compliance with policies. GAO believes that the lack of such a program was a major cause of the high rate of noncompliance. Continued noncompliance with these policies may result in servicemembers deploying with health problems or delays in obtaining care when they return. Finally, DOD's centralized deployment database is still missing the information needed to track servicemembers' movements in the theater of operations. By July 2003, the department's data center had begun receiving location-specific deployment information from the services and is currently reviewing its accuracy and completeness.

Percent of Servicemembers Missing One or Both Health Assessments, and Missing at Least One Required Immunization



Sources: GAO analyses of DOD data.

Contents

Letter 1

Results in Brief 3
Background 5
The Army and Air Force Did Not Comply with Deployment Health Surveillance Policies for Many Servicemembers 9
Centralized Deployment Database Still Missing Information Needed for Deployment Health Surveillance 26
Conclusions 28
Recommendation for Executive Action 28
Agency Comments and Our Evaluation 28

Appendix I **Scope and Methodology** 30

Appendix II **Comments from the Department of Defense** 36

Appendix III **GAO Contact and Staff Acknowledgments** 39

Tables

Table 1: Deploying Servicemember Blood Serum Samples Held in Repository 18
Table 2: Servicemember Sample Sizes at Each Visited Installation 32

Figures

Figure 1: Percent of Servicemembers Missing One or Both Health Assessments 10
Figure 2: Percent of Health Assessments *Not* Completed Within Required Time Frames 12
Figure 3: Completed Assessments That Were *Not* Reviewed by Health Care Provider 13
Figure 4: Percent of Servicemembers Missing Required Immunizations 15
Figure 5: Percent of Servicemembers That Did Not Have Current Tuberculosis Screening 17

Figure 6: Percent of Assessments Found in Centralized Database That Were Not Found in Servicemembers' Medical Records 19
Figure 7: Percent of Assessments and Immunizations Found in Servicemembers' Medical Records That Were *Not* Found in the Centralized Database 22

Abbreviations

AMSA	Army Medical Surveillance Activity
CITA	Comprehensive Immunization Tracking Application
DCAPES	Deliberate Crisis and Action Planning and Execution Segment
DIMHRS	Defense Integrated Military Human Resource System
DMDC	Defense Manpower Data Center
DOD	Department of Defense
MEDPROS	Medical Protection System
OEF	Operation Enduring Freedom
OJG	Operation Joint Guardian
SOCOM	U.S. Special Operations Command
TMIP	Theater Medical Information Program

GAO
Accountability * Integrity * Reliability

United States General Accounting Office
Washington, DC 20548

September 19, 2003

The Honorable John McHugh
Chairman
The Honorable Vic Snyder
Ranking Minority Member
Subcommittee on Total Force
Committee on Armed Services
House of Representatives

Following the 1990-91 Persian Gulf War, many servicemembers experienced health problems that they attributed to their military service in the Persian Gulf. However, subsequent investigations into the nature and causes of these illnesses were hampered by a lack of servicemember health and deployment data. Moreover, in May 1997, we reported on several similar problems associated with the implementation of the Department of Defense's (DOD) deployment health surveillance policies for servicemembers deployed to Bosnia in support of a peacekeeping operation.[1]

In response, the Congress enacted legislation[2] in November 1997 requiring DOD to establish a system for assessing the medical condition of servicemembers before and after their deployment to locations outside the United States and requiring the centralized retention of certain health-related data associated with the servicemember's deployment. The system is to include the use of pre-deployment medical examinations and post-deployment medical examinations, including an assessment of mental health and the drawing of blood samples. DOD has implemented specific force health protection and surveillance policies. These policies include pre- and post-deployment health assessments designed to identify health issues or concerns that may affect the deployability of servicemembers or that may require medical attention; pre-deployment immunizations to address possible health threats in deployment locations; pre-deployment

[1] See U.S. General Accounting Office, *Defense Health Care: Medical Surveillance Improved Since Gulf War, but Mixed Results in Bosnia*, GAO/NSIAD-97-136 (Washington, D.C.: May 13, 1997).

[2] Section 765 of Pub. L. No. 105-85 amended title 10 of the United States Code by adding section 1074f.

screening for tuberculosis; and the retention of blood serum samples on file prior to deployment.

Given the many deployments of servicemembers to overseas locations since 1997, you asked us to examine the military services' implementation of DOD's force health protection and surveillance policies and its progress in correcting the types of problems we found in 1997.[3] More specifically, we focused our work on Army and Air Force active duty deployments[4] for Operation Enduring Freedom (OEF) in Central Asia and Operation Joint Guardian (OJG) in Kosovo to address the following two questions:

1. Are the military services meeting DOD's force health protection and surveillance system requirements for servicemembers deploying in support of OEF and OJG?

2. Has DOD corrected problems related to the accuracy and completeness of databases reflecting which servicemembers deployed to certain locations?

To accomplish these objectives, we obtained the force health protection and surveillance policies applicable to the OEF and OJG deployments from the Army, Air Force, combatant commanders, the office of the Assistant Secretary of Defense, and the services' Surgeons General. To test the implementation of these policies, we reviewed statistical samples totaling 1,071 active duty servicemembers selected from a universe of 8,742 active duty servicemembers at four military installations. To provide assurances that our review of the selected medical records was accurate, we requested the installations' medical personnel to reexamine those medical records that were missing required health assessments or immunizations and adjusted our results where documentation was subsequently identified. We also requested installation medical personnel to check all possible sources for missing pre- and post-deployment health

[3] Problems cited in our May 1997 report included the following: required medical assessments not prepared for many servicemembers; incomplete medical record keeping; an incomplete centralized health assessment database; and an inaccurate personnel deployment database.

[4] In April 2003, we reported on problems experienced by the Army in assessing the health status of all early-deploying reservists. See U.S. General Accounting Office, *Defense Health Care: Army Needs to Assess the Health Status of All Early-Deploying Reservists*, GAO-03-437 (Washington, D.C.: Apr. 15, 2003); and U.S. General Accounting Office, *Defense Health Care: Army Has Not Consistently Assessed the Health Status of Early-Deploying Reservists*, GAO-03-997T (Washington, D.C.: July 9, 2003).

assessments and missing immunizations. We also requested the U.S. Special Operations Command (SOCOM) to query its database for health-related documentation for servicemembers in our sample at one of the selected installations. We also examined, for Army and Air Force servicemembers in our samples, the completeness of the centralized records at the Army Medical Surveillance Activity[5] (AMSA), which is tasked with centrally collecting deployment health-related records. Further, we interviewed officials at the office of the Deployment Health Support Directorate and at the Defense Manpower Data Center (DMDC) regarding the accuracy and completeness of DMDC's personnel deployment database and planned improvements. For more detailed information of our scope and methodology, see appendix I.

Results in Brief

The Army and Air Force did not comply with DOD's force health protection and surveillance policies for many of the servicemembers at the installations we visited. Our review of medical records at those installations disclosed that problems continue to exist in several areas.

- **Deployment health assessments.** The percentage of Army and Air Force servicemembers missing one or both of their pre- and post-deployment health assessments ranged from 38 to 98 percent of our samples. Moreover, when health assessments were conducted, as many as 45 percent of them were not done within the required time frames. Furthermore, a health care provider did not review all health assessments and, although only a small number of assessments in our samples indicated a health concern, large percentages of these assessments were not referred for further consultations as required.
- **Immunizations and other pre-deployment requirements.** Servicemembers missing evidence of receiving at least one of the pre-deployment immunizations required for their deployment location ranged from 14 percent to 46 percent. Furthermore, servicemembers missing current tuberculosis screening at the time of their deployment ranged from 7 to 40 percent. As many as 29 percent of the servicemembers in our samples had blood serum samples in the repository older than the required maximum age of 1 year at the time of deployment, ranging, on average, from 2 to 15 months out-of-date.

[5] The Army Medical Surveillance Activity is DOD's executive agent for collecting and retaining the military services' deployment health-related documents—including the pre-deployment and post-deployment health assessments and immunizations.

- **Completeness of medical records and centralized data collection.** Servicemembers' permanent medical records at the Army and Air Force installations we visited did not include documentation of the completed health assessments that we found at AMSA and at the U.S. Special Operations Command, ranging from 8 to 100 percent for pre-deployment health assessments and from 11 to 62 percent for post-deployment health assessments. Our review also disclosed that the AMSA database—designed to function as the centralized collection location for deployment health-related information for all military services—was still, over 5 years after congressional action, lacking documentation of many health assessments and immunizations that we found in the servicemembers' medical records at the installations visited. Specifically, health-related documentation missing from the centralized database ranged from 0 to 63 percent for pre-deployment health assessments, 11 to 75 percent for post-deployment health assessments, and 8 to 93 percent for immunizations.

  Furthermore, DOD did not have oversight of departmentwide efforts to comply with health surveillance requirements. There is no effective quality assurance program at the Office of the Assistant Secretary of Defense for Health Affairs or at the Offices of the Surgeons' General of the Army or Air Force that helps ensure compliance with force health protection and surveillance policies. We believe the lack of such a system was a major cause of the high rate of noncompliance we found at the units we visited. Continued noncompliance with these policies may result in servicemembers being deployed with unaddressed health problems or without immunization protection. Furthermore, incomplete and inaccurate medical records may hinder DOD's ability to investigate the causes of any future health problems that may arise coincident with deployments.

  DOD has not corrected the problems we identified in 1997 that were related to the completeness and accuracy of a central personnel deployment database that is designed to collect data reflecting which servicemembers deployed to certain locations. The Defense Manpower Data Center's (DMDC) deployment database still does not include the information needed for effective deployment health surveillance. Prior to April 2003, the services were not reporting location-specific deployment data to the DMDC because, according to a DMDC official, the data was not available from the services. By July 2003, all of the services had begun submitting classified deployment data to DMDC, which is currently reviewing the deployment information received to determine its accuracy and completeness. However, DMDC still does not have a system to track the movement of servicemembers within a given theater, because this

information has not been available from the services and the development of a new tracking system at the service unit level may be required. DOD is developing a new system for tracking the movements of servicemembers and civilian personnel in the theater of operation with plans for implementation by about September 2005 for the Army and by 2007 or early calendar year 2008 for the other services.

We are recommending that the Secretary of Defense direct the Assistant Secretary of Defense for Health Affairs to establish an effective quality assurance system to ensure that the military services comply with force health protection and surveillance requirements for all servicemembers. In commenting on a draft of this report, DOD concurred with the report's recommendation.

Background

In May 1997, we reported on DOD's actions to improve deployment health surveillance before, during, and after deployments, focusing on Operation Joint Endeavor, which was conducted in the countries of Bosnia-Herzegovina, Croatia, and Hungary.[6] We commented on the provisions of a joint medical surveillance policy draft that called for a comprehensive DOD-wide medical surveillance capability to monitor and assess the effects of deployments on servicemembers' health. DOD subsequently finalized its joint medical surveillance policy in August 1997. Our 1997 review disclosed problems with the Army's implementation of the medical surveillance plan for Operation Joint Endeavor in the following areas:

- **Medical assessments.** Many Army personnel who should have received post-deployment medical assessments did not receive them and the assessments that were completed were frequently done late. Of the 618 servicemembers in the 12 Army units whose medical records we reviewed, 24 percent did not receive in-theater post-deployment medical assessments, and 21 percent did not receive home station post-deployment medical assessments. Servicemembers who received home station post-deployment medical assessments received them, on average, nearly 100 days after they left theater instead of within 30 days as required by the plan. Further, pre-deployment blood serum samples were not available for 9.3 percent of the 26,621 servicemembers who had deployed to Bosnia as

[6] GAO/NSIAD-97-136.

of March 12, 1996. The most recent blood samples for 6.4 percent of the pre-deployment blood samples were more than 5 years old.

- **Medical record keeping.** Many of the servicemembers' medical records that we reviewed were incomplete and missing documentation of in-theater post-deployment medical assessments, medical visits during deployment, and receipt of an investigational new vaccine. More specifically, we found that 91 of the 473 servicemembers (19 percent) with a post-deployment in-theater medical assessment and 9 of the 491 servicemembers (1.8 percent) with a post-deployment home unit medical assessment did not have the assessments documented in their medical records. Furthermore, about 29 percent of the 50 battalion aid station visits we reviewed were not documented in the members' permanent medical records. Finally, 141 of 588 servicemembers (24 percent) who received an investigational drug vaccine did not have the immunization documented in their medical records.
- **Centralized database.** The centralized database for collecting in-theater and home unit post-deployment medical assessments was incomplete for many Army personnel. More specifically, the database omitted 12 percent of the in-theater medical assessments done and 52 percent of the home unit medical assessments done for the 618 servicemembers whose records we reviewed.
- **Deployment information.** DOD officials considered the database used for tracking the deployment of Air Force and Navy personnel inaccurate.

Following the publication of our report, the Congress, in November 1997, included a provision in the Defense Authorization Act for Fiscal Year 1998 requiring the Secretary of Defense to establish a medical tracking system for servicemembers deployed overseas as follows:

"(a) SYSTEM REQUIRED—The Secretary of Defense shall establish a system to assess the medical condition of members of the armed forces (including members of the reserve components) who are deployed outside the United States or its territories or possessions as part of a contingency operation (including a humanitarian operation, peacekeeping operation, or similar operation) or combat operation.

"(b) ELEMENTS OF SYSTEM—The system described in subsection (a) shall include the use of predeployment medical examinations and postdeployment medical examinations (including an assessment of mental health and the drawing of blood samples) to accurately record the medical condition of members before their deployment and any changes in their medical condition during the course of their deployment. The postdeployment examination shall be conducted when the member is redeployed or otherwise leaves an area in which the system is in operation (or as soon as possible thereafter).

"(c) RECORDKEEPING—The results of all medical examinations conducted under the system, records of all health care services (including immunizations) received by members described in subsection (a) in anticipation of their deployment or during the course of their deployment, and records of events occurring in the deployment area that may affect the health of such members shall be retained and maintained in a centralized location to improve future access to the records.

"(d) QUALITY ASSURANCE—The Secretary of Defense shall establish a quality assurance program to evaluate the success of the system in ensuring that members described in subsection (a) receive predeployment medical examinations and postdeployment medical examinations and that the recordkeeping requirements with respect to the system are met."[7]

As set forth above, these provisions require the use of pre-deployment and post-deployment medical examinations to accurately record the medical condition of servicemembers before deployment and any changes during their deployment. In a June 30, 2003, correspondence with the General Accounting Office, the Assistant Secretary of Defense for Health Affairs stated that "it would be logistically impossible to conduct a complete physical examination on all personnel immediately prior to deployment and still deploy them in a timely manner." Therefore, DOD required both pre- and post-deployment health assessments for servicemembers who deploy for 30 or more continuous days to a land-based location outside the United States without a permanent U.S. military treatment facility. Both assessments use a questionnaire designed to help military healthcare providers in identifying health problems and providing needed medical care. The pre-deployment health assessment is generally administered at the home station before deployment, and the post-deployment health assessment is completed either in theater before redeployment to the servicemember's home unit or shortly upon redeployment.

As a component of medical examinations, the statute quoted above also requires that blood samples be drawn before and after a servicemember's deployment. DOD Instruction 6490.3, August 7, 1997, requires that a pre-deployment blood sample be obtained within 12 months of the servicemember's deployment.[8] However, it requires the blood samples be

[7] Section 765 of Pub. L. No. 105-85 amended title 10 of the United States Code by adding section 1074f.

[8] DOD Instruction 6490.3, "Implementation and Application of Joint Medical Surveillance for Deployments," August 7, 1997.

drawn upon return from deployment only when directed by the Assistant Secretary of Defense for Health Affairs. According to DOD, the implementation of this requirement was based on its judgment that the Human Immunodeficiency Virus serum sampling taken independent of deployment actions is sufficient to meet both pre- and post-deployment health needs, except that more timely post-deployment sampling may be directed when based on a recognized health threat or exposure. Prior to April 2003, DOD did not require a post-deployment blood sample for servicemembers supporting the OEF and OJG deployments.

In April 2003, DOD revised its health surveillance policy for blood samples and post-deployment health assessments. Effective May 22, 2003, the services are required to draw a blood sample from each redeploying servicemember no later than 30 days after arrival at a demobilization site or home station.[9] According to DOD, this requirement for post-deployment blood samples was established in response to an assessment of health threats and national interests associated with current deployments. The department also revised its policy guidance for enhanced post-deployment health assessments to gather more information from deployed servicemembers about events that occurred during a deployment. More specifically, the revised policy requires that a trained health care provider conduct a face-to-face health assessment with each returning servicemember to ascertain (1) the individual's responses to the health assessment questions on the post-deployment health assessment form; (2) the presence of any mental health or psychosocial issues commonly associated with deployments; (3) any special medications taken during the deployment; and (4) concerns about possible environmental or occupational exposures.

[9] Under Secretary of Defense for Personnel and Readiness Memorandum, "Enhanced Post-Deployment Health Assessments," April 22, 2003.

The Army and Air Force Did Not Comply with Deployment Health Surveillance Policies for Many Servicemembers

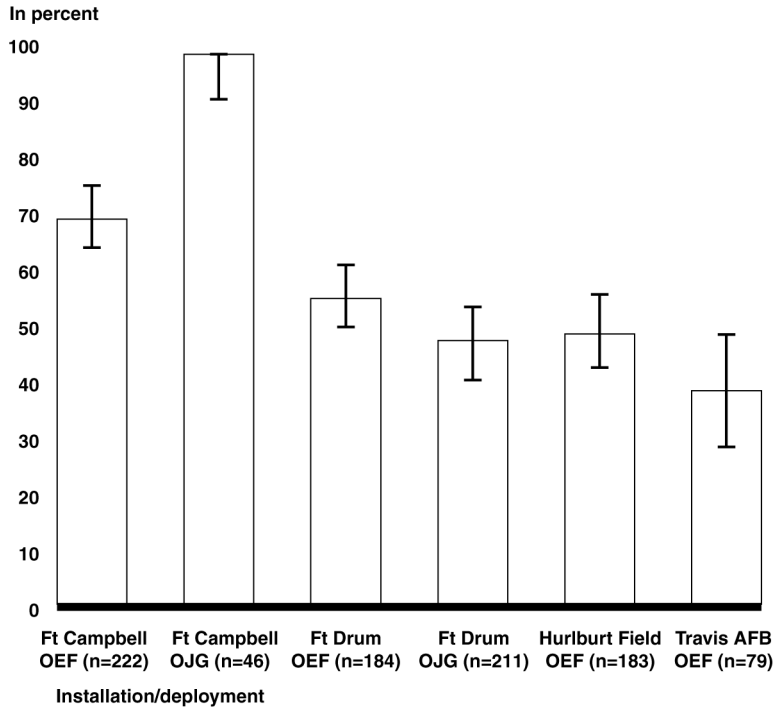
The Army and Air Force did not comply with DOD's force health protection and surveillance requirements for many of the servicemembers in our samples at the selected installations we visited. Specifically, these Army and Air Force servicemembers were missing: pre-deployment and/or post-deployment health assessments; evidence of receiving one or more of the pre-deployment immunizations required for their deployment location; and other pre-deployment requirements related to tuberculosis screening and blood serum sample storage. Also, servicemembers' permanent medical records were missing required health-related information, and DOD's centralized database did not include documentation of servicemember health-related information. Neither the installations nor DOD had monitoring and oversight mechanisms in place to help ensure that the force health protection and surveillance requirements were met for all servicemembers.

Many Servicemembers Lacked Pre-deployment and Post-deployment Health Assessments

We found that servicemembers missing one or both of their pre- and post-deployment assessments ranged from 38 to 98 percent in our samples.[10] For example, at Fort Campbell for the OEF deployment we found that 68 percent of the 222 active duty servicemembers in our sample were missing either one or both of the required pre-deployment and post-deployment health assessments. The results of our statistical samples for the deployments at the installations visited are depicted in figure 1.

[10] Because we checked all known possible sources for the existence of deployment health assessments, we concluded that the assessments were not completed in those instances where we could not find required health assessments.

Figure 1: Percent of Servicemembers Missing One or Both Health Assessments



Sources: GAO analyses of documentation from servicemember medical records and DOD medical databases.

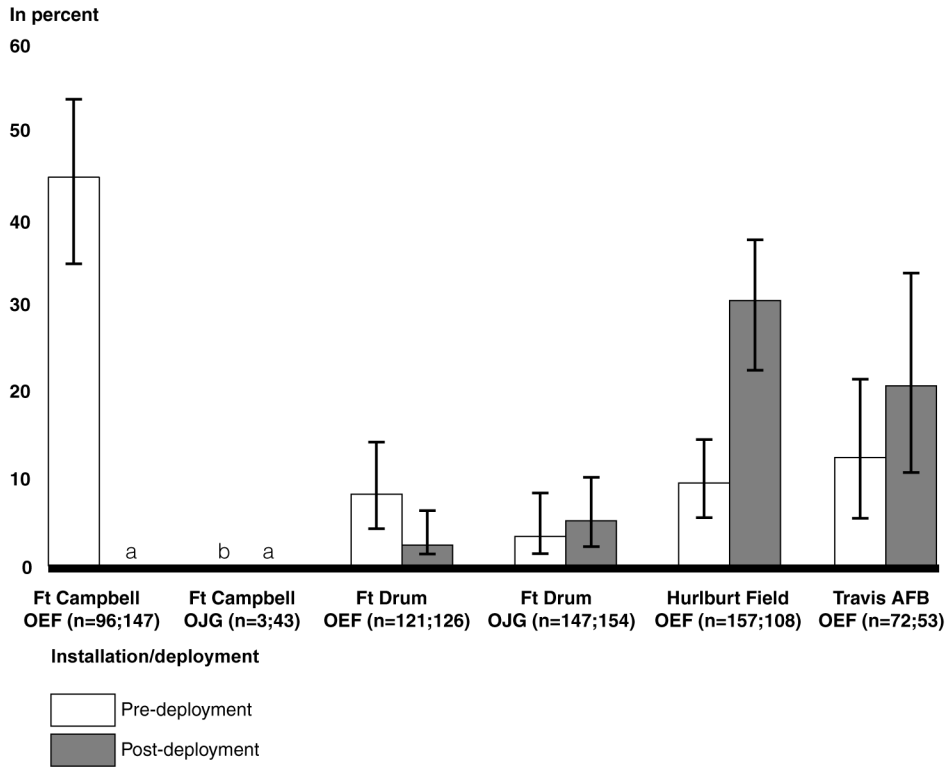
Notes: [ ] = 95 percent confidence interval, upper and lower bounds for each estimate.

These percentages reflect assessments from all sources and without regard to timeliness.

For those servicemembers in our samples who had completed pre- or post-deployment health assessments, we found that as many as 45 percent of the assessments in our samples were not completed on time in accordance with requirements (see fig. 2). DOD policy requires that servicemembers complete a pre-deployment health assessment form within 30 days of their deployment and a post-deployment health assessment form within 5 days upon redeployment back to their home station.[11] These time frames were established to allow time to identify and resolve any health concerns or problems that may affect the ability of the servicemember to deploy, and to promptly identify and address any health concerns or problems that may have arisen during the servicemember's deployment.

[11] Office of the Chairman, The Joint Chiefs of Staff, Memorandum MCM-0006-2, "Updated Procedures for Deployment Health Surveillance and Readiness," February 1, 2002.

Figure 2: Percent of Health Assessments *Not* Completed Within Required Time Frames



Sources: GAO analyses of documentation from servicemember medical records and DOD medical databases.

Notes: [= 95 percent confidence interval, upper and lower bounds for each estimate.

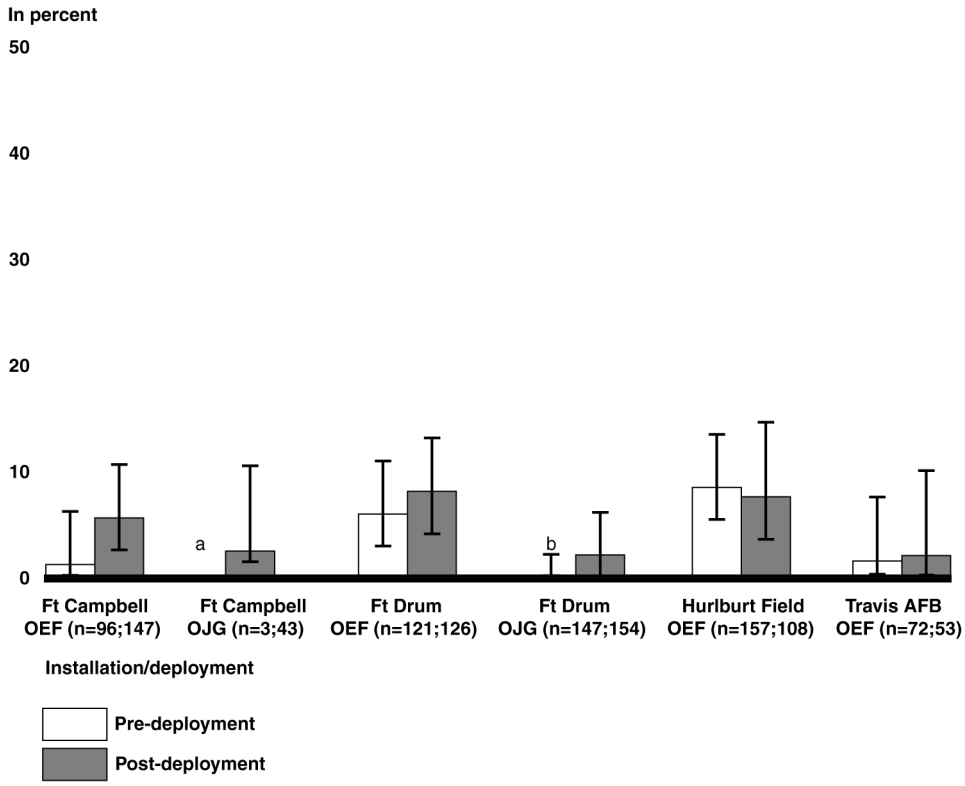
[a]Unable to compute because exact redeployment date was unavailable.

[b]All three pre-deployment cases for Fort Campbell were completed within the required time frame, but unable to compute confidence intervals due to insufficient size.

Not all health assessments were reviewed by a health care provider as required, as shown in figure 3. DOD policy requires that pre-deployment and post-deployment health assessments are to be reviewed immediately by a health care provider to identify any medical care needed by the servicemember.[12]

[12] The Joint Staff, Joint Staff Memorandum MCM-251-98.

Figure 3: Completed Assessments That Were *Not* Reviewed by Health Care Provider



Sources: GAO analyses of documentation from servicemember medical records and DOD medical databases.

Notes: [ ] = 95 percent confidence interval, upper and lower bounds for each estimate.

[a]All three pre-deployment cases for Fort Campbell were reviewed by the health care provider, but unable to compute confidence intervals due to insufficient size.

[b]Zero cases: confidence level shown.

The services did not refer some servicemember health assessments that indicated a need for further consultation. According to DOD policy, a medical provider, namely a physician, physician's assistant, nurse, or independent duty medical technician is required to further review a servicemember's need for specialty care when the member's pre-deployment and/or post-deployment health assessment indicates health concerns such as unresolved medical or dental problems or plans

to seek mental health counseling or care.[13] This follow-up may take the form of an interview or examination of the servicemember, and forms the basis of a decision as to whether a referral for further specialty care is warranted. In our samples, the number of assessments that indicated a health concern was relatively small, but large percentages of these assessments were not referred for further specialty care. For example, our sample at Travis Air Force Base included five pre-deployment health assessments that indicated a health concern, but four (80 percent) of the health assessments were not referred for further specialty care.

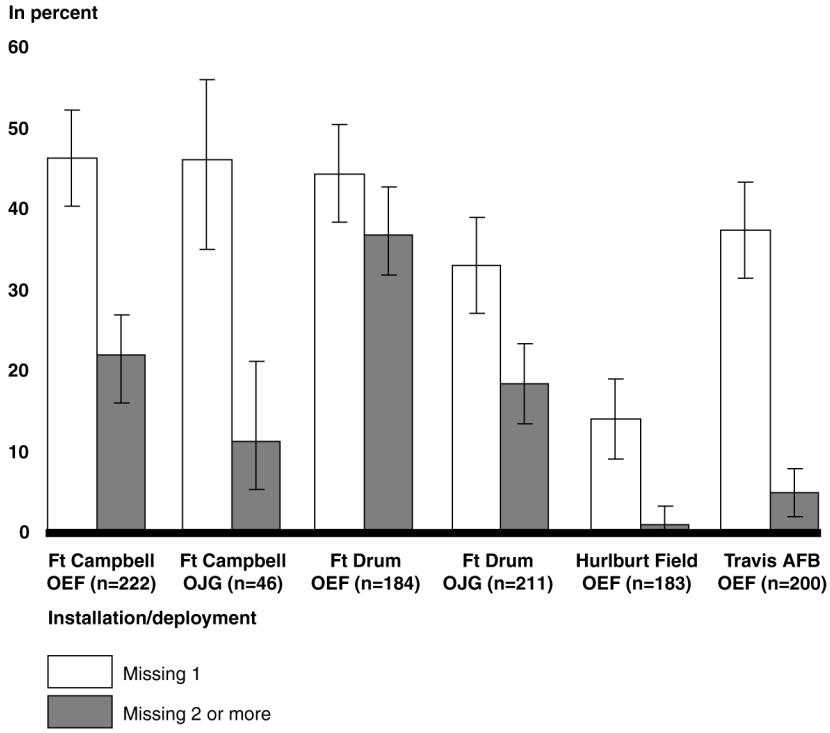
Noncompliance with the requirement for pre-deployment health assessments may result in servicemembers with existing health problems or concerns being deployed with unaddressed health problems. Also, failure to complete post-deployment health assessments may risk a delay in obtaining appropriate medical follow-up attention for a health problem or concern that may have arisen during or following the deployment.

Immunizations and Other Pre-Deployment Health Requirements Not Met

Based on our samples, the services did not fully meet immunization and other pre-deployment requirements. Evidence of pre-deployment immunizations receipt was missing from many servicemembers' medical records. Servicemembers missing the required immunizations may not have the immunization protection they need to counter theater disease threats. Based on our review of servicemember medical records for the deployments at the four installations we visited, we found that between 14 and 46 percent of the servicemembers were missing at least one of their required immunizations prior to deployment (see fig. 4). Furthermore, as many as 36 percent of the servicemembers were missing two or more of their required immunizations.

[13] Office of the Chairman, The Joint Chiefs of Staff, Memorandum MCM-0006-02, "Updated Procedures for Deployment Health Surveillance and Readiness," February 1, 2002.

Figure 4: Percent of Servicemembers Missing Required Immunizations



Sources: GAO analyses of documentation from servicemember medical records and DOD medical databases.

Notes: [ ] = 95 percent confidence interval, upper and lower bounds for each estimate.

The U.S. Central Command required the following pre-deployment immunizations for all servicemembers that deployed to Central Asia in support of OEF: hepatitis A (two-shot series); measles, mumps, and rubella; polio; tetanus/diphtheria within the last 10 years; yellow fever within the last 10 years; typhoid within the last 5 years; influenza within the last 12 months; and meningococcal within the last 5 years.[14] For OJG deployments, the U.S. European Command required the same immunizations cited above, with the exception of the yellow fever inoculation that was not required for Kosovo.[15]

[14] U.S. Central Command, "Personnel Policy Guidance for U.S. Individual Augmentation Personnel in Support of Operation Enduring Freedom," October 3, 2001.

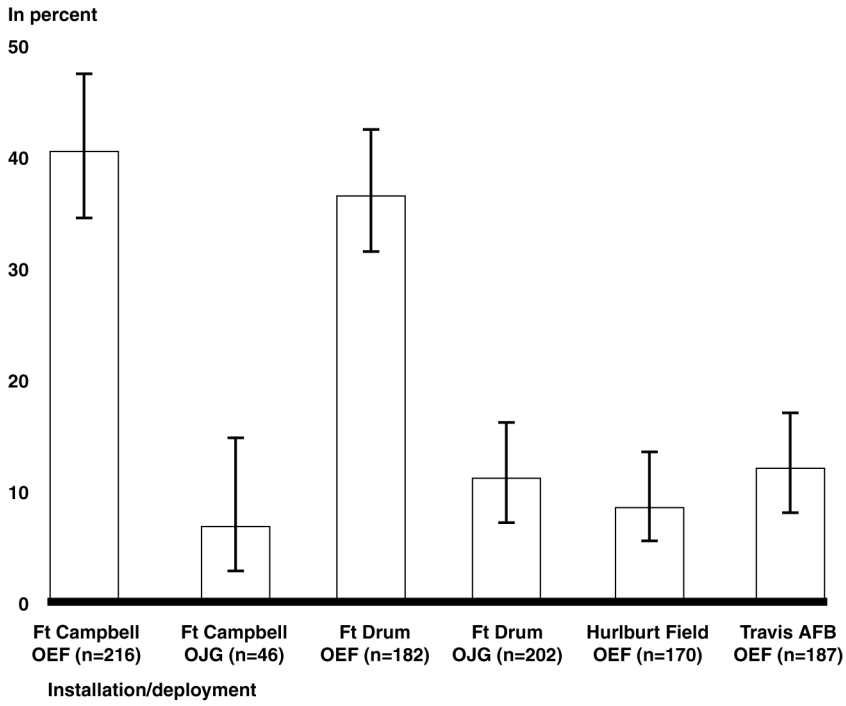
[15] Headquarters U.S. European Command, "Greece and the Balkans: Force Health Protection Guidance," January 4, 2002.

Figure 5 indicates that 7 to 40 percent of the deploying servicemembers in our review were missing a current tuberculosis screening. A screening is deemed "current" if it occurred 1 to 2 years prior to deployment. Specifically, the U.S. Central Command required servicemembers deploying to Central Asia in support of OEF to be screened for tuberculosis within 12 months of deployment.[16] For OJG deployments, the U.S. European Command required Army and Air Force servicemembers to be screened for tuberculosis with 24 months of deployment.[17]

[16] U.S. Central Command, "Personnel Policy Guidance for U.S. Individual Augmentation Personnel in Support of Operation Enduring Freedom," October 3, 2001.

[17] Headquarters U.S. European Command, "Greece and the Balkans: Force Health Protection Guidance," January 4, 2002.

Figure 5: Percent of Servicemembers That Did Not Have Current Tuberculosis Screening



Sources: GAO analyses of documentation from servicemember medical records and DOD medical databases.

Notes: [= 95 percent confidence interval, upper and lower bounds for each estimate.

U.S. Central Command and U.S. European Command policies require that deploying servicemembers have a blood serum sample in the serum repository not older than 12 months prior to deployment.[18] While nearly all deploying servicemembers had blood serum samples held in the Armed Services Serum Repository prior to deployment, as many as 29 percent had serum samples that were too old (see table 1). The samples that were too old ranged, on average, from 2 to 15 months out-of-date.

[18] U.S. Central Command, "Personnel Policy Guidance for U.S. Individual Augmentation Personnel in Support of Operation Enduring Freedom," October 3, 2001; and Headquarters U.S. European Command, "Greece and the Balkans: Force Health Protection Guidance," January 4, 2002.

Table 1: Deploying Servicemember Blood Serum Samples Held in Repository

Status of Blood Serum	Fort Campbell (OEF)	Fort Campbell (OJG)	Fort Drum (OEF)	Fort Drum (OJG)	Hurlburt Field (OEF)	Travis AFB (OEF)
Had serum sample in repository	100%	100%	100%	99.5%	100%	100%
Serum out-of date (older than 1-year requirement) at time of deployment	22%	7%	5%	1%	7%	29%
Average months out-of-date	8	2	11	5	15	14

Source: GAO analyses of DOD data.

Servicemember Medical Records and Centralized Database Were Not Complete

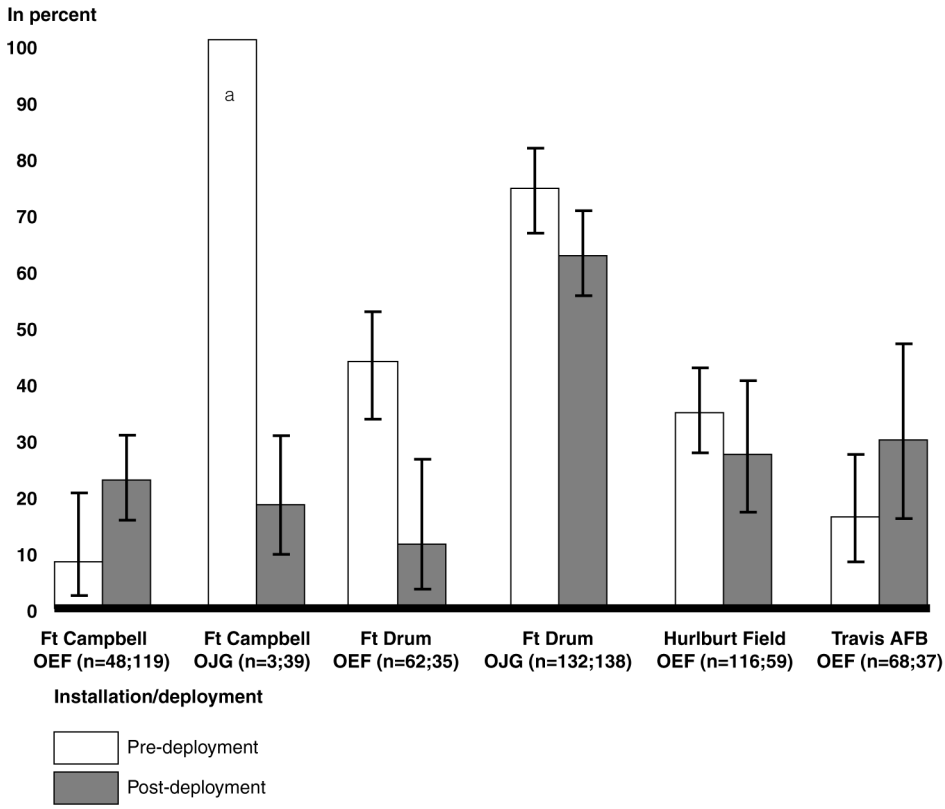
Servicemembers' permanent medical records were not complete, and DOD's centralized database did not include documentation of servicemember health-related information. Many servicemembers' permanent medical records at the Army and Air Force installations we visited did not include documentation of completed health assessments and servicemember visits to Army battalion aid stations. Similarly, the centralized deployment record database did not include many of the deployment health assessments and immunization records that we found in the servicemembers' medical records at the installations we visited.

Many Completed Deployment Health Assessments and Medical Interventions Were Not Documented in Servicemembers' Medical Record

DOD policy requires that the original completed pre-deployment and post-deployment health assessment forms be placed in the servicemember's permanent medical record and that a copy be forwarded to AMSA.[19] Figure 6 shows that completed assessments we found at AMSA and at the U.S. Special Operations Command for servicemembers in our samples were not documented in the servicemember's permanent medical record, ranging from 8 to 100 percent for pre-deployment health assessments and from 11 to 62 percent for post-deployment health assessments.

[19] Office of the Chairman, The Joint Chiefs of Staff, Memorandum MCM-0006-02, "Updated Procedures for Deployment Health Surveillance and Readiness," February 1, 2002.

Figure 6: Percent of Assessments Found in Centralized Database That Were Not Found in Servicemembers' Medical Records



Sources: GAO analyses of documentation from servicemember medical records and DOD medical databases.

Notes: [ ] = 95 percent confidence interval, upper and lower bounds for each estimate.

[a]All three pre-deployment cases at Fort Campbell found in the centralized database were missing from servicemembers' medical record, but unable to compute confidence intervals due to insufficient size.

Army and Air Force policies also require documentation in the servicemember's permanent medical record of all visits to in-theater medical facilities.[20] Except for the OEF deployment at Fort Drum, officials were unable to locate or access the sign-in logs for servicemember visits to in-theater Army battalion aid stations and to Air Force expeditionary medical support for the OEF and OJG deployments at the installations we

[20] Army Regulation 40-66, "Medical Records Administration," October 23, 2002, and Air Force Instruction 41-210, "Health Services Patient Administration Functions," October 1, 2000.

visited. Consequently, we limited the scope of our review to two battalion aid stations for the OEF deployment at Fort Drum. We found that 39 percent of servicemember visits to one battalion aid station and 94 percent to the other were not documented in the servicemember's permanent medical record. Representatives of the two battalion aid stations said that the missing paper forms documenting the servicemember visits may have been lost en route to Fort Drum. Specifically, a physician's assistant for one of these battalion aid station said the battalion aid station moved three times in theater and each time the paper forms used to document in-theater visits were boxed and moved with the battalion aid station. Consequently, the forms missing from servicemembers' medical records may have been lost en route to Fort Drum.

The lack of complete and accurate medical records documenting all medical care for the individual servicemember complicates the servicemembers' post-deployment medical care. For example, accurate medical records are essential for the delivery of high-quality medical care and important for epidemiological analysis following deployments. According to DOD health officials, the lack of complete and accurate medical records complicated the diagnosis and treatment of servicemembers who experienced post-deployment health problems that they attributed to their military service in the Persian Gulf in 1990-91.

DOD is implementing the Theater Medical Information Program (TMIP) that has the capability to electronically record and store in-theater patient medical encounter data. TMIP is currently undergoing operational testing by the military services and DOD intends to begin fielding TMIP during the first quarter of fiscal year 2004.

Centralized Database Missing Health-Related Documentation

Based on our samples, DOD's centralized database did not include documentation of servicemember health-related information. As set forth above, Public Law 105-85, enacted November 1997, requires the Secretary of Defense to retain and maintain health-related records in a centralized location. This includes records for all medical examinations conducted to ascertain the medical condition of servicemembers before deployment and any changes during their deployment, all health care services (including immunizations) received in anticipation of deployment or during the deployment, and events occurring in the deployment area that may affect the health of servicemembers. A February 2002 Joint Staff memorandum

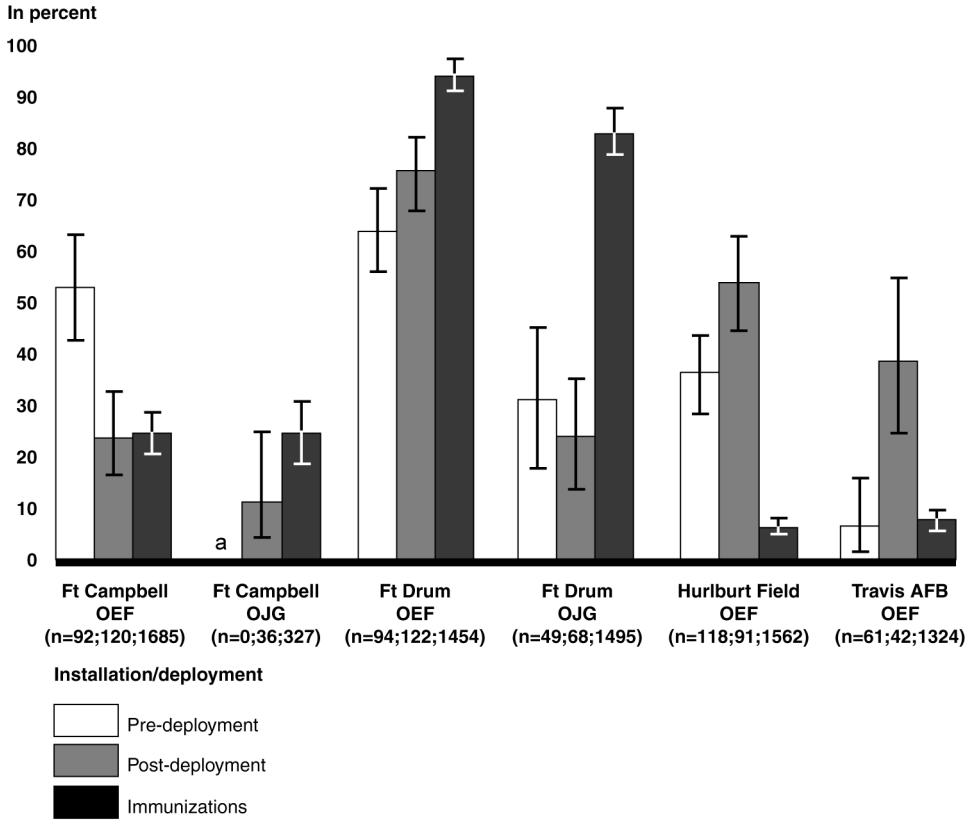
requires the services to forward a copy of the completed pre-deployment and post-deployment health assessments to AMSA for centralized retention.[21] Also, the U.S. Special Operations Command (SOCOM) requires deployment health assessments for special forces units to be sent to the Command for centralized retention in the Special Operation Forces Deployment Health Surveillance System.[22]

Figure 7 depicts the percentage of pre- and post-deployment health assessments and immunization records we found in the servicemembers' medical records that were not available in a centralized database at AMSA or SOCOM. Health-related documentation missing from the centralized database ranged from 0 to 63 percent for pre-deployment health assessments, 11 to 75 percent for post-deployment health assessments, and 8 to 93 percent for immunizations.

[21] Office of the Chairman, The Joint Chiefs of Staff, Memorandum MCM-0006-02, "Updated Procedures for Deployment Health Surveillance and Readiness," February 1, 2002.

[22] U.S. Special Operations Command Directive 40-4, "Medical Surveillance," October 18, 2000; Appendix 1 to Annex Q to U.S. Central Command Operations Order, "Special Operation Forces Deployment Health Surveillance System," November 30, 2001.

Figure 7: Percent of Assessments and Immunizations Found in Servicemembers' Medical Records That Were *Not* Found in the Centralized Database



Sources: GAO analyses of documentation from servicemember medical records and DOD medical databases.

Notes: [ ] = 95 percent confidence interval, upper and lower bounds for each estimate.

Centralized database is AMSA for all but Hurlburt Field, which reports to either AMSA or SOCOM based on classification of military personnel. Hurlburt Field results reflect combined health assessment and immunization data found at either AMSA or SOCOM.

[a]Zero cases found in servicemembers' medical record that were not found in the centralized database.

All but one of the servicemembers in our sample at Hurlburt Field were special operations forces. A SOCOM official told us that pre-deployment and post-deployment health assessment forms for servicemembers in special operations force units are not sent to AMSA because the health assessments may include classified information that AMSA is not equipped to receive. Consequently, SOCOM retains the deployment health assessments in its classified Special Operations Forces Deployment Health Surveillance System. Also, a SOCOM medical official told us that the

system does not include pre-deployment immunization data. A Deployment Health Support Directorate official told us that the Directorate is examining how to remove the classified information from the deployment health assessments so that SOCOM can forward the assessments to AMSA. For presentation in figure 7, we combined the health assessment and immunization data we found at AMSA and SOCOM for Hurlburt Field.

An AMSA official believes that missing documentation in the centralized database could be traced to the services' use of paper copies of deployment health assessments that installations are required to forward to the centralized database, and the lack of automation to record servicemembers' pre-deployment immunizations. DOD has ongoing initiatives to electronically automate the deployment health assessment forms and the recording of servicemember immunizations. For example, DOD is implementing a comprehensive electronic medical records system, known as the Composite Health Care System II, which includes pre- and post-deployment health assessment forms and the capability to electronically record immunizations given to servicemembers. DOD has deployed the system at five sites and will be seeking approval in August/September 2003 for worldwide deployment.[23] DOD officials believe that the electronic automation of the deployment health-related information will lessen the burden of installations in forwarding paper copies and the likelihood of information being lost in transit.

DOD and Installations Did Not Have Oversight of Force Health Protection and Surveillance Requirements

DOD does not have an effective quality assurance program to provide oversight of, and ensure compliance with, the department's force health protection and surveillance requirements. Moreover, the installations we visited did not have ongoing monitoring or oversight mechanisms to help ensure that force health protection and surveillance requirements were met for all servicemembers. We believe that the lack of such a system was a major cause of the high rate of noncompliance we found at the units we visited. The services are currently developing quality assurance programs designed to ensure that force health protection and surveillance policies are implemented for servicemembers.

[23] In September 2002, we reported that DOD had experienced delays and cost overruns in implementing the Composite Health Care System II. See U.S. General Accounting Office, *Information Technology: Greater Use of Best Practices Can Reduce Risk in Acquiring Defense Health Care System*, GAO-02-345 (Washington, D.C.: Sept. 26, 2002).

Although required by Public Law 105-85 to establish a quality assurance program,[24] neither the Assistant Secretary of Defense for Health Affairs nor the offices of the Surgeons General of the Army or Air Force had established oversight mechanisms that would help ensure that force health protection and surveillance requirements were met for all servicemembers. Following our visit to Fort Drum in October 2002, the Army Surgeon General wrote a memorandum in December 2002 to the commanders of the Army Regional Medical Commands that expressed concern related to our sample results at Fort Drum. He emphasized the importance of properly documenting medical care and directed them to accomplish an audit of a statistically significant sample of medical surveillance records of all deployed and redeployed soldiers at installations supported by their regional commands, provide an assessment of compliance, and develop an action plan to improve compliance with the requirements.

At three of the four installations we visited, officials told us that new procedures were implemented that they believe will improve compliance with force health protection and surveillance requirements for deployments occurring after those we reviewed. Specifically, following our visit to Fort Drum in October 2002, Fort Drum medical officials designed a pre-deployment and post-deployment checklist patterned after our review that is being used as part of processing before servicemembers are deployed and when they return. The officials told us that this process has improved their compliance with force health protection and surveillance requirements for deployments subsequent to our visit. Also, the hospital commander at Fort Campbell told us that they implemented procedures that now require all units located at Fort Campbell to use the hospital's medical personnel in their processing of servicemembers prior to deployment. The hospital commander believes that this new requirement will improve compliance with the force health protection and surveillance requirements at Fort Campbell because the medical personnel will now review whether all requirements have been met for the deploying servicemembers. At Hurlburt Field, officials told us that they implemented a new requirement in November 2002 to withhold payment of travel expenses and per diem to re-deploying servicemembers until they complete the post-deployment health assessment. Officials believe that this change will improve servicemembers' completion of the post-deployment health assessments. While it is noteworthy that these

[24] 10 U.S.C. sec. 1074f(d).

installations have implemented changes that they believe will improve their compliance, the actual measure of improvements over time cannot be known unless the installations perform periodic reviews of servicemembers' medical records to identify the extent of compliance with deployment health requirements.

In March 2003, we briefed the Subcommittee on Total Force, House Committee on Armed Services, about our interim review results at selected military installations.[25] Subsequently, at a March 2003 congressional hearing, the Subcommittee discussed our interim review results with the Assistant Secretary of Defense for Health Affairs and the services' Surgeons General. Based on our interim results that DOD was not meeting the full requirement of the law and the military services were not effectively carrying out many of DOD's force health protection and surveillance policies, in May 2003 the House Committee on Armed Services directed the Secretary of Defense to take measures to improve oversight and compliance. Specifically, in its report accompanying the Fiscal Year 2004 National Defense Authorization Act, the Committee directed the Secretary of Defense "… to establish a quality control program to begin assessing implementation of the force health protection and surveillance program, and to provide a strategic implementation plan, including a timeline for full implementation of all policies and programs, to the Senate Committee on Armed Services and the House Committee on Armed Services by March 31, 2004."[26]

In April 2003, the Under Secretary of Defense for Personnel and Readiness issued an enhanced post-deployment health assessment policy that required the services to develop and implement a quality assurance program that encompasses medical record keeping and medical surveillance data.[27] In June 2003, the Office of Assistant Secretary of Defense for Health Affairs' Deployment Health Support Directorate began reviewing the services' quality assurance implementation plans and establishing DOD-wide compliance metrics—including parameters for conducting periodic visits—to monitor service implementation.

[25] Prior to briefing the Subcommittee, we also briefed the Senior Military Medical Advisory Committee including the Assistant Secretary of Defense for Health Affairs and the Surgeons General or their representatives about our interim review results.

[26] H.R. Rep. No. 108-106 at 336 (2003).

[27] Under Secretary of Defense for Personnel and Readiness Memorandum, "Enhanced Post-Deployment Health Assessments," April 22, 2003.

Centralized Deployment Database Still Missing Information Needed for Deployment Health Surveillance

The DMDC deployment database still does not include the deployment information we identified in 1997 as needed for effective deployment health surveillance. In 1997, we reported that knowing the identity of servicemembers who were deployed during a given operation and tracking their movements within the theater of operations are major elements of a military medical surveillance system.[28] The Institute of Medicine reported in 2000 that the documentation of the locations of units and individuals during a given deployment is important for epidemiological studies and for the provision of appropriate medical care during and after deployments.[29] This information allows (1) epidemiologists to study the incidence of disease patterns across populations of deployed servicemembers who may have been exposed to diseases and hazards within the theater, and (2) health care professionals to treat their medical problems appropriately. Because of concerns about the accuracy of the DMDC database, we recommended in our 1997 report that the Secretary of Defense direct an investigation of the completeness of the information in the DMDC personnel database and take corrective actions to ensure that the deployment information is accurate for servicemembers who deploy to a theater.

DOD's established policies notwithstanding, the services did not report location-specific deployment information to DMDC prior to April 2003, because, according to a DMDC official, the services did not maintain the data. DOD Instruction 6490.3, issued in August 1997, requires DMDC, under the Department's Under Secretary for Personnel and Readiness, to maintain a system that collects information on deployed forces, including daily-deployed strength, total and by unit; grid coordinate locations for each unit (company size and larger); and inclusive dates of individual servicemember's deployment.[30] In addition, the Joint Chief of Staff's Memorandum MCM-0006-02, dated February 1, 2002, required combatant commands to provide DMDC with their theater-wide rosters of all deployed personnel, their unit assignments, and the unit's geographic locations while deployed.[31] This memorandum stressed that accurate

[28] GAO/NSIAD-97-136.

[29] Institute of Medicine, *Protecting Those Who Serve: Strategies to Protect the Health of Deployed U.S. Forces* (National Academy Press, Washington, D.C.: 2000).

[30] DOD Instruction 6490.3, "Implementation and Application of Joint Medical Surveillance for Deployments," August 7, 1997.

[31] Office of the Chairman, The Joint Chiefs of Staff, Memorandum MCM-0006-02, "Updated Procedures for Deployment Health Surveillance and Readiness," February 1, 2002.

personnel deployment data is needed to assess the significance of medical diseases and injuries in terms of the rate of occurrence among deployed servicemembers. The Under Secretary of Defense for Personnel and Readiness expressed concern about the services' failure to report complete personnel deployment data to DMDC in an October 2002 memorandum.[32]

To address the services' lack of reporting to DMDC, the Under Secretary of Defense for Personnel and Readiness established a tri-service working group that outlined a plan of action in March 2003 to address the reporting issues. In July 2003, a DMDC official told us that significant improvements had recently occurred and that all of the services had begun submitting their classified deployment databases—including deployment locations—to DMDC. DMDC is currently reviewing the deployment information submitted by the services to determine its accuracy and completeness. It plans to complete this review during the summer of 2003.

With regard to DMDC's efforts to create a system for tracking the movements of servicemembers within a given theater of operations, DMDC officials told us that little progress has been made. They said that the primary reason for a lack of progress in developing this system is that the source information has generally not been available from the services and this may require the development of new tracking systems at the unit level. In June 2003, a DMDC official told us that it had been recently determined that the Air Force has implemented a theater tracking system that may have applicability to the other services. The tracking system—known as the Deliberate Crisis and Action Planning and Execution Segment (DCAPES)—enables field teams to enter classified information about the whereabouts of deployed Air Force personnel at the longitude/latitude level of detail. DMDC began receiving information from this system in April 2003. The Under Secretary of Defense for Personnel and Readiness is reviewing this system to determine whether it could be used for the same purposes by the other services.

Also, DOD is developing the Defense Integrated Military Human Resource System (DIMHRS), which will have the capability to track the movements of all servicemembers and civilians in the theater of operations. As of

[32] This memorandum was dated October 25, 2002, and sent to the Vice Chief of Staff of the Army, Vice Chief of Staff of the Air Force, Vice Chief of Naval Operations, and the Assistant Commandant of the Marine Corps.

June 2003, DOD plans to implement this system for the Army by about September 2005 and for the other services by 2007 or early calendar year 2008.

Conclusions

While DOD and the military services have established force health protection and surveillance policies, at the units we visited we found many instances of noncompliance by the services. Moreover, because DOD and the services do not have an effective quality assurance program in place to help ensure compliance, these problems went undetected and uncorrected. Continued noncompliance with these policies may result in servicemembers with existing health problems or concerns being deployed with unaddressed health problems or without the immunization protection they need to counter theater disease threats. Failure to complete post-deployment health assessments may risk a delay in obtaining appropriate medical follow-up attention for a health problem or concern that may have arisen during or following the deployment. Similarly, incomplete and inaccurate medical records and deployment databases would likely hinder DOD's ability to investigate the causes of any future health problems that may arise coincident with deployments.

Recommendation for Executive Action

To improve compliance with DOD's force health protection and surveillance policies, we recommend that the Secretary of Defense direct the Assistant Secretary of Defense for Health Affairs to establish an effective quality assurance program, as required by section 765 of Public Law 105-85 (10 U.S.C. 1074f), that will ensure that the military services comply with the force health protection and surveillance requirements for all servicemembers.

Agency Comments and Our Evaluation

The Department of Defense provided written comments on a draft of this report, which are found in appendix II. DOD concurred with the report's recommendation.

The Assistant Secretary of Defense for Health Affairs commented that his office has already established a quality assurance program for pre- and post-deployment health assessments. This program monitors pre- and post-deployment health assessments and blood samples being archived electronically at the Army Medical Surveillance Activity (AMSA) and assures that indicated referrals on the post-deployment health assessments are being conducted by all the services. However, the Assistant Secretary of Defense for Health Affairs' comments did not

discuss how his office is using the monitoring activities to assure the military services' compliance with force health protection and surveillance policies.

According to the Assistant Secretary of Defense for Health Affairs, the services have implemented their quality assurance programs. The Army has developed automated versions of the pre- and post-deployment health assessment forms, and has established a corporate monitoring system that is built upon deployment personnel rosters and monitored weekly by the Army Surgeon General. The Air Force is now receiving monthly deployment health surveillance compliance reports from its medical treatment facilities, and has scheduled a special compliance study through the Air Force Inspection Agency in fiscal year 2004. Navy fleet commanders have implemented their own quality assurance programs, with anticipation of standardization through centralized automated systems. And the Marine Corps has also established unit/command quality assurance procedures. We view these actions as responsive to our recommendation and commend the department for taking quick action to address the compliance issues we found during our audit. However, it remains to be seen how effective these activities will be in ensuring that force health protection and surveillance policies are implemented for all servicemembers.

We are sending copies of this report to the Secretary of Defense and the Secretaries of the Army and the Air Force. We will also make copies available to others upon request. In addition, the report is available at no charge on GAO's Web site at http://www.gao.gov.

If you or your staff have any questions regarding this report, please contact me on (757) 552-8100. Key contributors to this report are listed in appendix III.

Neal P. Curtin, Director
Defense Capabilities and Management

Appendix I: Scope and Methodology

To meet our objectives, we interviewed responsible officials and reviewed pertinent documents, reports, and information related to force health protection and deployment health surveillance requirements obtained from officials at the Office of the Assistant Secretary of Defense for Health Affairs; the Office of the Deputy Assistant Secretary of Defense for Force Health Protection and Readiness; the Office of the Assistant Secretary of Defense for Reserve Affairs; the Joint Staff; the Marine Corps Force Health Protection Office; and the Offices of the Surgeons General for the Army and Air Force Headquarters in the Washington, D.C., area. We also performed additional work at the Deployment Health Support Directorate, Falls Church, Virginia; the U.S. Army Center for Health Promotion and Preventive Medicine, Aberdeen, Maryland; the Armed Forces Medical Intelligence Center, Fort Dietrick, Maryland; the Army Medical Surveillance Activity, Walter Reed Army Medical Center, Washington, D.C.; the Navy Environmental Health Center in Portsmouth, Virginia; the Defense Manpower Data Center in Monterey, California; and the U.S. Central Command and the U.S. Special Operations Command at MacDill Air Force Base, Tampa, Florida.

To determine whether the military services were meeting DOD's force health protection and surveillance requirements for servicemembers deploying in support of OEF and OJG, we identified DOD and each service's overall deployment health surveillance policies. We also obtained the specific force health protection and surveillance requirements applicable to all servicemembers deploying to Central Asia in support of OEF from the U.S. Central Command and these requirements for all servicemembers deploying to Kosovo in support of OJG from the U.S. European Command. We tested the implementation of these requirements at selected Army and Air Force installations. To identify locations within each service where we would test implementation of the policies, the Assistant Secretary of Defense for Health Affairs requested the services to identify, by military installation, the number of active duty servicemembers who met the following criteria:

- For OEF, those servicemembers who deployed to Central Asia for 30 or more continuous days to areas without permanent U.S. military treatment facilities following September 11, 2001, and redeployed back to their home unit by May 31, 2002.
- For OJG, those servicemembers who deployed to Kosovo for 30 or more continuous days to areas without permanent U.S. military treatment facilities from January 1, 2001, and redeployed back to their home unit by May 31, 2002.

Based on deployment data obtained from the services, we decided to limit our testing of the force health protection and surveillance policy implementation to selected Army and Air Force military installations with the largest numbers of servicemembers meeting our selection criteria (described above). We limited our review of medical records for servicemembers deploying in support of OJG to the two Army locations. We decided not to review Navy installations because there were only small numbers of servicemembers who met our selection criteria. We decided not to review Marine Corps installations because officials at the Marine Corps headquarters had difficulty identifying the number of servicemembers who went ashore 30 or more continuous days consistent with our selection criteria.

The largest deployers for OEF and OJG were selected and are listed below:

OEF:

- 10th Mountain Division, Fort Drum, N.Y.
- 101st Airborne Division, Fort Campbell, Ky.
- Travis Air Force Base, Calif.
- Hurlburt Field, Fla.

OJG:

- 10th Mountain Division, Fort Drum, N.Y.
- 101st Airborne Division, Fort Campbell, Ky.

For our medical records review, we selected statistical samples of servicemembers at the selected installations to be representative of those deploying from those military installations for those specific operations.

For various reasons, medical records were not always available for review. We, therefore, sampled without replacement, to choose additional records when we were unable to meet our sampling threshold of cases for review. Specifically, there were five reasons identified for not being able to physically secure the servicemember's medical record for review:

1. **Charged to patient**. When a patient visits a clinic (on-post or off-post), the medical record is physically given to the patient. The procedure is that the medical record will be returned by the patient following their clinic visit.

2. **Expired term of service.** Servicemember separates from the military and their medical record is sent to St. Louis, Missouri, and therefore not available for review.

3. **Record is not accounted for by the medical records department.** No tracking sheet is in the file system to indicate the patient has checked it out or otherwise. (Note: There were not any cases for which the medical record could not be accounted.)

4. **Permanent change of station.** Servicemember is still in the military, but has transferred to another base. Medical record transfers with the servicemember.

5. **Temporary duty off site.** Servicemember has left military installation, but is expected to return. The temporary duty is long enough to warrant that the medical record accompany the servicemember.

The sample size for deployments was determined to provide 95 percent confidence with a 5-percent precision. The number of servicemembers in our samples and the applicable universe of servicemembers for the OEF and OJG deployments at the installations visited are shown in table 2.

Table 2: Servicemember Sample Sizes at Each Visited Installation

Installation	Deployment	Sample	Universe
Fort Campbell	OEF	8	333
	OEF (post May 31)[a]	222	2,953
	OJG (post May 31)[a]	46	92
Fort Drum	OEF	184	491
	OJG	211	2,754
Hurlburt Field	OEF	184	927
Travis Air Force Base	OEF	215	1,192
Total		**1,071**	**8,742**

[a]In order to obtain a larger universe of servicemembers from which to select medical records for review, we extended our date for redeployment to home unit from May 31, 2002, to October 31, 2002.

At Fort Campbell, there were only 333 servicemembers identified as having met our criteria based on a redeployment date of May 31, 2002; however, only 8 charts were available for review due to rotation of soldiers to other military locations or departure from the military. It was, therefore, necessary to extend our redeployment date to October 31, 2002.

Doing so provided an additional 2,953 servicemembers who met all criteria except for a redeployment by May 31, 2002. At Fort Campbell, there were 92 servicemembers who deployed in support of OJG and met our selection criteria if we extended the redeployment date to October 31, 2002. Because the number of servicemembers for OJG at Fort Campbell was small, we reviewed the medical records for all of servicemembers who were still at Fort Campbell.

At each sampled location, we examined servicemember medical records for evidence of the following force health protection and deployment health-related documentation required by DOD's force health protection and deployment health surveillance policies:

- Pre- and post-deployment health assessments,
- Tuberculosis screening test (within 1 year of deployment for OEF and 2 years for OJG)
- Pre-deployment immunizations:
  - hepatitis A;
  - influenza (within 1 year of deployment);
  - measles, mumps, and rubella;
  - meningococcal (within 5 years of deployment);
  - polio;
  - tetanus-diphtheria (within 10 years of deployment);
  - typhoid (within 5 years of deployment); and
  - yellow fever (within 10 years of deployment), not required for OJG.

To provide assurances that our review of the selected medical records was accurate, we requested the installations' medical personnel to reexamine those medical records that were missing required health assessments or immunizations and adjusted our results where documentation was subsequently identified. We also requested that installation medical personnel check all possible sources for missing pre- and post-deployment health assessments and immunizations. These sources included the Army's Soldier Readiness Check folders and automated immunization sources, including the Army's Medical Protection System (MEDPROS) and the Air Force's Comprehensive Immunization Tracking Application (CITA). We checked all known possible sources for the existence of deployment health assessments related to servicemembers in our samples. In those instances where we did not find a deployment health assessment, we concluded that the assessments were not completed. Furthermore, installation officials were unable to logistically access the servicemembers' individual records of immunizations, commonly referred to as yellow-shot records that may have provided documentation for

missing immunizations. Consequently, our analyses of the immunization records was based on our examination of the servicemember's permanent medical record and immunizations that were in the Army's MEDPROS and the Air Force's CITA. In analyzing our review results at each location, we considered documentation from all identified sources (e.g., servicemember's medical record, soldier readiness check folder, Army Medical Surveillance Activity, and immunization tracking systems) in presenting data on compliance with deployment health surveillance policies.

To identify whether required blood serum specimens were in storage at the Armed Services Serum Repository, we requested that the Army Medical Surveillance Activity staff query the Repository to identify whether the servicemembers in our samples had a blood serum sample in the repository and the date of the specimen.

To determine whether the Army and Air Force are documenting in-theater medical interventions in servicemembers' medical records, we requested, at each installation visited for medical records review, the patient sign-in logs for in-theater medical care providers, namely the Army's battalion aid station and the Air Force's expeditionary medical support, when they were deployed to central Asia in support of OEF and for the two Army installations we visited that deployed in support of OJG. Officials were unable to locate or access the logs at all of our selected installations except for Fort Drum for the OEF deployment. Consequently, we were able to perform our planned examination for this objective at only Fort Drum for the OEF deployment. From these logs, we selected a random sample of 36 patient visits from one battalion aid station and 18 patient visits from another battalion aid station. We did not attempt to judge the importance of the patient visit in making our selections. For the selected patient visits, we then reviewed the servicemember's medical record for any documentation—such as the Army's Standard Form 600—of the servicemember's visit to the battalion aid station.

To determine whether the Army and Air Force's deployment health-related records are retained and maintained in a centralized location, we requested that officials at the Army Medical Surveillance Activity (AMSA) query the AMSA database for the servicemembers included in our samples at the selected Army and Air Force installations. For servicemembers in our samples, AMSA officials provided us with copies of deployment health assessments and immunization data found in the AMSA database. We analyzed the completeness of the AMSA database by comparing the deployment health assessments and the pre-deployment immunization

data we found during our medical records review with those in the AMSA database. Since Air Force special operations force units use the Hurlburt Field, we also requested the U.S. Special Operations Command (SOCOM) to query their Special Operation Forces Deployment Health Surveillance System database for servicemembers in our sample at Hurlburt Field for deployment health assessments and pre-deployment immunization data. We then compared the data identified from the SOCOM and AMSA queries with the data we found during our medical records review.

To determine whether DOD has corrected problems related to the accuracy and completeness of databases reflecting which servicemembers deployed to certain locations, we interviewed officials within the Deployment Health Support Directorate and the Defense Manpower Data Center and reviewed documentation related to the completeness of deployment databases and planned improvements in capabilities.

Our review was performed from June 2002 through July 2003 in accordance with generally accepted government auditing standards.

Appendix II: Comments from the Department of Defense

THE ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D. C. 20301-1200

HEALTH AFFAIRS

SEP 11 2003

Mr. Neal P. Curtin
Director
Defense Capabilities and Management
U. S. General Accounting Office
Washington, DC 20548

Dear Mr. Curtin:

This is the Department of Defense (DoD) response to the GAO draft report, "DEFENSE HEALTH CARE: Quality Assurance Process Needed to Improve Force Health Protection and Surveillance," dated August 12, 2003, (GAO Code 350216/GAO-03-1041). The Department concurs with the GAO draft report. Comments to the recommendation are enclosed.

Protecting the health of military personnel before, during, and after their deployment is a paramount concern of the Department of Defense and my office. Working with other OSD offices as well as the Military Services, the Joint Staff, and the Combatant Commands, my office has already established a quality assurance program for pre-and post-deployment health assessments. This program monitors pre- and post-deployment health assessments and blood samples being archived electronically at the Army Medical Surveillance Activity (AMSA) and assures that indicated referrals on the post-deployment health assessment are being conducted by all the Services. The Deployment Health Support Directorate has been monitoring the flow of pre- and post-deployment health assessments going to AMSA on a weekly basis since June 2003. We have also implemented several recent force health protection initiatives such as establishing an automated theater-wide health surveillance data collection and reporting system and developing DoD-wide individual medical readiness standards and reporting metrics. These initiatives will serve as the foundation of a broader more comprehensive force health protection and surveillance quality assurance program which will ensure compliance with DoD-wide force health protection policies, programs and metrics.

The Department appreciates the opportunity to comment on the GAO draft report. Our primary point of contact is Ellen Embrey, DASD/Force Health Protection and Readiness, at 703-578-8504.

Sincerely,

William Winkenwerder, Jr., MD

Enclosure:
As stated

GAO DRAFT REPORT DATED AUGUST 12, 2003
GAO-03-1041 (GAO CODE 350216)

"DEFENSE HEALTH CARE: Quality Assurance Process Needed to Improve Force Health Protection and Surveillance"

Department of Defense Comments to the GAO Recommendation

RECOMMENDATION: The GAO recommended that the Secretary of Defense direct the Assistant Secretary of Defense/Health Affairs to establish an effective quality assurance program as required by section 795 of Public Law 105-85 (10 U.S.C. 1074f). (p.22/GAO Draft Report)

DoD RESPONSE: The Department concurs that an effective quality assurance program is essential to ensure compliance with force health protection and surveillance requirements.

The ASD/Health Affairs has already established a quality assurance program for pre- and post-deployment health assessments. This program monitors pre-and post-deployment health assessments and blood samples being archived electronically at Army Medical Surveillance Activity (AMSA) and assures that indicated referrals from the post-deployment health assessment are being conducted. The Deployment Health Support Directorate has been monitoring the flow of pre- and post-deployment health assessments going to AMSA on a weekly basis since June 2003.

The ASD/Health Affairs is also establishing and coordinating the parameters of a DoD force health protection and surveillance QA program with the Services. The elements of this comprehensive program include:

- The DASD/Force Health Protection and Readiness, on behalf of the ASD/Health Affairs, is responsible for developing and executing the DoD Force Health Protection and Health Surveillance Quality Assurance Program.
- An automated theater-wide health surveillance data collection and reporting system has been established. Theater-wide health surveillance data is now available on a near real-time basis to operational commanders and OSD medical leadership. The joint-Service system was established in January of this year and includes daily reports and weekly analyses prepared by the Air Force Institute for Operational Health.
- Individual medical readiness standards and metrics have been developed to provide operational commanders, Service headquarters, and OSD staff with the ability to monitor individual medical readiness across six key elements. Reporting by the Services to the Force Health Protection Council began in July.
- Metrics indicating degree of Service and Combatant Command compliance with ongoing theater health surveillance reporting requirements will be assessed at least monthly.

- Metrics indicating degree of Service compliance to individual medical readiness reporting requirements will be assessed at least quarterly based on inputs from the Services.
- Periodic audits of each Service QA program performance will be scheduled and performed. Specific focus will be on assurance that medical records have been appropriately updated with relevant deployment-related health and medical data.
- Periodic visits to Service installations and Combatant Command theaters will be conducted to assess effectiveness of their Force Health Protection programs, processes, and procedures.
- Recommendations derived from the DoD quality assurance program assessments, audits, and visits will be brought to the Force Health Protection Council prior to submission to the ASD/Health Affairs for approval.

The Services have implemented their QA programs. The Army has developed automated versions of the pre- and post-deployment health assessment forms, and has established a corporate monitoring system that is built upon deployment personnel rosters and monitored weekly by the Army Surgeon General. The Air Force Surgeon General is now receiving monthly deployment health surveillance compliance reports from its medical treatment facilities, and has scheduled an Eagle Look special compliance study through the Air Force Inspection Agency in FY2004. Navy fleet commanders have implemented their own QA programs, with anticipation of standardization through centralized automated systems. The Marine Corps has also established unit/command quality assurance procedures.

The DASD/Force Health Protection and Readiness will formally publish the Department's force health protection and surveillance quality assurance program policies by the end of the current calendar year. The ODASD/FHP&R and the Deployment Health Support Directorate will execute the DoD force health protection quality assurance program.

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Clifton E. Spruill (202) 512-4531

Acknowledgments

In addition to the individual named above, Steve Fox, Rebecca Beale, Lynn Johnson, William Mathers, Terry Richardson, Kristine Braaten, Grant Mallie, Herbert Dunn, and R.K. Wild made key contributions to this report.

GAO's Mission

The General Accounting Office, the audit, evaluation and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through the Internet. GAO's Web site (www.gao.gov) contains abstracts and full-text files of current reports and testimony and an expanding archive of older products. The Web site features a search engine to help you locate documents using key words and phrases. You can print these documents in their entirety, including charts and other graphics.

Each day, GAO issues a list of newly released reports, testimony, and correspondence. GAO posts this list, known as "Today's Reports," on its Web site daily. The list contains links to the full-text document files. To have GAO e-mail this list to you every afternoon, go to www.gao.gov and select "Subscribe to e-mail alerts" under the "Order GAO Products" heading.

Order by Mail or Phone

The first copy of each printed report is free. Additional copies are $2 each. A check or money order should be made out to the Superintendent of Documents. GAO also accepts VISA and Mastercard. Orders for 100 or more copies mailed to a single address are discounted 25 percent. Orders should be sent to:

U.S. General Accounting Office
441 G Street NW, Room LM
Washington, D.C. 20548

To order by Phone:
Voice: (202) 512-6000
TDD: (202) 512-2537
Fax: (202) 512-6061

To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Web site: www.gao.gov/fraudnet/fraudnet.htm
E-mail: fraudnet@gao.gov
Automated answering system: (800) 424-5454 or (202) 512-7470

Public Affairs

Jeff Nelligan, Managing Director, NelliganJ@gao.gov (202) 512-4800
U.S. General Accounting Office, 441 G Street NW, Room 7149
Washington, D.C. 20548